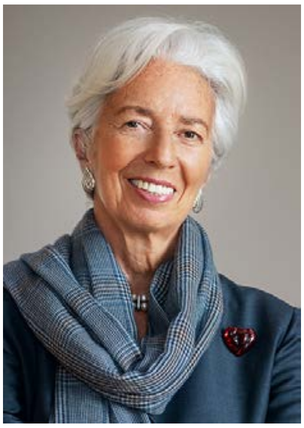
Annual Report

2019

ESRB
European Systemic Risk Board
European System of Financial Supervision

Contents

Foreword



Christine Lagarde, Chair of the European Systemic Risk Board

This ninth ESRB Annual Report covers the year from 1 April 2019 to 31 March 2020. While that period includes the early onset of the coronavirus (COVID-19) pandemic, the economic and financial consequences of the COVID-19 crisis have continued to evolve rapidly in subsequent months. For that reason, this year's Annual Report includes – exceptionally – the ESRB's assessment of risks up to June 2020, so as to reflect the new systemic risks that have emerged as the European economy has endured this extraordinary macroeconomic shock.

COVID-19 and the associated containment measures have given rise to an economic contraction that is unprecedented in peacetime, triggering exceptional macroeconomic uncertainty and precautionary behaviour. Governments, central banks and supervisory authorities have taken decisive and forceful action to bolster private incomes, maintain supportive financing conditions and underpin confidence for citizens and firms, successfully preventing more extreme macroeconomic scenarios from arising. However, although the financial system was more resilient on entering this crisis than it was in 2008 on the eve of the global financial crisis, the depth of the slump that the EU is now facing has inevitably amplified financial stability risks across various different sectors and markets.

The ESRB has therefore progressively reviewed and updated its systemic risk assessment to account for the new risk landscape resulting from COVID-19. Four new risks have been identified: (i) widespread defaults in the private sector as a result of a deep global recession; (ii) the challenging macroeconomic environment for banks, insurers and pension schemes; (iii) the re-emergence of sovereign financing risk; and (iv) instability and pockets of illiquidity in financial markets. The ESRB's risk assessment also includes threats originating from a system-wide cyber incidents, disruption to critical financial infrastructure, and climate change and transition risks, all of which remain critical for longer-term financial stability.

Responding to this shifting pattern of risks, the ESRB moved into "crisis mode" in April and May 2020 and increased the frequency of its policy meetings. During that period, it took a number of measures in relation to (i) the implications for the financial system of loan guarantee schemes and other fiscal measures aimed at protecting the real economy, (ii) market illiquidity and its implications for asset managers and insurers, (iii) the impact of procyclical bond downgrades on markets and entities across the financial system, (iv) system-wide restrictions on dividend payments, share buybacks and other pay-outs, and (v) liquidity risks arising from margin calls. Those measures are described in the press releases that were issued by the ESRB's General Board.[1]

Prior to the onset of the pandemic, the ESRB took several measures in 2019 to help address systemic risks resulting from real estate markets. In particular, it issued five warnings and six

[1] See the press releases of **9 April**, **14 May**, **8 June** and "**Policy measures in response to the COVID-19 pandemic**".

recommendations on medium-term residential real estate sector vulnerabilities to 11 of its member jurisdictions, as well as amending an earlier recommendation on closing gaps in real estate data. To enhance the macroprudential framework beyond the banking sector, the ESRB provided input to the European Insurance and Occupational Pensions Authority's ongoing review of the prudential framework for the insurance sector, as well as publishing a report which looked at ways of mitigating the procyclicality of margins and haircuts in derivatives markets and securities financing transactions.

The ESRB has also continued to act as a forum for the exchange of knowledge and best practices, organising several events aimed at fostering discussion on the subject of macroprudential policy. The fourth ESRB Annual Conference took place in September 2019, with participants comparing their experiences of macroprudential policy, discussing the role of non-banks in the financial system and the wider economy, debating the issue of cybersecurity and its potential implications for systemic risk, and looking at whether regulatory reforms of the financial system had been completed.

Finally, this report describes the various changes to the regulation establishing the ESRB[2] that came into effect in 2019, including changes to the ESRB's governance and the enhancement of its accountability framework.

A number of dear and valued colleagues left their positions during the period under review, and I would like to thank all of them for their valuable contributions. I would especially like to thank my predecessor, former ECB President Mario Draghi, who chaired the ESRB for eight years, up until the end of October 2019. That was a challenging period and involved dealing with the aftermath of both the global financial crisis and the EU's sovereign debt crisis.

I would also like to warmly thank Mark Carney, former Governor of the Bank of England, whose term as First Vice-Chair of the ESRB ended when the United Kingdom withdrew from the European Union, Isabel Schnabel, a former member of the General Board and Vice-Chair of the Advisory Scientific Committee (ASC), and Philip Lane, former Governor of the Central Bank of Ireland, for their significant contributions to the work of the ESRB.

Moreover, I would like to warmly welcome Stefan Ingves, Governor of Sveriges Riksbank, as the new First Vice-Chair of the ESRB, Pablo Hernández de Cos, Governor of the Banco de España, as Chair of the Advisory Technical Committee (ATC), Professor Claudia Buch as Vice-Chair of the ATC, Professor Richard Portes as Chair of the ASC, and Professor Loriana Pelizzon and Professor Javier Suárez as Vice-Chairs of the ASC.

Finally, I would like to express my great sadness at the passing of Professor Alberto Giovannini, who served on the ASC.

Christine Lagarde
Chair of the ESRB

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[2] See 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 (OJ L 331, 15.12.2010, p. 1).

Executive summary

The period under review, from the start of April 2019 to the end of March 2020, included the onset of the coronavirus (COVID-19) pandemic in the first quarter of 2020. The pandemic gave rise to an extreme economic shock affecting the global and EU economy and financial stability.

Following the onset of the COVID-19 pandemic, EU bodies, national governments, central banks, and supervisory and resolution authorities took unprecedented action to support the economy. The ESRB General Board identified and took measures in five priority areas: the implications for the financial system of guarantee schemes and other fiscal measures to protect the real economy; market illiquidity and its implications for asset managers and insurers; the impact of procyclical downgrades of bonds on markets and entities across the financial system; system-wide restraints on dividend payments, share buybacks and other payouts; and liquidity risks arising from margin calls.[3] As these measures were taken in May 2020, which is outside the review period of this report, they will be described in the 2020 Annual Report.

In June 2020 the ESRB reviewed its systemic risk assessment to account for recent developments. It classified the risk of widespread defaults in the real economy as a severe systemic risk to financial stability in the EU (Risk 1); the risk originating from the difficult macroeconomic environment for banks, insurers and pension schemes as an elevated risk to financial stability (Risk 2); the risk stemming from the re-emergence of sovereign financing risk and debt sustainability concerns as elevated (Risk 3); and the risk originating from instability and pockets of illiquidity in financial markets as elevated (Risk 4). Moreover, the ESRB deemed operational risks, such as might originate from a system-wide cyber incident, as elevated (Risk 5), while it assessed that systemic risks linked to finance-driven disruptions in critical financial infrastructures (Risk 6) and risks linked to climate change (Risk 7) should be monitored.

Prior to the start of the COVID-19 pandemic, the ESRB issued five warnings and six recommendations on medium-term residential real estate sector vulnerabilities to competent ministers in eleven of its member jurisdictions. In addition, it amended an earlier recommendation on closing real estate data gaps.

The ESRB continued to contribute to the coordination of macroprudential policy in the Union. In view of the need to intensify the collaboration between the authorities of the host and home Member States in situations where branches are considered important for the financial stability of the country in which they operate, the ESRB issued a recommendation promoting the exchange of data on branches. The ESRB also provided an opinion to the Council, the European Commission and Finland, noting that it deemed an extension of a stricter national measure by Finland necessary for the effective treatment of the systemic risks and the threats deriving from the Finnish housing market. The ESRB also applied its reciprocity framework and recommended reciprocation of national flexibility measures for residential real estate exposures in Belgium, Estonia and the Netherlands. More generally, the ESRB continued to monitor macroprudential measures adopted in

[3] See "**Policy measures in response to the COVID-19 pandemic**".

the Union and to facilitate an exchange of views among its members on such measures. These measures are described in more detail in the ESRB's review of macroprudential policy in the EU.[4]

The ESRB also contributed to ensuring resilience of the banking sector. As part of this, the ESRB considered the macroprudential implications of financial instruments that are measured at fair value and classified as Level 2 or Level 3 instruments for accounting purposes, and the ESRB contributed to the EU-wide stress test of the European Banking Authority (EBA). Regarding Level 2 and Level 3 assets, the ESRB set out its findings in a report that identified three main areas where such instruments can affect financial stability. These relate to (i) inaccurate valuation of financial instruments, (ii) possible volatility and illiquidity in times of stress, and (iii) inadequate reflection of underlying risks in the prudential framework. Regarding stress testing, the ESRB provided an adverse macro-financial scenario to the EBA in January 2020. Reflecting the timing of its submission, the adverse scenario was based on the main risks to financial stability identified by the ESRB prior to the onset of the COVID-19 pandemic. As the coronavirus started to spread across Europe during February and March 2020, the EBA postponed the stress test until 2021.

The ESRB continued to work on enhancing the macroprudential toolkit beyond the banking sector. In particular, the ESRB considered policy options to mitigate the procyclicality of margins and haircuts in derivatives markets and securities financing transactions; ways to strengthen the recovery and resolution of central counterparties (CCP); ways to enhance the macroprudential aspects of the Solvency II rules for insurers; and ways to enhance the Alternative Investment Fund Managers Directive (AIFMD)[5]. In a report published in January 2020, the ESRB set out policy options to mitigate the procyclicality of margins and haircuts in derivatives markets and securities financing transactions. Regarding CCPs, the ESRB collaborated with the European Securities and Markets Authority (ESMA) to prepare for new tasks arising from the entry into force of the revised European Market Infrastructure Regulation (EMIR Refit and EMIR 2.2). Following up on report it published in January 2019, the ESRB also continued to engage with the co-legislators on the CCP recovery and resolution dossier. Regarding the insurance sector, the ESRB submitted a response to the European Insurance and Occupational Pensions Authority (EIOPA) consultation on the review of Solvency II. It stressed need to establish a harmonised recovery and resolution framework across the European Union and to continue ensuring that risks are properly captured under Solvency II. It also included proposals for macroprudential tools covering capital, liquidity and cross-sectoral aspects set out in a report published in February 2020. Regarding investment funds, the ESRB sent a letter to the European Commission, pointing to areas in which the AIFMD should be enhanced.

As part of the ESRB's accountability and reporting obligations, the Chair of the ESRB attended hearings before the Committee on Economic and Monetary Affairs of the European Parliament (ECON). At these hearings, the Chair provided Members of the European Parliament (MEPs) with first-hand information on the rationale for policy initiatives that had been adopted by the ESRB in the course of the year. The ESRB also took note of changes arising from coming into effect of the

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4 See **A Review of Macroprudential Policy in the EU in 2019**, ESRB, April 2020.

5 **Directive 2011/61/EU of the European Parliament and of the Council of 8 June 2011 on Alternative Investment Fund Managers and amending Directives 2003/41/EC and 2009/65/EC and Regulations (EC) No 1060/2009 and (EU) No 1095/2010** (OJ L 174, 1.7.2011, p. 1).

revised ESRB Regulation, including changes to its governance and enhancements of its accountability framework.

The ESRB continued to organise a number of events to engage stakeholders in discussions on macroprudential policy. As part of its mandate, the ESRB held its annual meeting with the Committee of European Audit Oversight Bodies and statutory auditors of EU-based global systemically important financial institutions (G-SIFIs). The meeting, which is designed to inform the ESRB of sectoral developments or any significant developments at G-SIFIs, focused on the implementation of IFRS 9, the valuation of complex financial instruments; preparatory work for IFRS 17, the European macroeconomic environment, anti-money laundering and fraud, and key audit matters. The ESRB also held its fourth Annual Conference. Conference participants exchanged their experiences of macroprudential policies and discussed the role of non-banks in the economy and the financial system, cybersecurity and its potential implications for systemic risk, and whether the regulatory reforms of the financial system had been completed.

1 Systemic risks in the financial system of the European Union

1.1 Overview of the main systemic risks in the EU

The coronavirus (COVID-19) pandemic has severely affected economic activity in the EU and beyond, causing one of the sharpest economic contractions in recent history. Substantial monetary, fiscal and labour market measures were taken to help to mitigate the severe economic effects of the health crisis. Such policies are also expected to prevent adverse amplifications through financial channels.

Nevertheless, lost economic output and higher debt burdens increase the medium-term risks to EU financial stability, which are reinforced by strong interlinkages between the real economy and the financial system. Moreover, there is unprecedented uncertainty about the evolution of the pandemic and its impact on economic behaviour, as well as the associated containment measures and the success of the policy measures that were taken. Consequently, there is also uncertainty about the ultimate impact of the pandemic on financial stability in the EU and the materialisation of systemic risks.

Table 1 shows the ESRB risk assessment as at 25 June 2020. Out of seven identified key systemic risks, one is assessed to be a severe systemic risk (red), four are assessed to be elevated systemic risks (orange) and two are assessed to be systemic risks (yellow). These risks are elaborated in more detail below.

Table 1

ESRB risk assessment as at 25 June 2020

	Risk	Systemic risk originating from
Systemic risks directly related to the COVID-19 pandemic	1	Widespread defaults in the private sector due to deep global recession
	2	Difficult macroeconomic environment for banks, insurers and pension schemes
	3	Re-emergence of sovereign financing risk and debt sustainability concerns
	4	Instability and pockets of illiquidity in financial markets
Other systemic risks	5	System-wide cyber incidents
	6	Finance-driven disruptions in critical financial infrastructure
	7	Materialisation of large environmental shocks

Notes: The ESRB's risk assessment and policy priorities cover the EU and European Economic Area (EAA) as a whole and have a horizon up to three years. The second column shows the prioritisation of risks, with yellow denoting systemic risk, orange denoting elevated systemic risk and red denoting severe systemic risk. This colour coding is a function of both the probability of materialisation of the risk and of its potential impact. It also takes into account the regulatory framework at the time of the risk assessment.

This assessment takes into account policy measures taken at the EU and national level to mitigate the effects of the COVID-19 pandemic. The ESRB provides its most recent risk assessments via regular press releases following the meetings of the ESRB General Board.[6]

First, reflecting the economic impact of the pandemic, the ESRB risk assessment sees the biggest source of systemic risk as originating from the real economy. This reflects a weak recovery that further reduces cash flows and weakens financial positions of corporations and households, eventually leading to the risk of a large number of defaults, a rise in unemployment and economic imbalances (Risk 1). This assessment is based on the disruptions to the economic activities of households and corporations entailed by the confinement measures adopted in many countries to contain the spread of the coronavirus. Reduced domestic and foreign demand, coupled with reduced supply, will result in lower trade flows and lower activity in many economic sectors. Lower income combined with the need to meet fixed costs, will reduce the cash flows of non-financial corporations (NFCs), impairing their capacity to service their debts and to keep staff in employment. Higher unemployment, in turn, will impair households' capacity to service their debt. These developments will also increase strains in the commercial and residential real estate markets. In addition to coordinated action across the EU, national governments have taken extraordinary measures to aid domestic NFCs and households. These include moratoria on debt payments, tax payment deferrals, extended state guarantees for loans to small and medium-sized enterprises (SMEs), and wage subsidies. While mitigating the effects of the COVID-19 pandemic on households and firms, some of these extraordinary measures will expand fiscal deficits beyond the direct impact of increased expenditure to address the health emergency and automatic fiscal stabilisers.

Second, the ESRB assigned elevated severity to the risk from the difficult macroeconomic environment for banks, insurers and pension schemes (Risk 2). The ESRB's assessment is based on the challenges to the business models many EU banks, insurers and pension schemes already faced which would be aggravated by the impact of the COVID-19 pandemic, as increased credit, market, funding and liquidity risk could materialise. In the case of banks, the profound economic consequences of the COVID-19 outbreak could lead to a significant materialisation of credit risk, with higher defaults, non-performing loans and credit loss provisions. In addition to the fiscal measures at EU and national level that were taken with the aim of reducing the economic impact of the COVID-19 outbreak, the EBA, the ECB and national supervisory authorities provided flexibility and operational relief to banks with the aim of ensuring that the recognition of credit losses would not impair the provision of credit to the real economy and of avoiding excessive procyclical effects. In the case of insurers and occupational pension schemes, the COVID-19 outbreak also compounds existing vulnerabilities related to business models and climate change. Both sides of their balance sheets are affected by a "double-hit", with the value of their assets falling, owing to the worsened economic outlook and higher risk premia, and the value of their liabilities increasing, owing to the decrease in risk-free rates used to calculate liabilities. Although the resilience of EU financial institutions has increased since the global financial crisis, there is uncertainty regarding the ultimate impact on financial institutions and their ability to effectively service the real economy.

[6] See **Press releases published in 2020**.

Third, the ESRB assigned an elevated severity to the re-emergence of sovereign financing risk and debt sustainability concerns (Risk 3). This source of systemic risk reflects the expected increase in public deficits implied by the numerous national support measures adopted during the COVID-19 crisis in order to limit private sector defaults (which include, notably, state-guaranteed loans). In its Spring 2020 forecast, the European Commission expects the general government balance to reach -8.3% of GDP at the EU level in 2020, with all EU countries showing a negative balance. In the medium term, these deficits are likely to increase public debt levels, which are already high in the EU, especially if the economic recovery is slow. Increased public sector indebtedness could give rise to concerns about sovereign debt sustainability and financing risk over the medium term. It could also entail contagion and feedback loops to national financial institutions. Some heavily indebted Member States could experience a rise in risk premia, which could increase the probability of ratings downgrades. However, measures enacted or planned at the European level, including the European Stability Mechanism Pandemic Crisis Support, and the European Commission's proposal for a major recovery plan, should limit the severity of this risk.

Fourth, the ESRB assigned an elevated severity to the risk of instability and pockets of illiquidity in financial markets (Risk 4). The COVID-19 outbreak caused large adjustment in financial markets. For example, for several days in March, the VIX – a widely monitored indicator of risk appetite, measuring option-implied volatility of the S&P 500 US equity market index – rose to values last seen during the global financial crisis. The flight-to-safety in financial markets caused large declines in equity indices and in the prices of other assets, including many EU sovereign bonds. This reassessment of risk premia is one of the risks the ESRB and many of its members have repeatedly highlighted in recent years. Although financial markets have largely recovered from the April shock, there remain high levels of uncertainty regarding future economic developments, and regarding the possibility of a second wave of contagion. Market instability therefore remains a risk to be monitored closely. While the risk materialised against a backdrop in which the resilience of the EU financial system has improved significantly since the global financial crisis, the deterioration of NFC balance sheets arising from the measures to contain the COVID-19 pandemic could entail widespread downgrades of corporate bonds. This would increase borrowing costs for firms and render those bonds that fall below investment grade ineligible for many investors. The ESRB deemed that this could result in disorderly asset price adjustments, which could adversely affect market liquidity and lead to contagion across the financial system. Moreover, the sharp market movements and the flight to assets considered safer drained liquidity from other markets. Asset managers experienced large-scale redemption requests from investors, forcing some that had invested in assets that were structurally less liquid, or had become illiquid, to use liquidity management tools to stem or reduce the pace of outflows. Some types of money market funds (MMFs) experienced severe liquidity strains in meeting demand for redemptions. Exchange-traded funds (ETFs), particularly fixed income ETFs, saw a negative pricing discount between the traded price of an ETF and its net asset value. The discounts observed persisted for a number of days, but were temporary in nature. Arbitrage mechanisms did not always function frictionlessly, and a spread between the shares of fixed-income ETFs and the price of the underlying bonds opened up and persisted over several days. While tensions in financial markets eased following policy measures taken by monetary, fiscal and supervisory authorities, the resilience of market-based finance might be tested again in the event of future strains. This could result in spillovers into other economic sectors and ultimately harm the real economy.

Three other systemic risks that the ESRB included in its risk assessment prior to the outbreak of the COVID-19 pandemic were a system-wide cyber incident, disruptions in critical financial infrastructures and climate change.

Regarding the risk of a system-wide cyber incident (Risk 5), the ESRB noted that the frequency and impact of cyber incidents have increased in recent years, including since the outbreak of the pandemic. In particular, there has been a large increase in supply chain incidents and in the use of targeted destructive malware. Malicious cyber incidents have become more prevalent, persistent, and sophisticated. State-sponsored incidents have also increased. A cyber incident can move beyond the operational level and evolve into a systemic crisis when trust in the financial system is eroded. For instance, the perception that there had been an irrecoverable destruction, alteration or encryption of account balances at one or several financial institutions could constitute a sufficiently severe shock to the financial system. The loss of confidence in the integrity of data could in itself lead to a similar result. Such a loss of confidence could be caused, for example, by an alteration of holdings in central securities depositories. The ESRB set out its analysis of systemic cyber risk in a report published in February 2020.[7] The large-scale use of remote connectivity to reduce the spread of the coronavirus has been accompanied by an increase in the number of "standard" cyberattacks and in cybercrime activity. Reflecting this, the General Board judged that operational risks, including the risk of a system-wide cyber incident, could become more severe in the short term and deemed this risk to be elevated (orange).

Regarding systemic risks linked to finance-driven disruptions in critical financial infrastructures (Risk 6), the ESRB noted the increased importance of financial market infrastructures (FMIs) and the concentration of the provision of clearing services. For example, the temporary disruption of a central counterparty (CCP) or one of its large client-facing clearing members could result in a loss of clearing access for a large number of end-users. This, in turn, could increase operational risks from finding new counterparties to the closing-out or porting of contracts; impair liquidity and price formation of the underlying assets; reduce the availability of hedges; put strains on collateral and liquidity; and lead to contagion to other CCPs through shared memberships. Notwithstanding regulatory safeguards that have been introduced, including better information on derivatives positions (see Box 2), shocks such as volatility spikes and the temporary contraction of liquidity to fund margin calls can trigger the technical default of a clearing member. The impact of such shocks can be amplified by, for example, procyclical margin practices or a breakdown of long-established correlations affecting offsets. These, in conjunction with the initial shock, can further increase stress for CCPs and their users. While the regulatory framework includes provisions to mitigate such risks, the ESRB General Board judged that the framework remains incomplete. For example, it lacks a harmonised EU-wide recovery and resolution regime, measures to curb second-order procyclicality effects from margin and haircut practices, and a system-wide analysis of the interdependencies and resilience of the provision of critical services to the Internal Market by both domestic and third-country FMIs. Reflecting this, in January 2020 the ESRB published a report setting out six policy options to mitigate procyclicality of margins and haircuts in derivatives markets and securities financing transactions.[8] This work is described in more detail in Section 2.3.2. Following the

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[7] See **Systemic cyber risk**, ESRB, February 2020.

[8] See "**Mitigating the procyclicality of margins and haircuts in derivatives markets and securities financing transactions**", ESRB, January 2020.

outbreak of the COVID-19 pandemic, CCPs continued to function adequately amidst sharp changes in asset prices and increased volatility in the first quarter of 2020. However, clearing members were faced with large margin calls, which in some instances put pressure on funding liquidity.

Regarding systemic risks linked to climate change (Risk 7), the ESRB General board noted that assessing the resilience of the financial system to challenges deriving from climate change is a priority for European institutions, including the ESRB itself. Climate change is an existential challenge for society and is likely to lead to profound changes in the economic and financial system in the longer term. It creates physical risks, such as extreme weather events, and transition risks relating to the transition of the real economy towards more sustainable production. The manner in which the financial system responds to the challenges deriving from climate change will determine its capacity to continue serving the (changing) real economy. This may in turn affect the future path of climate change itself. The ESRB, in collaboration with other authorities, has improved its capacity to assess the resilience of the financial system to various physical and transition risk scenarios. Studies of such scenarios have been conducted in the context of the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The ESRB is extending the methodology used in a study by De Nederlandsche Bank[9], which analysed the implications for the EU financial system of four transition scenarios for banks, insurance companies and pension funds. The ability of the economy to react to transition risks or physical risks related to climate change may be negatively affected by the COVID-19 crisis. Reflecting this, the General Board judged that the risk to the financial sector stemming from climate change may increase.

The risk assessment described above is as at 25 June 2020, which is after the cut-off date for this report. This has been included in order to provide the latest assessment of sources of systemic risk to financial stability in the EU. It also takes into account measures taken by the ESRB during the second quarter of 2020. As these measures were taken outside of the review period of this report, they will be described in more detail in the 2020 Annual Report. The ESRB measures build on its work over a number of years, in particular with respect to the macroprudential framework beyond the banking sector. They concern the implications for the financial system of guarantee schemes and other fiscal measures to protect the real economy; market illiquidity and its implications for asset managers and insurers; the impact of procyclical downgrades of bonds on markets and entities across the financial system; system-wide restraints on dividend payments, share buybacks and other payouts; and liquidity risks arising from margin calls. These measures, which are not covered in this report, can be found on a dedicated page on the ESRB's website.[10]

Box 1
System-wide cyber incidents

Cyber risk is characterised by three key features that, when combined, fundamentally differentiate it from other sources of operational risk: the speed and scale of its propagation and the potential intent of threat actors. The interconnectedness of various information systems enables cyber

9 See "**An energy transition risk stress test for the financial system of the Netherlands**", *Occasional Studies*, Vol. 16-7, De Nederlandsche Bank, 2018.

10 See **Policy measures in response to the COVID-19 pandemic**.

incidents to spread quickly and widely. Some recent incidents have demonstrated the ability of threat actors to penetrate the networks of large organisations and incapacitate them quickly. Cyber incidents can also spread widely across sectors and beyond geographical borders, including to entities which are not the primary target or source of disruption.

In recent years the frequency and impact of cyber incidents have increased, and some malicious cyber incidents have become more sophisticated. In particular, there has been a large increase in supply chain incidents and in the use of targeted destructive malware. Malicious cyber incidents have become more prevalent and persistent, and state-sponsored incidents have increased. Estimating the total cost of cyber incidents is difficult for two reasons. First, not all cyber incidents and losses are reported. Second, even when an incident is reported, it is often not clear to what extent the loss estimate goes beyond direct losses (loss of revenue, funds stolen, repair costs, etc.) to include indirect losses (loss of reputation, damage to brand value, legal costs, fines, etc.). Industry estimates range from USD 45 billion to USD 654 billion for the global economy in 2018.

A cyber incident can develop into a systemic crisis if trust in the financial system is eroded. A critical point in assessing whether a cyber incident will escalate into a systemic financial crisis lies in determining whether or not the incident will spill over from the operational level to the financial and confidence realms. This can occur if either the disruption to critical functions supporting the real economy or the generated (or anticipated) financial losses from the incident reach a level at which the financial system is no longer able to absorb the shock. For instance, the perception that there had been an irrecoverable destruction, alteration or encryption of account balances at one or several financial institutions could constitute a sufficiently severe shock to the financial system. The loss of confidence in the integrity of data could in itself lead to a similar result. Furthermore, a cyber incident could rapidly escalate from an operational outage to a liquidity crisis. In turn – and in common with past financial crises – this liquidity crisis could lead to a systemic crisis. This could happen, for example, if the size of anticipated losses is large. Thus the later stages of a cyber crisis are similar to those seen in a more traditional financial crisis: large (expected) financial losses and a significant weakening of trust in the financial system. Even though past cyber incidents, such as the WannaCry and NotPetya cyberattacks, did not threaten financial stability, such events demonstrate that a successful attack aimed at destabilising the financial sector and the real economy is conceivable.

Standard-setting bodies, national and international authorities and industry groups are combining their efforts to mitigate cyber risks. Scenario analysis by the ESRB shows that loss of confidence in the financial system plays a key role in a cyber incident developing into a systemic crisis and identifies policy areas that merit further exploration. First, given the speed and scale of the unfolding of a cyber incident, rapid coordination between stakeholders and consistent and clear communication from authorities would be required in order to shore up confidence. Second, effective restoration of key economic functions would require planning, including agreeing on a clear division of tasks between industry and authorities, and between (technical) incident management and (financial) consequence management. This may also include consideration of central bank emergency communication, intervention and assistance when a cyber crisis develops into a financial stability crisis. Finally, the operationalisation of systemic resilience mechanisms, such as data vaulting, would be of particular importance, as many recovery and resolution plans are contingent on essential data being available or recoverable.

Box 2
ESRB monitoring of EU derivatives markets

Assessing and quantifying risks in EU derivatives markets is becoming more feasible with the availability of large-scale granular data. The ESRB, in collaboration with the ECB and ESMA and all its member institutions, has developed a daily monitor based on transaction-level data that counterparties in the EU are obliged to report to trade repositories under the European Market Infrastructure Regulation (EMIR).

This work has proven to be particularly valuable in the context of the United Kingdom's withdrawal from the European Union. The ESRB created daily snapshots documenting the evolution of cross-border activity in derivatives instruments between the EU and the United Kingdom. The frequency, timeliness and granularity of the data enabled the ESRB to monitor developments across a broad set of dimensions for both exchange-traded and over-the-counter instruments.

Analysing large-scale granular data allows a more accurate quantification of developments. By sharing such information in a confidential way, authorities are able to engage in a continuous dialogue about financial stability issues in a highly interconnected and complex financial system. The ESRB will continue its work in this area by expanding its infrastructure and enriching its monitoring tools with newly available data.

2 ESRB contributions to the policy framework

2.1 ESRB policies

The ESRB issued warnings and recommendations to address risks in residential real estate markets and contributed to the coordination of macroprudential policy in the Union by issuing a recommendation on the exchange of data on branches, by issuing opinions on the use of stricter national measures and by applying its reciprocity framework.

2.1.1 ESRB warnings and recommendations addressing medium-term residential real estate sector vulnerabilities

Following ESRB warnings addressed to the competent ministers of Austria, Belgium, Denmark, Luxembourg, the Netherlands, Finland, Sweden and the United Kingdom in 2016, the General Board decided on 27 June 2019 to issue a set of country-specific warnings and recommendations on medium-term vulnerabilities in the residential real estate (RRE) sector in the European Economic Area (EEA). More specifically, recommendations for remedial action were addressed to six of the above-mentioned addressees (Belgium, Denmark, Luxembourg, the Netherlands, Finland and Sweden) after the ESRB concluded that the macroprudential measures in place or available in these countries were only partially appropriate and/or only partially sufficient to address the identified medium-term vulnerabilities and that further action was therefore required.[11] The ESRB also issued five warnings on newly identified vulnerabilities arising from RRE exposures in the banking systems of the Czech Republic, Germany, France, Iceland and Norway.[12]

In September 2019, the ESRB published its analysis on the risks and policy assessment of European RRE sectors, which was aimed at identifying the main trends in various risk indicators.[13] The assessment concerns developments across EEA countries (the EU28 plus Iceland, Liechtenstein and Norway). According to the results of the analysis, for most of the countries that recently received warnings and recommendations, the main vulnerabilities relate to high or rising household indebtedness, concerns about potential pockets of house price overvaluation, increased mortgage lending activity and some signs of loosening of lending standards. The analysis was based on the methodological framework developed by the ESRB for the assessment of RRE

[11] For details, see **Recommendation ESRB/2019/4** (Belgium); **Recommendation ESRB/2019/5** (Denmark); **Recommendation ESRB/2019/6** (Luxembourg); **Recommendation ESRB/2019/7** (Netherlands); **Recommendation ESRB/2019/8** (Finland); and **Recommendation ESRB/2019/9** (Sweden).

[12] For details, see **Warning ESRB/2019/10** (Czech Republic); **Warning ESRB/2019/11** (Germany); **Warning ESRB/2019/12** (France); **Warning ESRB/2019/13** (Iceland); and **Warning/ESRB/2019/14** (Norway).

[13] See “**Vulnerabilities in the residential real estate sectors of the EEA countries**”, ESRB, September 2019.

vulnerabilities and the related macroprudential policies across EU countries in terms of risk identification, policy appropriateness and sufficiency.[14]

2.1.2 Amendment of the recommendation on closing real estate data gaps

The ESRB proceeded with the amendment of Recommendation ESRB/2016/14 on closing real estate data gaps.[15] The changes are aimed at aligning the definitions of commercial real estate and residential real estate in Recommendation ESRB/2016/14 with the broader definitions used in Regulation ECB/2016/13[16] so as to facilitate the required financial stability analyses. This will make the regular collection and distribution at Union level of comparable country data more effective and facilitate more accurate assessments of developments in the real estate market and of the effectiveness of macroprudential policy instruments aimed at addressing real estate-related vulnerabilities.

The amendment of Recommendation ESRB/2016/14 also added an additional recommendation (Recommendation F) addressed to the Commission and, more specifically, to its competent department, Eurostat. The Commission is recommended to initiate the legislative process for the establishment of a common minimum framework for the development, production and dissemination of a database on indicators pertaining to the physical commercial real estate market. The Commission is also recommended to work on the development and promotion of the statistical standards, sources, methods and procedures for developing the database on indicators relevant to the physical commercial real estate market.

2.1.3 ESRB Recommendation to facilitate the exchange of information on branches

On 26 September 2019 the ESRB adopted Recommendation ESRB/2019/18 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.[17] More specifically, where branches are considered to be significant for the financial stability of the country in which they operate, there is a need to intensify the collaboration between the relevant authorities of the host and home Member States. Recognising the paramount importance of the exchange of data deemed vital for the macroprudential oversight of the Union, the recommendation sets out the necessary actions to

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14 See "**Methodologies for the assessment of real estate vulnerabilities and macroprudential policies: residential real estate**", ESRB, September 2019.

15 See **Recommendation of the European Systemic Risk Board of 31 October 2016 on closing real estate data gaps** (ESRB/2016/14) (OJ C 31, 31.1.2017, p. 1) and **Recommendation of the European Systemic Risk Board of 21 March 2019 amending Recommendation ESRB/2016/14 on closing real estate data gaps** (ESRB/2019/3) (OJ C 271, 13.8.2019, p. 1).

16 **Regulation (EU) 2016/867 of the European Central Bank of 18 May 2016 on the collection of granular credit and credit risk data** (ECB/2016/13) (OJ L 144, 1.6.2016, p. 44).

17 **Recommendation of the European Systemic Risk Board 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** (ESRB/2019/18) (OJ C 412, 9.12.2019, p. 1).

enable the authorities entrusted with the adoption and/or activation of macroprudential policy measures or with other financial stability tasks to fulfil their mandates as regards branches having their head office in another Member State or in a third country. In addition, it recommends that the Commission assess whether any impediments exist in Union legislation that currently prevent the authorities from pursuing their tasks and to remove such impediments by proposing the amendment of the relevant Union legal instruments. It also recommends the European Banking Authority (EBA) to issue guidelines on the exchange of information, including developing a minimum list of information to be exchanged, and to subsequently monitor the effectiveness and efficiency of the exchange between relevant authorities.

2.1.4 ESRB opinion on the extension of the application of a stricter national measure by Finland

Finland notified the ESRB of its intention, pursuant to Article 458(8) of the Capital Requirements Regulation (CRR)[18], to extend the application of a stricter national measure which was applicable from 1 January 2018 to 31 December 2019. The measure, which consists of a credit institution-specific minimum level of 15% for the average risk weight on housing loans of credit institutions that have adopted the internal ratings-based (IRB) approach ("IRB credit institutions"), will remain in effect until 31 December 2020. In its opinion, which was provided to the Council, the European Commission and Finland, the ESRB concluded that the extension is necessary for the effective treatment of the systemic risks and the threats deriving from the Finnish housing market as set out in the original measure, whereas the extension of the application will not entail disproportionate adverse effects for the Internal Market or other financial systems.[19]

2.1.5 Measures under Article 458 of the CRR

On 15 April 2019 Eesti Pank notified the ESRB of its intention to adopt a stricter national measure concerning risk weights under Article 458(2)(d)(vi) of the CRR. The measure provides for a credit institution-specific minimum level of 15% for the exposure-weighted average of the risk weights applied to the portfolio of retail exposures to obligors residing in Estonia secured by mortgages on immovable property. The measure applies to credit institutions that use the IRB approach for calculating regulatory capital requirements. Pursuant to Article 458(4) of the CRR, the ESRB provided the Council, the European Commission and Estonia with its opinion on 13 May 2019.[20] The ESRB was of the view that the measure may help to maintain the capacity of the capital in IRB credit institutions in Estonia to mitigate a possible materialisation of systemic risk in the real estate

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[18] **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)

[19] See **Opinion of the European Systemic Risk Board of 25 July 2019 regarding Finnish notification of an extension of the period of application of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms** (ESRB/2019/16).

[20] See **Opinion of the European Systemic Risk Board of 13 May 2019 regarding Estonian notification of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms** (ESRB/2019/2).

market. The ESRB was further of the view that alternative macroprudential instruments listed in Article 458 of the CRR, which must be considered before any stricter national measure can be taken, would not be appropriate to address the risk at hand. Overall, the ESRB considered that the measure would not entail disproportionate adverse effects for the Internal Market or other financial systems. The economic assessment that accompanied the opinion also highlighted the importance of the harmonised supervision of internal models at the European level, including in the light of their dispersion across regions and countries.

On 8 January 2020 De Nederlandsche Bank notified the ESRB of its intention to adopt a stricter national measure concerning risk weights under Article 458(2)(d)(vi) of the CRR. The intended measure imposes on credit institutions that use the IRB approach for calculating regulatory capital requirements a minimum average risk weight for the portfolio of exposures to natural persons secured by mortgages on residential property located in the Netherlands. Loans covered by the Dutch National Mortgage Guarantee scheme (*Nationale Hypotheek Garantie* – NHG) are outside the scope of the measure. The proposed measure is primarily aimed at enhancing the resilience of Dutch banks to a potential severe downturn in the housing market in the context of sustained real estate price increases in recent years. Pursuant to Article 458(4) of the CRR, the ESRB provided the Council, the European Commission and the Netherlands with its opinion on 6 February 2020.[21] The ESRB was of the view that the vulnerabilities stemming from the RRE market, and notably those of a systemic nature, have not been fully reflected in the application of risk weights for mortgage loans in the Netherlands and that the intended measure, which imposes a floor on risk weights linked to loan-to-value ratios, contributes to increasing the resilience of Dutch banks to a possible materialisation of systemic risk in the real estate market.

On 27 January 2020 the Nationale Bank van België/Banque Nationale de Belgique (NBB/BNB) notified the ESRB of its intention to extend the period of application of its current macroprudential measure based on Article 458(2)(d)(vi) of the CRR. The measure to be extended consists of the imposition of a macroprudential risk weight add-on on all domestic credit institutions applying the IRB approach whose retail exposures are secured by residential immovable property for which the collateral is located in Belgium. Pursuant to Article 458(4) of the CRR, the ESRB provided the Council, the European Commission and Belgium with its opinion on 26 February 2020.[22] The ESRB supported the NBB/BNB's intention to extend the period of application of its current macroprudential measure to increase risk weights for IRB banks' exposures to the Belgian RRE sector and considered that recent developments in the RRE sector in Belgium warrant the extension of the measure to ensure the resilience of Belgian banks to systemic risk potentially materialising in the RRE market.

[21] See **Opinion of the European Systemic Risk Board of 6 February 2020 regarding Dutch notification of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms** (ESRB/2020/1).

[22] See **Opinion of the European Systemic Risk Board of 26 February 2020 regarding Belgian notification of an extension of the period of application of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms** (ESRB/2020/2).

2.2 Banking

The ESRB continued to contribute to ensuring resilience of the EU banking sector. As part of this, the ESRB reported on the macroprudential implications of financial instruments that are measured at fair value and classified as Level 2 or Level 3 instruments for accounting purposes and contributed to the EBA's 2020 EU-wide stress test.

2.2.1 Adverse stress test scenario for the EBA's 2020 EU-wide exercise

The ESRB contributes to stress testing in the EU. In particular, the regulations establishing the three European Supervisory Authorities (ESAs) – the EBA, EIOPA and ESMA – require them, in cooperation with the ESRB, to initiate and coordinate EU-wide assessments of the resilience of financial institutions to adverse market developments, including via stress testing.[23] This cooperation has typically taken the form of the ESRB providing adverse scenarios for the stress tests of the ESAs that take as their starting point the risks identified by the ESRB.

The ESRB provided the adverse scenario for the EBA's 2020 EU-wide stress test of the banking sector, which was launched on 31 January 2020.[24] Through its Task Force on Stress Testing, the ESRB prepared a "lower for longer" scenario which took into consideration the most prominent risks for the banking sector, as identified by the ESRB General Board and other European authorities, in an environment of low interest rates with subdued profitability and a weak growth outlook. The scenario design was also informed by recommendations made by the European Court of Auditors (ECA) following an audit of the 2018 stress test and adverse scenario.[25] The process involved closer cooperation between the EBA Board of Supervisors and the ESRB than in the past to ensure that all material risks to the banking sector were appropriately considered.

The EBA postponed the 2020 EU-wide banking sector stress test following the onset of the COVID-19 pandemic. In view of the spread of the coronavirus across Europe during February and March 2020, the EBA Board of Supervisors decided to postpone the 2020 stress test until 2021 in order to allow banks to focus on operational continuity.[26] The ESRB intends to design a new scenario to reflect the risk landscape at the time of the re-launch of the exercise.

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23 See **Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC** (OJ L 331, 15.12.2010, p. 12); **Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC** (OJ L 331, 15.12.2010, p. 48); and **Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC** (OJ L 331, 15.12.2010, p. 84).

24 See **Macrofinancial scenario for the 2020 EU-wide banking sector stress test**, ESRB, January 2020.

25 See **EU-wide stress test for banks: unparalleled amount of information on banks provided but greater coordination and focus on risks needed**, *Special Report*, No 10, ECA, July 2019.

26 See **EBA statement on actions to mitigate the impact of COVID-19 on the EU banking sector**, EBA press release, March 2020.

2.2.2 Report on financial instruments in Levels 2 and 3

The ESRB continued its assessment of the financial stability implications of accounting standards and published a report in February 2020 on the macroprudential implications of financial instruments that are measured at fair value and classified as Level 2 or Level 3 instruments for accounting purposes.[27]

Conceptually, the report identified three main areas where financial instruments measured at fair value can affect financial stability and thus have a macroprudential impact. These related to (i) inaccurate valuation of financial instruments, (ii) possible volatility and illiquidity in times of stress (particularly for financial instruments classified in Levels 2 and 3), and (iii) inadequate reflection of underlying risks in the prudential framework.

At the end of 2018, EU banks had fair value financial assets totalling €7,279 billion on their balance sheets (accounting for around 25% of total assets), with €2,379 billion in Level 1 (mostly debt securities), €4,600 billion in Level 2 (mostly derivatives) and €300 billion in Level 3.[28] Relative to the situation at the end of 2016, a sizeable decline in the total value of financial instruments measured at fair value, driven by a decline in derivative positions, could be observed.[29]

Available data also revealed that the relative importance of financial instruments classified in Levels 2 and 3 varied significantly across banks, with substantial heterogeneity in the underlying portfolios, instruments and models associated with those instruments. With that in mind, the report concluded that policy responses should focus on (i) increasing transparency through improved disclosure, (ii) making full use of the mandates assigned to auditors, accounting enforcers and microprudential supervisors, and (iii) promptly incorporating the Fundamental Review of the Trading Book into the EU's prudential framework.

2.3 Beyond banking

The ESRB continued to work on enhancing the macroprudential toolkit beyond the banking sector. In particular, the ESRB considered policy options to mitigate the procyclicality of margins and haircuts in derivatives markets and securities financing transactions, ways to strengthen CCP

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27 See **Macroprudential implications of financial instruments in Levels 2 and 3 for accounting purposes**, ESRB, February 2020. International Financial Reporting Standards (IFRS) define "fair value" as "the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date". Financial instruments with a fair value that is directly observable in the market are classified in Level 1. Where the fair value is not observable, but can be determined using observable inputs, financial instruments are classified in Level 2. And where the fair value of financial instruments is determined using significant unobservable inputs, those instruments are classified in Level 3.

28 The sample is composed of 128 EU banks, representing around 90% of the total assets of the EU banking sector. All data are at the highest level of consolidation.

29 Supervisory reporting data do not allow differentiation between changes that are due to valuation changes (changes in prices) and changes that are derived from real transactions (changes in volumes). This limitation is particularly important when making cross-temporal comparisons. While IAS 32 allows some netting of derivative positions, it is generally perceived that netting is significantly more limited under IFRS than, for example, under US-GAAP rules. For further information, see **Macroprudential implications of financial instruments in Levels 2 and 3 for accounting purposes**, ESRB, February 2020.

recovery and resolution, ways to enhance the macroprudential aspects of insurance regulation and ways to enhance the Alternative Investment Fund Managers Directive (AIFMD).

2.3.1 Margins and haircuts

The ESRB published a report on mitigating the systemic risk stemming from the procyclicality of margins and haircuts in January 2020.[30] The report expands on the work of a previous ESRB report published in 2017 by providing new analysis and setting out possible policy options to address this risk.

Risks related to margining practices in financial markets include high volatility of margins in times of financial market stress. Procyclicality of margining practices involves increases in margins and collateral haircuts in times of market distress, which may exacerbate price moves. While this is a natural characteristic of variation margins, high cyclicality of initial margins or haircuts may contribute to unintended second-round effects during periods of market disruption.

The ESRB proposed six policy options related to margining practices which could contribute to reducing financial stability risks. The policy options considered are: the pass-through by CCPs of any intraday variation margin collected in the course of the same day; the introduction of initial margin floors in both centrally and non-centrally cleared derivatives markets; the reduction of risks of procyclicality in client clearing by limiting the discretion of client clearing service providers in relation to their clients; the introduction of adequate notice periods for changes in collateral haircuts and eligibility; the introduction of a cash collateral buffer for market participants active in centrally and non-centrally cleared derivatives markets; and the mandatory use of initial and variation margins as risk mitigation techniques in non-centrally cleared securities financing transactions. In setting out these policy options, the ESRB is mindful that their implementation would require further work and engagement with market participants and international fora.

2.3.2 CCP regulatory framework

The entry into force in 2019 of the revisions of the European Market Infrastructure Regulation (EMIR Refit and EMIR 2.2)[31] introduced the requirement for ESMA to consult the ESRB on a number of matters. These include the tiering of third-country CCPs, the suspension of the clearing obligation, central clearing solutions for pension scheme arrangements (PSAs), and possible exemption from the clearing obligation for post-trade risk reduction services (PTRRS). The ESRB

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30 See **Mitigating the procyclicality of margins and haircuts in derivatives markets and securities financing transactions**, ESRB, January 2020.

31 See **Regulation (EU) No 648/2012 of the European Parliament and of the Council of 4 July 2012 on OTC derivatives, central counterparties and trade repositories** (OJ L 201, 27.7.2012, p. 1); **Regulation (EU) 2019/834 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 648/2012 as regards the clearing obligation, the suspension of the clearing obligation, the reporting requirements, the risk-mitigation techniques for OTC derivative contracts not cleared by a central counterparty, the registration and supervision of trade repositories and the requirements for trade repositories** (OJ L 141, 28.5.2019, p. 42); and **Regulation (EU) 2019/2099 of the European Parliament and of the Council of 23 October 2019 amending Regulation (EU) No 648/2012 as regards the procedures and authorities involved for the authorisation of CCPs and requirements for the recognition of third-country CCPs** (OJ L 322, 12.12.2019, p. 1).

collaborated with ESMA on these new tasks and is developing the analytical framework to provide ESMA with the required opinions. The ESRB also responded to ESMA's consultation on draft technical advice on commercial terms for providing clearing services under EMIR, specifically the conditions under which commercial terms are to be considered fair, reasonable, non-discriminatory and transparent (FRANDT). During the period under review, the dossier on CCP recovery and resolution moved to the trilogue phase.[32] The ESRB contributed to the development of the recovery and resolution framework for CCPs by responding to the Commission's consultation and by highlighting specific issues related to CCP interoperability arrangements in a report published in January 2019.[33]

The ESRB's response focused on interoperability links between CCPs. Such links allow clearing members of one CCP to centrally clear trades carried out with members of another CCP, without needing to be a member of the second CCP.[34] In the case of an interoperable CCP entering recovery or resolution, the ESRB noticed a lack of legal certainty on whether the CCP and/or its resolution authorities could deploy any tools to allocate losses that could also force the other interoperable CCPs into recovery or resolution. ESRB Secretariat staff presented these issues to representatives from the European Parliament and the Croatian Presidency of the EU Council during bilateral meetings in early February 2020, and provided drafting suggestions for the legal text.

2.3.3 Enhancing the macroprudential dimension of Solvency II

The ESRB believes that the review of the EU insurance prudential regulation Solvency II should result in a revised framework that better reflects macroprudential considerations. The revised framework should thus contribute to reducing systemic risk in the financial sector. The ESRB General Board endorsed a report[35] that sets out the following three types of tools:

- Solvency tools for preventing and mitigating procyclical investment behaviour of insurers. Existing anti-procyclicality mechanisms should be enhanced by a symmetric and transparent volatility adjustment and by addressing interactions with internal models.
- Liquidity tools for addressing risks stemming from specific activities, such as hedging with derivatives and selling insurance products with redemption features. The framework for liquidity risk should be enhanced by better reporting and measurement, stress-testing requirements and Pillar 2 provisions for liquidity buffers.
- Tools for addressing risks stemming from the provision of credit to the economy, e.g. when insurers originate mortgage loans or invest in corporate bonds. The treatment of the provision of credit should be enhanced by capital-based tools for (sub-)sectoral exposures and by

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32 Trilogue negotiations involve the EU Council, the Parliament and the Commission and are aimed at agreeing a final text.

33 See **ESRB report to the European Commission on the systemic risk implications of CCP interoperability arrangements**, ESRB, January 2016.

34 This may take place either in situations in which the same instrument is traded on different trading venues serviced by different CCPs or when the same trading venue is serviced by more than one CCP.

35 See **Enhancing the macroprudential dimension of Solvency II**, ESRB, February 2020.

bringing insurers within the scope of borrower-based tools, with a view to ensuring consistency in macroprudential policy across sectors.

Box 3
The ESRB's response to the European Insurance and Occupational Pensions Authority's consultation on the review of Solvency II

The ESRB submitted a response to EIOPA's consultation on the review of Solvency II in January 2020.[36] The position of the ESRB is that Solvency II has contributed to making individual insurers safer and EIOPA has been central to making the new regime a success. Nevertheless, there are also gaps in the framework, and the forthcoming review of Solvency II is a unique opportunity to close these gaps in the years to come. Over the past few years, the ESRB has taken positions on topics considered most pertinent with regard to their systemic impact. They are:

- The need to better reflect macroprudential considerations in Solvency II. The ESRB suggestions are detailed in two reports.[37]
- The need to establish a harmonised recovery and resolution framework across the European Union. Such a framework would contribute to adequately protecting policyholders as well as maintaining financial stability in the EU. Both objectives should be put on an equal footing. A harmonised recovery and resolution framework requires a broader set of tools than is available in regular insolvency proceedings. This set of tools includes pre-emptive planning, giving power to authorities to intervene before solvency requirements have been breached, allowing the transfer or separation of all or part of the portfolio, and modifying contractual rights as a measure of last resort.
- The need to continue ensuring that risks are properly captured under Solvency II. The ESRB sees the need to adjust the risk-free interest rate term structure, in particular given the low interest rate environment. The last liquid point for the euro regulatory risk-free interest rate term structure should be moved to 30 years and the convergence period from the last liquid point to the ultimate forward rate should be extended from 40 years to 100 years. In addition, the ESRB considers it important that the resilience of the insurance sector to property risks is not weakened at the current juncture.

2.3.4 AIFMD review

Preparations for the next phase of a public consultation on the review of the AIFMD continued in 2019 after the publication of a report commissioned by the European Commission.[38] On 3 February 2020, the ESRB sent a letter to the Commission, outlining areas where the AIFMD framework could

[36] See **ESRB response to the EIOPA Consultation Paper on the 2020 review of Solvency II**, ESRB, January 2020.

[37] See **Macroprudential provisions, measures and instruments for insurance**, ESRB, November 2018 and **Enhancing the macroprudential dimension of Solvency II**, ESRB, February 2020.

[38] See **Report on the Operation of the Alternative Investment Fund Managers Directive (AIFMD) – Directive 2011/61/EU**, KPMG, December 2018.

be enhanced.[39] The letter focused on three areas: first, it considered the suitability of the reporting framework and access to data for monitoring systemic risk; second, it covered the need to operationalise existing macroprudential policy instruments; third, it stressed the ongoing development of the macroprudential policy framework beyond the banking sector and for investment funds in particular and therefore the need to review the adequacy of the AIFMD macroprudential framework again in a subsequent review process.

2.4 Developing the concept of macroprudential stance

In April 2019 the ESRB published initial considerations on a macroprudential stance, with the aim of developing a conceptual framework to guide the discussion on macroprudential policy.[40] The stance assesses whether macroprudential policy actions are appropriate and effective to meet their objectives. The ESRB Regulation[41] and **The ESRB Handbook on Operationalising Macro-prudential Policy in the Banking Sector** define the objective of macroprudential policy as contributing to financial stability by strengthening the resilience of the financial system and by decreasing the build-up of systemic risks. With this objective in mind, the initial considerations on stance are based on a "risk-resilience framework". This compares the level of risk the financial system faces with the level of resilience available in the financial system to withstand possible risks. Macroprudential policies can promote financial stability by reducing the level of risk or by increasing the level of resilience, or through a combination of both.

The macroprudential stance can be described as "loose", "neutral" or "tight". "Loose" and "tight" stances indicate that adjustment of current macroprudential policies might be desirable. A "loose" stance indicates that the level of risk is relatively high, given the level of resilience. This situation suggests that tightening the calibration of existing macroprudential instruments or activating new ones may be desirable in order to bring the balance of risks and resilience back to neutral levels. On the other hand, a "tight" stance indicates that the level of resilience is relatively high compared to the level of risk. In that situation, loosening or deactivating some macroprudential instruments might be considered, as policies that are "too" tight might have unwanted side-effects, such as limiting economic growth. The stance assessment provides policymakers with an indication of the direction of macroprudential policy. Nevertheless, it is not necessarily a call for action if policymakers have additional reasons for maintaining the current macro prudential policies.

The macroprudential stance establishes a link between macroprudential policy and the objective of financial stability, which is of benefit to Member States and the ESRB in their policymaking and assessments.[42] Work in this area continued in 2019 and will continue throughout 2020.

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39 See the **letter of 3 February 2020 from the ESRB Secretariat to the European Commission**.

40 See **Features of a macroprudential stance: initial considerations**, ESRB, April 2019.

41 See **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** (OJ L 331, 15.12.2010, p. 1), in particular recital 10 and Article 3(1).

42 See recital 25 of the revised Capital Requirements Directive (CRD V) – **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** (OJ L 150, 7.6.2019, p. 253).

2.5 Review of national measures

The ESRB acts as an information hub for its stakeholders. It collects notifications on macroprudential measures taken by its members and publishes them on its website. An overview of macroprudential measures is published on a quarterly basis.[43] A separate overview with currently active capital buffers that apply to domestic banks in each Member State is also updated on a quarterly basis.[44] The Capital Requirements Directive (CRD IV)[45] requires designated authorities to report certain information related to the setting of the countercyclical capital buffer (CCyB) to the ESRB each quarter, and this information is also published.[46] Furthermore, the ESRB's website contains information on the reciprocation of national macroprudential measures.[47]

As in previous years, the ESRB published a review of the measures taken by its members in 2019, further amending its analytical content.[48] The review maintained its sectoral structure, but macroprudential policy (or the lack of it) was assessed more strongly against emerging and prevailing financial stability risks. In addition, the review was more closely dovetailed with the ESRB's general risk assessment.

Setting a CCyB for third countries at a rate that is different from the one prescribed by the third-country authority has not been unilaterally recommended by the ESRB. The list of third countries found to be material for the EU banking sector did not change in 2019 and therefore remains China, Hong Kong, Russia, Singapore, Switzerland, Turkey and the United States. The monitoring of material third countries did not warrant setting a CCyB rate different from the rate prescribed by the third-country authority in 2019.

In response to the COVID-19 pandemic, the ESRB started to collect and disseminate information on national measures targeting the negative effects on financial stability. The main objective is to create a comprehensive database that serves the purpose of the ESRB of being an information hub for its members and the public. The database provides information on the policy measures taken by Member States, EU institutions and national authorities in response to the COVID-19 pandemic. The information provided in the database is not limited to macroprudential measures, but encompasses a broader category of measures, such as microprudential, fiscal, market-based and monetary policy measures. The database is updated on a regular basis and published on the ESRB's website under a new section entitled "**Policy measures in response to the COVID-19 pandemic**".

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43 See **Overview of national macroprudential measures**.

44 See **Overview of national capital-based measures**.

45 **Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions 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).

46 See **Countercyclical capital buffer**.

47 See **Reciprocation of measures**.

48 See **A Review of Macroprudential Policy in the EU in 2019**, ESRB, April 2020; **A Review of Macroprudential Policy in the EU in 2018**, ESRB, April 2019; **A Review of Macroprudential Policy in the EU in 2017**, ESRB, April 2018; **A Review of Macroprudential Policy in the EU in 2016**, ESRB, April 2017; **A Review of Macroprudential Policy in the EU in 2015**, ESRB, May 2016; and **A review of macroprudential policy in the EU one year after the introduction of the CRD/CRR**, ESRB, June 2015.

More information on the macroprudential policies that were in place at the beginning of the COVID-19 pandemic in Europe is provided in “A Review of Macroprudential Policy in the EU in 2019”.[49]

[49] The review also provides a brief update on releases of the countercyclical capital buffers and recalibrations/removals of other capital buffers for banks in the light of the COVID-19 pandemic which had been announced by 31 March 2020.

3 Institutional framework: implementation and accountability

3.1 Amendments to the ESRB Regulation[50]

Article 20 of the ESRB Regulation provides for a review of the mission and organisation of the ESRB if deemed necessary. In an increasingly changing environment characterised by technological changes and developments towards a capital markets union, the mandate of the ESRB was amended to include the discussion of risks to financial stability regardless of their origin, such as monetary conditions and risks and vulnerabilities resulting from technological change or from environmental or social factors.

The new definition of systemic risk

Article 2(c) of the ESRB Regulation was amended to accommodate a wider definition of systemic risk. According to the new definition, systemic risk means a risk of disruption in the financial system with the potential to have serious negative consequences for the real economy of the Union or of one or more of its Member States and for the functioning of the internal market. All types of financial intermediaries, markets and infrastructure may be potentially systemically important to some degree.

The broader membership of the ESRB's General Board

Broad membership has always been considered an asset of the ESRB. In line with this, the membership of the ESRB General Board was enlarged to include the Chair of the Supervisory Board of the ECB and the Chair of the Single Resolution Board, who are now members without voting rights. Corresponding adjustments were also made to the ESRB's Advisory Technical Committee (ATC).

At the same time, the amended ESRB Regulation provided flexibility regarding the appointment of voting members of the General Board for those Member States in which the designated authority has the leading role in financial stability in its area of competence. In such cases, the Member State may alternatively nominate a high-level representative of a designated authority pursuant to the CRD IV or the CRR. If a Member State nominates the high-level representative as the voting member, then the Governor of the national central bank is automatically the non-voting member pursuant to Article 6(2) of the ESRB Regulation. Moreover, for those Member States where the

[50] See **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** (OJ L 331, 15.12.2010, p. 1) and **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** (OJ L 334, 27.12.2019, p. 146).

voting member is the Governor of the central bank, flexibility was also provided as regards the appointment of the non-voting member of the General Board, who can be selected from among high-level representatives of the national supervisory authorities, the national authority entrusted with the conduct of macroprudential policy, or the national central bank. One Member State has already exercised its discretion under the amended Article 6(1)(b) to nominate as its voting member a high-level representative of a designated authority other than the Governor of its national central bank.

The Chair and first Vice-Chair of the ESRB

The President of the ECB has chaired the ESRB since its establishment – pursuant to Article 5 of the ESRB Regulation for the first five years (until 15 December 2015) and thereafter on an interim basis. During this period, having the President of the ECB as its Chair has conferred authority and credibility on the ESRB and ensured that it can effectively build and rely on the expertise of the ECB and the synergies generated in the area of financial stability. It was therefore considered appropriate for the President of the ECB to be appointed as ex officio Chair of the ESRB on a permanent basis.

Under the amended Regulation, the first Vice-Chair is elected by and from the national members of the General Board with voting rights, which reflects the increased flexibility in the membership of the General Board.

The Head of the ESRB Secretariat

Council Regulation (EU) 1096/2010[51] provides that the Head of the ESRB Secretariat shall be appointed by the ECB, in consultation with the General Board. To raise the profile of the Head of the ESRB Secretariat, the amended ESRB Regulation provides that the General Board, following an open and transparent procedure, shall assess whether the shortlisted candidates for the position of Head of the ESRB Secretariat possess the qualities, impartiality and experience necessary to manage the ESRB Secretariat. The General Board is also required to inform the European Parliament and the Council about the assessment procedure. In addition, the ECB should consider systematically opening the selection procedure to external candidates.

Furthermore, the tasks of the Head of the ESRB Secretariat were clarified to include:

1. the day-to-day management of the Secretariat;
2. any administrative and budgetary issues related to the Secretariat;
3. the coordination and preparation of the work and the decision making of the General Board;
4. the preparation of the annual ESRB programme proposal and its implementation;

[51] **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** (OJ L 331, 15.12.2010, p. 162).

5. the preparation of the annual report on the ESRB's activities and the reporting to the General Board on the implementation of the annual programme.

ESRB warnings and recommendations

The ESRB issues recommendations for remedial action when significant systemic risks are identified and action is necessary to address those risks. The ESRB issues warnings when significant systemic risks are identified and it is necessary to flag such risks.

The scope of the addressees of the ESRB recommendations was clarified to include explicitly:

- national authorities designated for the application of measures aimed at addressing systemic or macroprudential risk;
- the ECB, for the tasks conferred on the ECB in accordance with Articles 4(1), 4(2) and 5(2) of the Single Supervisory Mechanism (SSM) Regulation[52];
- resolution authorities designated by Member States pursuant to Directive 2014/59/EU of the European Parliament and of the Council[53];
- the Single Resolution Board.

The addressees shall communicate the actions undertaken in response to the recommendation and shall substantiate any inaction to the European Parliament, the Council, the Commission and the ESRB. Where relevant, the ESRB shall, subject to strict rules of confidentiality, inform the ESAs of the answers received without delay.

If the ESRB decides that its recommendation has not been followed or that the addressees have failed to provide adequate justification for their inaction, the ESRB shall inform the addressees, the European Parliament, the Council and the relevant ESAs.

Professional secrecy and information sharing

The ESRB should facilitate the sharing of information to serve its mandate. In that respect, the amended ESRB Regulation provides that members of the ESRB from national central banks, national supervisory authorities and national authorities entrusted with the conduct of macroprudential policy may provide to national authorities or bodies responsible for the stability of the financial system in accordance with Union law or with national arrangements the information

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52 **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).

53 **Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment firms and amending Council Directive 82/891/EEC, and Directives 2001/24/EC, 2002/47/EC, 2004/25/EC, 2005/56/EC, 2007/36/EC, 2011/35/EU, 2012/30/EU and 2013/36/EU, and Regulations (EU) No 1093/2010 and (EU) No 648/2012, of the European Parliament and of the Council** (OJ L 173, 12.6.2014, p. 190).

they receive from the ESRB in the course of their duties and in relation to the tasks of the ESRB which is necessary for the exercise of the statutory tasks of those authorities or bodies.

In addition, according the amended ESRB Regulation, where information originates from other authorities than those referred to above, members of the ESRB from national central banks, national supervisory authorities and national authorities entrusted with the conduct of macroprudential policy shall use that information for the exercise of their statutory tasks only with the explicit agreement of those authorities.

Accountability and reporting obligations

The Chair of the ESRB is invited at least annually to a hearing in the European Parliament marking the publication of the ESRB's annual report to the European Parliament and the Council. As already required under the ESRB Regulation, this is to be conducted separately from the monetary dialogue between the European Parliament and the President of the ECB.

However, the amended Regulation increased the transparency of the above procedure by requiring the annual report to include an account of the resources made available to the ESRB in accordance with Article 3(1) of Regulation (EU) 1096/2010, which provides that the ECB shall provide sufficient human and financial resources for the fulfilment of its task of ensuring the ESRB Secretariat.

In addition, the amended Regulation provides that the ESRB shall reply orally or in writing to questions put to it by the European Parliament or by the Council without undue delay. When confidential information is transmitted, the European Parliament shall ensure the full confidentiality of that information.

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

In the light of the amendments to the ESRB Regulation, it was deemed necessary to reflect those changes in the Decision of the ESRB setting out its rules of procedure. Therefore, on 20 March 2020 the General Board adopted Decision ESRB/2020/3 amending Decision ESRB/2011/1 adopting the Rules of Procedure of the European Systemic Risk Board.[54] The amending Decision makes the changes necessary to accommodate the amendments to the ESRB Regulation and policy changes, such as widening the range of candidates eligible for the position of Vice-Chair of the ATC, granting the Chair of the ESRB the authority to sign ESRB legal instruments and accommodating the participation of representatives from third countries.

[54] **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) (OJ C 140, 29.4.2020, p. 5).

3.2 Assessment of compliance with ESRB recommendations

ESRB recommendations are not legally binding, but they are subject to an "act or explain" regime in accordance with Article 17 of the ESRB Regulation. This means that the addressees of recommendations – such as the EU as a whole, Member States, the ESAs, the national supervisory authorities and the European Commission – have an obligation to communicate to the ESRB and the EU Council the actions that they have taken to comply with a recommendation, or to provide adequate justification in the case of inaction. In order to provide guidance to addressees on how to assess the implementation of ESRB recommendations, the ESRB published the **Handbook on the assessment of compliance with ESRB recommendations** in July 2013 and a revised version in April 2016.

The following subsections outline the two compliance assessments undertaken over the review period.

3.2.1 Assessment of compliance with Recommendation ESRB/2015/2 on the assessment of cross-border effects of a voluntary reciprocity for macroprudential policy measures

Recommendation ESRB/2015/2[55] is aimed at promoting a coordinated policy approach across borders within the EU and preventing financial service providers from circumventing national macroprudential measures. The recommendation focuses in particular on the assessment of cross-border effects of relevant activating authorities' own macroprudential policy measures ahead of the request for reciprocation. Moreover, it sets out the procedures to be followed both when submitting a request for reciprocation and when giving notification of reciprocation of other relevant authorities' macroprudential policy measures. Finally, the recommendation contains a continuously updated list of macroprudential policy measures adopted by other relevant authorities and recommended by the ESRB for reciprocation. The assessment of the follow-up to the recommendation started in the first quarter of 2018. This assessment is based on the information provided by the addressees by 30 June 2017. The exercise is ongoing and is expected to be completed in the course of 2020.

3.2.2 Assessment of compliance with Recommendation ESRB/2017/6 on liquidity and leverage risks in investment funds

Recommendation ESRB/2017/6[56] contains five recommendations: Recommendation A, designed to address the risks that may arise when fund managers do not have adequate liquidity management tools; Recommendation B, designed to mitigate and prevent excessive liquidity mismatches in open-ended alternative investment funds (AIFs); Recommendation C, designed to

[55] **Recommendation of the European Systemic Risk Board of 15 December 2015 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures** (ESRB/2015/2) – consolidated version.

[56] **Recommendation of the European Systemic Risk Board of 7 December 2017 on liquidity and leverage risks in investment funds** (ESRB/2017/6) (OJ C 151, 30.4.2018, p. 1).

promote coherent liquidity stress testing practices at the investment fund level; Recommendation D, designed to establish a harmonised reporting framework for undertakings for collective investment in transferable securities (UCITS) across the Union; and Recommendation E, designed to facilitate the implementation of Article 25 of the AIFMD, which provides for a macroprudential tool to limit leverage in AIFs.

ESMA published the guidance referred to in Recommendation B in **Final Report: Guidelines on liquidity stress testing in UCITS and AIFs** in September 2019. As regards Recommendation E, ESMA published **Consultation Paper: Guidelines on Article 25 of Directive 2011/61/EU** in March 2020 with a view to finalising the guidelines following the end of the consultation period in September 2020.

3.2.3 Assessment of compliance with Recommendation ESRB/2016/4 on closing real estate data gaps

The objective of Recommendation ESRB/2016/14[57] is that national macroprudential authorities should implement a framework for monitoring developments in the real estate sector relevant for financial stability based on commonly agreed target definitions and indicators. Macroprudential authorities delivered their interim reports to the ESRB pursuant to Recommendations A to D, which were due by 31 December 2019. The assessment of the follow-up to the recommendation is ongoing and is expected to be completed in the course of 2020.

3.3 Follow-up report on countries that received ESRB warnings in 2016 on medium-term vulnerabilities in the residential real estate sector

Following the issuance of eight country-specific warnings on medium-term vulnerabilities in the RRE sector in 2016, the ESRB issued a follow-up report in 2019.[58] More specifically, the ESRB is mandated to help prevent RRE vulnerabilities from building up across Europe and in 2016 issued warnings addressed to Austria, Belgium, Denmark, Finland, Luxembourg, the Netherlands, Sweden and the United Kingdom.[59]

The follow-up analysis carried out by the ESRB in 2019 shows that, in most of the countries, the vulnerabilities accumulated in the past persist, even though most of the addressees used a mixture of both borrower-based and capital-based measures to mitigate them. Household indebtedness

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57 See **Recommendation of the European Systemic Risk Board of 31 October 2016 on closing real estate data gaps** (ESRB/2016/14) (OJ C 31, 31.1.2017, p. 1) and **Recommendation of the European Systemic Risk Board of 21 March 2019 amending Recommendation ESRB/2016/14 on closing real estate data gaps** (ESRB/2019/3) (OJ C 271, 13.8.2019, p. 1).

58 See **Follow-up report on countries that received ESRB warnings in 2016 on medium- term vulnerabilities in the residential real estate sector**, ESRB, September 2019.

59 For details, see Warning **ESRB/2016/05** (Austria), Warning **ESRB/2016/06** (Belgium), Warning **ESRB/2016/07** (Denmark), Warning **ESRB/2016/08** (Finland), Warning **ESRB/2016/09** (Luxembourg), Warning **ESRB/2016/10** (Netherlands), Warning **ESRB/2016/11** (Sweden) and Warning **ESRB/2016/12** (United Kingdom).

remains high in most of the countries and the same applies to signs of overvaluation, especially in large cities. In addition, mortgage lending and house prices have continued to grow in most of the countries, although these increases have broadly decelerated. However, the ESRB recognises that the measures introduced in response to the warnings have ensured a minimum level of lending standards and recommends that they be recalibrated or complemented by other measures to increase both their efficiency and effectiveness where necessary. Furthermore, the ESRB concluded that in some of the countries the vulnerabilities in the RRE sector are connected with the characteristics of different policy areas, such as tax policies or policies that affect housing supply, and therefore targeted intervention in these areas is needed on top of the macroprudential actions.

3.4 Reporting to the European Parliament and other institutional aspects

3.4.1 Reporting to the European Parliament

In line with the ESRB's accountability and reporting obligations, the Chair of the ESRB attends hearings before the Committee on Economic and Monetary Affairs of the European Parliament (ECON). These hearings are public and are transmitted via a webcast accessible on the ESRB's website.

The introductory statements of the ESRB Chair are published on the ESRB's website. These statements provide Members of the European Parliament with an overview of the ESRB's stance on current systemic risks arising from the different financial sectors and on the macroprudential policy options recommended.

At the hearing before the ECON Committee on 23 September 2019, former ESRB Chair Mario Draghi focused on the RRE sector, which the ESRB analysed as part of its regular monitoring of member countries. He announced that, on the basis of its forward-looking analysis of the RRE sector, the ESRB was publishing five warnings and six recommendations related to medium-term vulnerabilities in the sector.

The first hearing of new ESRB Chair Christine Lagarde before the ECON Committee took place on 8 June 2020.

3.4.2 Other institutional relations

The ESRB held its annual meeting with the Committee of European Audit Oversight Bodies and statutory auditors of EU-based global systemically important financial institutions (G-SIFIs) on 28 and 29 October 2019. The meeting is required by EU law in order to inform the ESRB of sectoral developments or any significant developments at G-SIFIs. The discussion focused on the following topics: (i) the implementation of IFRS 9; (ii) the valuation of complex financial instruments; (iii) preparatory work for IFRS 17; (iv) the European macroeconomic environment; (v) anti-money laundering and fraud; and (vi) key audit matters.

3.4.3 The institutional framework

The organisational structure of the ESRB comprises a General Board, a Steering Committee, an Advisory Scientific Committee (ASC), an Advisory Technical Committee (ATC) and a Secretariat. Until 1 November 2019 the ESRB was chaired by the former President of the ECB, Mario Draghi. Since 1 November 2019 the ESRB has been chaired by the new President of the ECB, Christine Lagarde. During the review period, the Governor of Sveriges Riksbank, Stefan Ingves, became the new First Vice-Chair of the ESRB, succeeding Mark Carney, the former Governor of the Bank of England, and the Governor of the Banco de España, Pablo Hernández de Cos, became the new Chair of the ATC, succeeding Philip R. Lane, the former Governor of the Central Bank of Ireland. In addition, Professor Richard Portes succeeded Professor Javier Suarez as Chair of the ASC, while Professor Javier Suarez and Professor Loriana Pelizzon became Vice-Chairs of the ASC.

From 1 April 2019 to the end of March 2020 there were 24 active working groups within the ESRB. Overall, 108 meetings and 598 teleconferences were organised to perform the tasks assigned to them.

The ECB supports the work of the ESRB in various ways. The day-to-day business of the ESRB is carried out by its Secretariat. The Head of the ESRB Secretariat is Francesco Mazzaferro and the Deputy Head is Tuomas Peltonen. In accordance with Council Regulation (EU) No 1096/2010, the ECB ensures the functioning of the Secretariat of the ESRB and thereby provides the ESRB with analytical, statistical, logistical and administrative support. In 2019 the ECB provided the ESRB with support in the form of 59.0 full-time equivalent (FTE) staff. Of these, 29.4 FTEs were employed within the Secretariat and 29.6 FTEs provided other forms of support. The direct costs incurred by the ECB amounted to €9.4 million. The indirect costs for other support services shared with the ECB (e.g. human resources, IT, general administration) are in addition to this amount. Over the same period, other member institutions of the ESRB provided approximately 47.52 FTEs for analytical support within the context of ESRB groups and ESRB group chair positions.

3.5 ESRB events

On 23-24 May 2019 the ESRB organised a conference[60] on systemic risk analytics in cooperation with Suomen Pankki – Finlands Bank and RiskLab at Arcada. This fifth annual conference brought together the most recent advances in computational tools for systemic risk identification and assessment.

On 3 July 2019 the ESRB, in cooperation with ECB and Česká národní banka, organised a workshop[61] on sources of structural systemic risk in the financial system aiming at identification and measurement.

On 26-27 September 2019 the ESRB organised its fourth Annual Conference[62], which focused on the future of financial services. Panellists were invited to discuss how finance will be affected by the

[60] See **2019 RiskLab/BoF/ESRB Conference on Systemic Risk Analytics (SRA2019)**.

[61] See **Joint Česká národní banka/European Central Bank/European Systemic Risk Board Workshop 2019 – Sources of structural systemic risk in the financial system: identification and measurement**.

emergence of new providers and innovative financial services. They also discussed how policymakers should respond to the changing nature of the financial industry.

The ASC awards an annual prize to recognise outstanding research conducted by young scholars on topics related to the ESRB's mission. The annual prize was established in 2014 in memory of Ieke van den Burg, who was a member of the ASC (2011-14) and a Member of the European Parliament (1999-2009). In 2019 the award was jointly awarded to André F. Silva for his paper entitled "Strategic Liquidity Mismatch and Financial Sector Stability" and Guillaume Vuillemey for his paper entitled "The Value of Central Clearing".

3.6 EMIR Bridge Programme for Data Science

The EMIR Bridge Programme for Data Science[63] is aimed at developing novel analytical methods to explore the wealth of information provided by the large-scale dataset on derivatives transactions reported to trade repositories under the European Market Infrastructure Regulation (EMIR). The programme started as a pilot in 2019 with six projects covering a range of topics related to the derivatives market. By working together and sharing expertise, staff of the ESRB and ECB and external researchers have created a fruitful collaboration between the policymaking and academic communities.

The programme will now be established on a permanent basis as the "Alberto Giovannini Programme for Data Science" in honour of the former ASC member. Mr Giovannini was one of the key figures in fostering financial integration in the EU and strongly believed in the power of data and information to mitigate and prevent systemic risk.

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[62] See **Fourth ESRB annual conference**.

[63] See **EMIR Bridge Programme for Data Science**.

Annex 1: Publications on the ESRB's website from 1 April 2019 to 31 March 2020

Opinions

11 March 2020
Opinion of the European Systemic Risk Board of 6 February 2020 regarding Dutch notification of a stricter national measure based on Article 458 of the CRR (ESRB/2020/1)

27 September 2019
Opinion of the European Systemic Risk Board of 25 July 2019 regarding Finnish notification of an extension of the period of application of a stricter national measure based on Article 458 of the CRR (ESRB/2019/16)

28 August 2019
Opinion of the European Systemic Risk Board of 13 May 2019 regarding Estonian notification of a stricter national measure based on Article 458 of the CRR (ESRB/2019/2)

ESRB reports

26 February 2020
Enhancing the macroprudential dimension of Solvency II

25 February 2020
Macroprudential implications of financial instruments in Levels 2 and 3 for accounting purposes

19 February 2020
Systemic cyber risk

9 January 2020
Mitigating the procyclicality of margins and haircuts in derivatives markets and securities financing transactions

17 December 2019
Methodologies for the assessment of real estate vulnerabilities and macroprudential policies: commercial real estate

13 December 2019
Macroprudential policy implications of foreign branches relevant for financial stability

23 September 2019
Follow-up report on countries that received ESRB warnings in 2016 on medium-term vulnerabilities in the residential real estate sector

23 September 2019
Methodologies for the assessment of real estate vulnerabilities and macroprudential policies: residential real estate

23 September 2019
Vulnerabilities in the residential real estate sectors of the EEA countries

17 July 2019
EU Non-bank Financial Intermediation Risk Monitor 2019

30 April 2019
A Review of Macroprudential Policy in the EU in 2018
Special Feature A: Use of national flexibility measures under Article 458 of the CRR
Special Feature B: Development of the concept of macroprudential stance
Special Feature C: Upcoming changes to the macroprudential provisions in EU banking legislation

8 April 2019
Features of a macroprudential stance: initial considerations

Working papers

14 February 2020
Working Paper No 108 entitled "**The network of firms implied by the news**" by Gustavo Schwenkler and Hannan Zheng

14 February 2020
Working Paper No 107 entitled "**Regulating financial networks under uncertainty**" by Carlos Ramírez

16 December 2019
Working Paper No 106 entitled "**Electoral cycles in macroprudential regulation**" by Karsten Müller

16 December 2019
Working Paper No 105 entitled "**Shadow banking and financial stability under limited deposit insurance**" by Lukas Voellmy

2 December 2019
Working Paper No 104 entitled "**The effects of capital requirements on good and bad risk-taking**" by N. Aaron Pancost and Roberto Robatto

2 December 2019
Working Paper No 103 entitled "**Interactions between bank levies and corporate taxes: How is the bank leverage affected?**" by Franziska Bremus, Kirsten Schmidt and Lena Tonzer

30 September 2019

Working Paper No 102 entitled "**Exposition, climax, denouement: Life-cycle evaluation of the recent financial crisis in the EU by linking the ESRB financial crisis database to the European Commission's Macroeconomic Imbalance Procedure Scoreboard**" by Szilard Erhart

17 September 2019

Working Paper No 101 entitled "**Macroprudential policy spillovers and international banking – Taking the gravity approach**" by Anni Norring

17 September 2019

Working Paper No 100 entitled "**Fire-sales in frozen markets**" by Ehsan Ebrahimy

29 July 2019

Working Paper No 99 entitled "**Securitisation special purpose entities, bank sponsors and derivatives**" by Paweł Fiedor and Neill Killeen

1 July 2019

Working Paper No 98 entitled "**Bank asset quality and monetary policy pass-through**" by David Byrne and Robert Kelly

1 July 2019

Working Paper No 97 entitled "**Rethinking capital regulation: the case for a dividend prudential target**" by Manuel Muñoz

17 June 2019

Working Paper No 96 entitled "**Optimally solving banks' legacy problems**" by Anatoli Segura and Javier Suarez

17 June 2019

Working Paper No 95 entitled "**Use of credit default swaps by UCITS funds: evidence from EU regulatory data**" by Achim Braunsteffer, Claudia Guagliano, Oisin Kenny and Julien Mazzacurati

15 May 2019

Working Paper No 94 entitled "**Do information contagion and business model similarities explain bank credit risk commonalities?**" by Dieter Wang, Iman van Lelyveld and Julia Schaumburg

15 May 2019

Working Paper No 93 entitled "**Bank capital forbearance**" by Natalya Martynova, Enrico Perotti and Javier Suarez

2 May 2019

Working Paper No 92 entitled "**The cyclicality in SICR: mortgage modelling under IFRS 9**" by Edward Gaffney and Fergal McCann

2 May 2019

Working Paper No 91 entitled "**Has regulatory capital made banks safer? Skin in the game vs moral hazard**" by Ernest Dautović

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