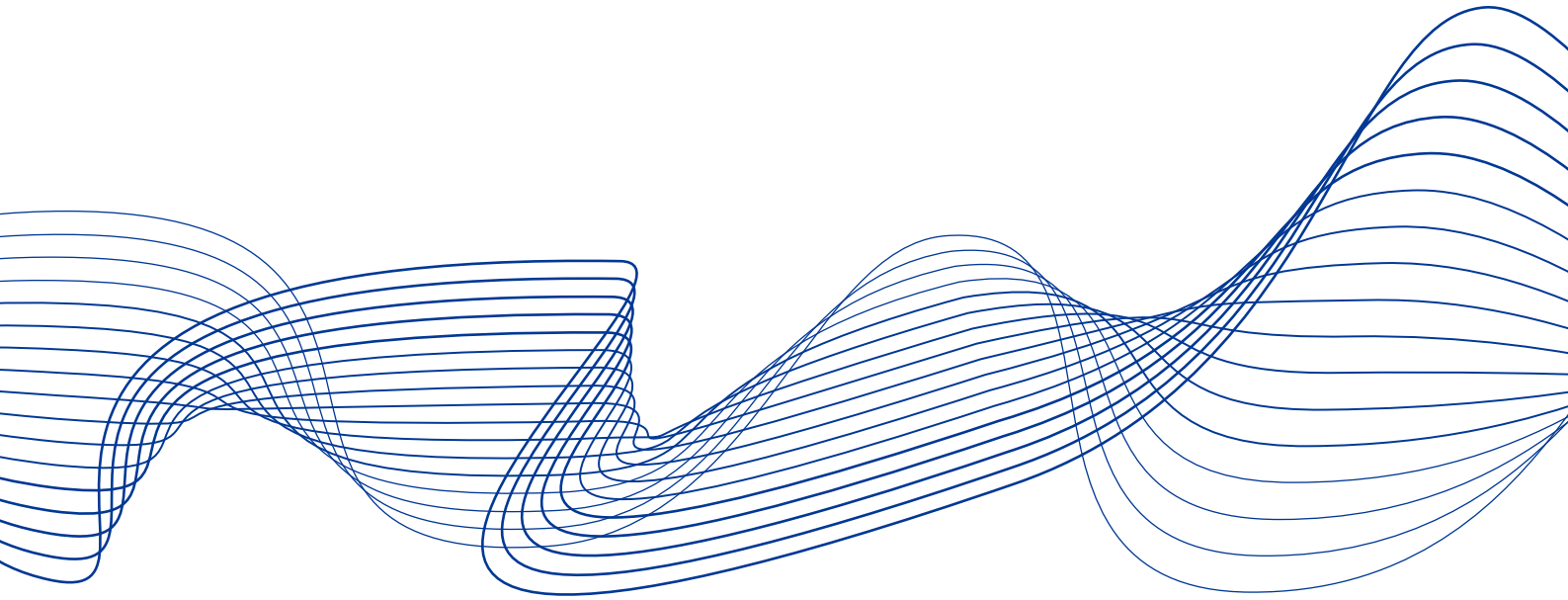
A Review of Macroprudential Policy in the EU in 2020

July 2021



ESRB
European Systemic Risk Board
European System of Financial Supervision

Contents

Executive Summary **3**

1 Macro-financial environment **10**

1.1 Introduction 10

1.2 Macroeconomic developments and outlook 11

1.3 Financial stability implications of public support measures 15

Box 1 Monitoring the financial stability implications of debt moratoria, public guarantee schemes and other measures of a fiscal nature to protect the real economy 20

1.4 Increasing vulnerabilities in the household and NFC sectors 21

1.5 Strengthening of the sovereign-bank-corporate nexus 30

1.6 Financial market developments 36

1.7 Developments in residential and commercial real estate 39

2 General policies **48**

2.1 Operational and regulatory relief measures 48

2.2 System-wide restraints on dividend payments, share buybacks and other pay-outs 50

Box 2 ESRB recommendation on restriction of distributions 52

2.3 The use of stress tests and scenario tools in the COVID-19 crisis 54

Box 3 A system-wide scenario analysis of large-scale corporate bond downgrades 56

3 Risks faced by banks and policies to mitigate them **58**

3.1 Introduction 58

3.2 Risks and vulnerabilities in banks 59

3.3 Policies for banks 71

4 Risks faced by other financial intermediaries and financial markets and policies to mitigate them 104

4.1 Introduction 104

4.2 CCPs 105

Box 4 ESRB recommendation on liquidity risks arising from margin calls 108

4.3 Insurance 110

Box 5 ESRB letter to EIOPA on liquidity risks in the insurance sector 114

4.4 Investment funds 115

Annex 1: Material third countries 119

Annex 2: Active residential real estate instruments in Europe 122

Annex 3: Active commercial real estate instruments in Europe 133

Annex 4: Systemically important institutions in the EU and the United Kingdom 135

Annex 5: Main features of the systemic risk buffer in the EU and UK 151

Annex 6: Phasing-in of O-SII buffer and SyRB requirements 153

Annex 7: Macroprudential authorities 155

Countries and abbreviations 157

Imprint and acknowlegements 159

Executive Summary

The COVID-19 pandemic caused an unprecedented global health crisis and a deep economic recession. Swift and comprehensive support measures in the areas of monetary, fiscal and prudential policies helped contain the COVID-19 crisis, most notably by preserving favourable financing conditions, stabilising household income and providing liquidity support to the corporate sector. Nonetheless, economic activity contracted sharply in the second quarter of 2020. The economic impact of the pandemic was highly uneven on account of the pronounced dispersion of value-added growth across sectors of economic activity and across euro area countries. The easing of measures towards the end of the second quarter facilitated a strong rebound in economic activity in the third quarter. The decline in real gross domestic product (GDP) in 2020 amounted to 6.9% in the euro area and 6.2% in the EU, largely driven by steep drops in private consumption on the back of surging forced and precautionary savings as well as investment.

While the rollout of vaccines created an anchor for medium-term expectations, new waves of COVID-19 infections heavily weighed on recovery prospects. Short-term uncertainty remains very high on account of delays in the rollout of vaccinations and concerns about the effectiveness of vaccines with respect to rapidly spreading COVID-19 virus mutations. Economic growth is therefore expected to gain momentum only in the second half of 2021. Significant uncertainty also persists over the medium term, as the size of spillovers from heightened vulnerabilities in the non-financial corporation (NFC) and household sectors to the financial system and public finances as well as the scope of permanent structural changes as a result of the COVID-19 crisis remain unclear.

The main source of systemic risk in the EU originates from the negative impact of the pandemic on economic activity, rising solvency pressures in the private sector and their feedback effects on the financial system. To date, the swift and broad-based policy support measures have helped stabilise household incomes and mitigate the decline in the cash-flow of the corporate sector. But debt service moratoria are gradually phased out, while other government support programmes are likely to become more targeted and will be terminated at some point—not least depending on the perceived fiscal space in individual Member States. In the meantime, firms in several sectors continue to suffer from a substantial fall in revenues after exhausting their cash buffers and face difficulties in rolling over their maturing debt.

There is scope for improving the targeting of public support measures. Improved targeting of public support measures could increase their efficiency by avoiding support to (i) firms that are able to survive without support; and (ii) unviable firms that are eventually bound to fail even with public support. Looking ahead, public support measures will need to shift from a defence of the pre-pandemic status quo to more targeted solutions that help viable companies to adjust to the post-pandemic world. Phasing out across-the-board measures is particularly warranted when these delay the recognition of loan losses.

Policies could also attach higher importance to addressing the debt burden of viable but overindebted firms. The extraordinary public support measures adopted during the crisis were more effective in addressing liquidity shortfalls than in closing solvency gaps. Looking forward, liquidity support measures will therefore increasingly need to be complemented with solvency

support measures, including through the injection of equity and quasi-equity into viable firms. Taking into account that small and medium-sized enterprises (SMEs) have been harder hit by the crisis than larger companies and that bank financing remains by far the dominant form of SME financing, an increase in equity through the restructuring of debt on bank balance sheets may need to play a key role. A complementary avenue could consist of a (partial and targeted) conversion of public loan guarantees into equity under the strict condition of appropriate burden-sharing arrangements with other debtors. However, such an approach would require enhancing the capacity to monitor and assess the financial situation of corporates to avoid providing debt relief to unviable companies.

Furthermore, Member States should review and improve collateral enforcement procedures and strengthen the capacity of the judiciary to avoid bottlenecks. Reforms of foreclosure procedures could reduce their length, facilitate the transfer of collateral to creditors and accelerate the sale and valuation of collateral. Moreover, a reform of the EU's corporate insolvency and debt recovery legislation could facilitate the convergence of insolvency frameworks across the EU. A swift adoption of the proposed EU Directive on credit servicers, credit purchasers and the recovery of collateral (2018/63) would be helpful in simplifying extrajudicial collateral enforcement, reducing the cost of non-performing loan (NPL) resolution and removing obstacles for NPL sales to specialised credit purchasers. In addition, preventive restructuring frameworks could support the balance sheet repair of companies with viable business models. Developing preventive restructuring frameworks in accordance with the EU Restructuring and Insolvency Directive of 2019 ahead of the transposition deadline could help avoid lengthy and costly court procedures and reduce potential congestion of insolvency courts.

To support NPL resolution, secondary markets for distressed assets should be further developed with urgency to facilitate banks' efforts to move NPLs off their balance sheets. Moreover, Member States could assess the case for establishing asset management companies (AMCs). The ESRB therefore welcomed the European Commission's communication on NPLs[1] released in December 2020.

The negative impact of a further increase of provisions on bank capital also compounds the need to step up efforts to achieve higher operational efficiency, including through consolidation. By addressing the issue of overcapacity in retail banking and streamlining overlapping distribution networks, well-designed consolidation can help improve banks' profitability in the face of the "lower for longer" environment[2] and intensifying competition from FinTech.

While housing markets have proven resilient to the COVID-19 crisis, house prices continued to perceptibly increase in 2020, thereby exacerbating vulnerabilities that prevailed prior to the crisis in several European countries. House prices continued to increase in 2020, further exacerbating the overvaluation of house prices in several EU countries that prevailed prior to the crisis. The greater overvaluation is accompanied by persistently high household indebtedness.

---

1 **Communication from the Commission to the European Parliament, the Council and the European Central Bank on tackling non-performing loans in the aftermath of the COVID-19 pandemic**, European Commission, December 2020.

2 The "lower for longer" environment is described in a scenario in which interest rates will remain lower for a longer time, see Chapter 2 of the **ESRB report Lower for longer – macroprudential policy issues arising from the low interest rate environment**, June 2021.

Most countries with high household indebtedness also have a high debt service-to-income ratio, which adds to their vulnerability.

Compared with the rather resilient residential real estate (RRE) market, the commercial real estate (CRE) market was severely impacted by the COVID-19 crisis. Transactions in the CRE market fell by around 50% y-o-y in the last three quarters of 2020. Office and retail property prices were the most severely affected, albeit with large variations across countries. The RRE sector may be further hit by long-term behavioural changes relating to a permanent increase in the market share of e-commerce. Moreover, while a sizeable share of staff will return to their offices in the wake of the pandemic, remote working arrangements will play a much bigger role in the future. This could result in a "K-shaped" recovery, with higher-quality properties that can adapt to health requirements being less affected.

Risks of abrupt asset price corrections and episodes of illiquidity in financial markets have risen. The sharp falls in equity and bond markets at the beginning of the pandemic were accompanied by a wider loss in confidence, draining liquidity in corporate bond and money markets ("dash for cash"). Asset prices subsequently rose, with indications of a decoupling from fundamentals in some assets. Against the backdrop of elevated uncertainty related to the economic recovery path, this means that the risk of abrupt asset price falls remains high. The liquidity drain in March 2020 was amplified by large outflows from money market and other investment funds, highlighting the need for policymakers to better understand the implications for financial stability of a growing share of market-based financial intermediation.

The COVID-19 shock intensified the pressure on interest rates. As pointed out above, the COVID-19 pandemic is a concern for financial stability through its impact on the real economy, in particular NFCs in certain sectors. However, it could also potentially aggravate the concerns stemming from the low interest rate environment in the financial sector, as it contributed to extending the "lower for longer" scenario. These concerns relate to (i) the profitability and resilience of banks, (ii) the indebtedness and viability of borrowers, (iii) systemic liquidity risk, and (iv) the sustainability of the business models of insurers and pension funds offering longer-term return guarantees.

Banks have benefited from a variety of support measures (including the release of capital buffers) but are facing deteriorating asset quality.

Assessing risks and vulnerabilities in the banking sector is subject to significant caveats in the current circumstances, given that the transparency of banks' balance sheets has decreased. The scope of information has been reduced, delayed or subjected to temporary exemptions owing to the extraordinary magnitude of the shock, and the absence of accurate information on borrower risk may lead to uncertainty over the soundness of financial institutions.

Banks entered the crisis in better shape than the global financial crisis, yet profitability challenges persist and headline CET1 ratios may paint too positive a picture. The regulatory and supervisory efforts since the great financial crisis have led banks to increase their capital ratios from their level a decade ago. However, the low market capitalisation of banks in many EU countries (also in comparison with the United States) may also be indicative of investor concerns

about the banks' medium-term capacity to generate profits. Such concerns may be further exacerbated by further declines in bank profitability from already low pre-crisis levels. While some specific recent cases may have partially reflected rising provisions in the second quarter of 2020, the deterioration in underlying asset quality implies additional pressure on profitability on account of rising provisioning needs going forward.

Banks' capital positions have been shielded by a variety of public support measures. Banks benefited indirectly from public support measures for households and NFCs, while public loan guarantees shifted a large portion of the credit risk of new lending to the government. Furthermore, banks also profited from temporary supervisory and regulatory adjustments, including to accounting rules. In addition, restrictions on the distribution of dividends also had a positive effect on banks' capital positions. As a result, CET1 ratios did not decline and even increased for most banks.

While NPLs have not yet increased, the first signs of asset deterioration have appeared. Normally, NPLs are a key indicator of asset quality problems at banks. But in this crisis, the large-scale public support (including loan moratoria) has shielded banks from the immediate fallout of the crisis and, so far, prevented NPLs from increasing. However, the share of Stage 2 loans and restructured loans has started to increase as a sign of deteriorating asset quality. Furthermore, tightening loan standards are a further indication that banks are reassessing the quality of their loan portfolios. Depending on how and when public support will be phased out, an increase in NPLs is to be expected.

To address the imminent challenges, banks need to recognise and provision for new NPLs early on and enhance their internal NPL management and resolution capacity. Recognising losses at an early stage will be key for banks' balance sheet transparency. Recognising losses only when moratoria and guaranteed loan programmes expire would compound the risk of cliff effects, which could in turn trigger an abrupt deleveraging process. It will be crucial to avoid repeating the errors made during previous crises, when NPLs accumulated for years on the balance sheets of European banks and constituted a significant drag on credit expansion and concomitantly economic growth. Hence, banks need to be proactive in identifying and provisioning for NPLs. Furthermore, they need to enhance their internal NPL management and resolution capacity.

The initial response by authorities across the EU[3], including macroprudential authorities, was designed to avert a credit crunch and liquidity distress. In addition to the provision of critical functions such as payment and settlement services, an important objective of macroprudential policies was to ensure that banks could continue to meet the demand for credit throughout the economic cycle, thereby ensuring that a recession was not amplified by a credit crunch. Reflecting this, at the onset of the pandemic, public authorities in Europe, including member institutions of the ESRB, reduced capital buffers (Section 3.3) and operational burdens, for example by easing reporting requirements and by postponing the banking sector stress test (Section 2.3).

[3] Any reference to the EU also includes a reference to the EEA unless the context requires otherwise. Any reference to "Member State(s)" includes Iceland, Liechtenstein and Norway, unless otherwise indicated or implied by the context. Any reference to the Capital Requirements Directive IV (CRD IV) or the Capital Requirements Regulation (CRR) in the context of the European Economic Area (EEA) European Free Trade Association (EFTA) States (i.e. Iceland, Liechtenstein and Norway) is a reference to their national regimes.

In total, 21 out of 31 countries directly released cyclical and/or structural capital buffers at the onset of the crisis. Generally speaking, countries freed up capital by releasing cyclical buffers or, if these were not in place, structural buffers with the aim of reducing the risk of procyclical behaviour. These buffers were released early on in the crisis in March and April 2020.

- Release of cyclical capital buffers: 13 out of 14 countries that had a positive countercyclical buffer (CCyB) rate or were set to implement one in the course of 2020 released it fully (nine countries) or partially (four countries). Given this limited number of countries and the partially low CCyB rates in place, this amounted to an overall capital release of around €19 billion[4], representing 0.22% of risk-weighted assets (RWA).

- Reduction or postponement of the phasing-in schedule of structural capital buffers: two countries released structural buffers in addition to their CCyBs. Eight countries without a CCyB reduced or postponed the phasing-in of other systemically important institution (O-SII) buffers (three), the systemic risk buffer (SyRB) (two) or both (three).

- No release/reduction of capital buffers: for various reasons, ten countries did not release any capital buffers.

- These responses complemented the additional flexibility provided with respect to microprudential capital and liquidity buffers and measures to limit voluntary pay-outs and preserve banks' capital position as well as operational and regulatory relief measures.

The heterogeneity in the approaches taken reflects the different extent to which macroprudential buffers had been built up and policy considerations varied in an environment of heightened uncertainty, but also points to the need to rethink the macroprudential buffer framework. As regards the timing of release, countries that released capital buffers sought to support lending and provisioning efforts of banks at the onset of the crisis. Given the absence of prior experience with releases, some countries wanted to send a signal to banks that CCyBs were indeed released by authorities in the face of a negative shock and therefore released them fully or partially. Another aspect was to use the release to gain experience with the effect of releases on bank behaviour. At the other end of the spectrum were countries that only wanted to release capital buffers once losses started to materialise on a large scale or that refrained from a release in the light of the risks still building up in residential real estate. The release of structural buffers in response to a negative shock had not been foreseen by EU legislation, which likewise did not contain provisions for handling a shock due to a pandemic. Discretionary adjustments of structural buffers – for which there is no clear regulatory rationale for lowering in a crisis like the present one when structural risks persist – risk undermining the efficacy, predictability and credibility of the prudential framework in the longer term. The response of macroprudential authorities to the crisis may therefore be seen to warrant some rethinking of the macroprudential buffer framework (see next paragraph).

To ensure sufficient credit supply throughout the crisis, banks' capital buffers need to be usable for banks to continue financing the economy and absorb losses, and macroprudential authorities have started discussing the lessons to be drawn from the impact of the COVID-19 crisis on the buffer framework. There is a concern that banks may start

[4] Figure provided by the EBA for banks at the highest level of consolidation in the EU (circa 130 in the EBA sample).

to behave procyclically if they are not able or willing to use their buffers. In practice, banks may have many reasons not to use their buffers, including fears of further credit losses, uncertainty about the timing or speed of buffer replenishment in the future, and fear of stigma from financial markets or rating agencies, leading to higher funding costs or possible restrictions on dividend distributions or other voluntary pay-outs. Banks may also be unable to use their capital buffers or discretionary management buffers because of overlapping requirements, for example with respect to binding leverage ratio or minimum requirements for own funds and eligible liabilities. With this in mind, and also because of the ongoing uncertainty over how the COVID-19 crisis will affect banks' balance sheets, macroprudential authorities have started discussing solutions to removing potential disincentives for buffer use. They also contemplated more medium-term changes to the regulatory framework, which is timely in view of the forthcoming review of the macroprudential framework by the European Commission in 2022.

The crisis manifested itself first in the financial markets, with knock-on effects on non-bank financial entities, pointing to the need to develop a macroprudential framework beyond the banking sector.

The "dash for cash" at the onset of the COVID-19 pandemic highlighted the interconnectedness across, and vulnerabilities in, the non-bank financial system. The outbreak of the COVID-19 pandemic led to an increase in investor risk aversion, which triggered a broad-based repricing of risk. This, together with the need to make payments, led to an increased demand for safe and liquid assets, notably cash. The "dash for cash" was accentuated by the margin calls on derivatives transactions, which had ramifications for other markets. For example, redemptions by insurers and institutions for occupational retirement provision (IORPs) from money market funds (MMFs) correlated with the incidence of margin calls on their derivative exposures. The combination of investor redemptions and deteriorating market liquidity of the assets held by investment funds created liquidity management challenges for some types of MMFs and corporate bond funds. With some of these developments reinforcing each other, there was a risk that impaired market functioning would adversely affect the ability of financial and non-financial firms to raise funds. This would ultimately have further weakened the economy.

The fact that central banks had to intervene to restore market functioning highlights the need to strengthen the macroprudential framework for non-bank financial intermediaries. Central banks introduced or expanded extraordinary asset purchase programmes, special liquidity operations and US dollar funding facilities to restore market functioning and maintain the efficient transmission of monetary policy measures. These interventions were effective, but expectations of public intervention can create moral hazard and make the build-up of vulnerabilities more likely. Strengthening the macroprudential framework is particularly important as the capital markets union (CMU) foresees that the non-bank financial sector will in future play a greater role in the provision of credit to the real economy.

In the absence of a macroprudential framework beyond the banking sector, measures by public authorities tended to be microprudential in nature and/or focused on the use of microprudential tools. These measures included actions by security market regulators to improve market functioning, for example by implementing short-selling bans and/or lowering the reporting threshold for short sales. In-built measures of the insurance framework (volatility adjustment, long-

term guarantees (LTGs) and transitionary measures) mitigated the balance sheet impact of asset price falls and lower risk-free rates on the insurance sector. The ESRB also discussed and recommended medium to longer-term measures to mitigate risk and improve the response to future crises.

1 Macro-financial environment

1.1 Introduction

The COVID-19 pandemic caused an unprecedented global health crisis and a deep economic recession. The swift and forceful policy response at the national and EU level cushioned the economic and social impact of the crisis. Nonetheless, countries that were more affected by the pandemic and associated containment measures faced the steepest decline in GDP. While the economic rebound in the third quarter was stronger than expected and the prospects for the rollout of vaccines are encouraging, further waves of COVID-19 infections and concomitant containment measures are holding back the economic recovery. Uncertainty remains high, mainly on account of different epidemiological scenarios, in particular the spreading of mutated variants of the COVID-19 virus, delays in the rollout of vaccinations, in part due to newly discovered side-effects, and the scope of permanent structural changes as a result of the crisis.

The main source of systemic risk in the EU originates from the negative impact of the pandemic on economic activity, which may give rise to widespread defaults in the private sector and have feedback effects on the financial system. To date, the swift and broad-based policy support measures have helped stabilise household incomes and mitigate the decline in the cash-flow of the corporate sector. But government support programmes become more targeted and are being phased out.

The success of the efforts to contain solvency pressures in the non-financial corporate sector will also determine the magnitude of the spillover effects to the financial sector. While banks entered the pandemic crisis in much better shape than at the start of the previous crisis, they are facing a combination of rising asset quality concerns, ongoing pressures on profitability, persistent structural problems and, in some jurisdictions, still high legacy NPLs. While NPL ratios have not yet risen, the shares of IFRS 9 Stage 2 loans and restructured loans in total loans (forward-looking indicators of future credit risk materialisation) have started to increase, particularly for loans under moratoria and other public support schemes. Deteriorating asset quality and increasing provisioning needs could have a pronounced impact on the capital position of banks, which are already suffering from structural weaknesses such as low profitability. Most notably, the pronounced dispersion of provisioning practices across European banks could point to under-provisioning in some segments of the banking sector.

To address the imminent challenges, banks need to be proactive in identifying and provisioning for NPLs. Recognising losses at an early stage will be key to keeping bank balance sheets transparent. Recognising losses only when moratoria and guaranteed loan programmes expire would compound the risk of cliff effects, which could in turn trigger an abrupt deleveraging process. It will be crucial to avoid repeating the errors made during previous crises, when NPLs accumulated for years on the balance sheets of European banks and constituted a significant drag on credit expansion and concomitantly economic growth.

Efforts to prepare for a rise in NPLs also need to encompass measures outside the micro- and macroprudential domains. In particular, there is a need to reform insolvency and foreclosure frameworks and strengthen the capacity of the judiciary to avoid bottlenecks. Moreover, having deep and efficient secondary markets for NPLs would help accelerate the resolution process through sales of NPLs. The ESRB General Board therefore welcomed the European Commission's communication on NPLs released in December 2020.[5]

The market turmoil at the onset of the pandemic highlighted the interconnectedness across, and vulnerabilities in, market-based finance and parts of the non-bank financial system. The outbreak of the COVID-19 pandemic led to an increase in investor risk aversion, which triggered a broad-based repricing of risk and an increased demand for safe and liquid assets, notably cash (Section 4.1). It created an imbalance in demand and supply with, for example, some segments of financial and non-financial corporate debt markets temporarily facing severe liquidity stress. This was compounded by margin calls on derivative transactions, which had ramifications for other markets. The combination of investor redemptions and deteriorating market liquidity of the assets held by investment funds created liquidity management challenges for some types of money market funds and corporate bond funds. While financial markets largely recovered from the shock, some decoupling of asset prices from fundamentals occurred in some financial market segments, implying that the risk of potentially abrupt price corrections remains high in an environment of elevated uncertainty related to the economic recovery path.

1.2 Macroeconomic developments and outlook

The COVID-19 pandemic led to an unprecedented contraction in global economic activity. The January 2021 World Economic Outlook (WEO) estimated that the global economy contracted by 3.5% in 2020. Swift and comprehensive support measures in the areas of monetary, fiscal and prudential policies helped contain the COVID-19 crisis, most notably by preserving favourable financing conditions, stabilising household income and providing liquidity support to the corporate sector (Section 1.4). However, despite the forceful policy action, economic activity fell sharply in all EU countries in the second quarter of 2020 (-11.4% q-o-q), with variations across countries partly linked to the severity of the pandemic and associated containment measures (Chart 1.2.A). The COVID-19 related shock also tended to be more pronounced in EU countries with lower pre-crisis GDP per capita levels (Chart 1.2.B). On the back of extensive fiscal support measures, the public debt-to-GDP ratio in the EU rose from 79.2% at end-2019 to 92.4% at end-2020[6]. This increase was heterogeneous across EU Member States, primarily depending on the severity of the GDP shock and the mix of public support measures (Section 1.3).

[5] **Communication from the Commission to the European Parliament, the Council and the European Central Bank on tackling non-performing loans in the aftermath of the COVID-19 pandemic**, European Commission, December 2020.

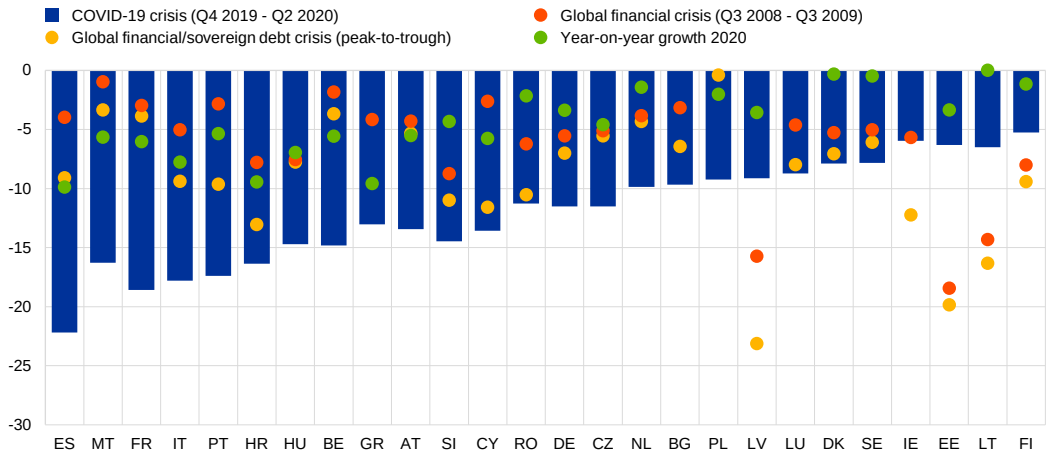
[6] European Commission 2021 Spring Forecast, May 2021.

Chart 1.2.A

Real GDP growth in the EU

The COVID-19 crisis was more severe than previous crises, with pronounced cross-country differentiation

(percentage change in real GDP, seasonally and working-day adjusted)



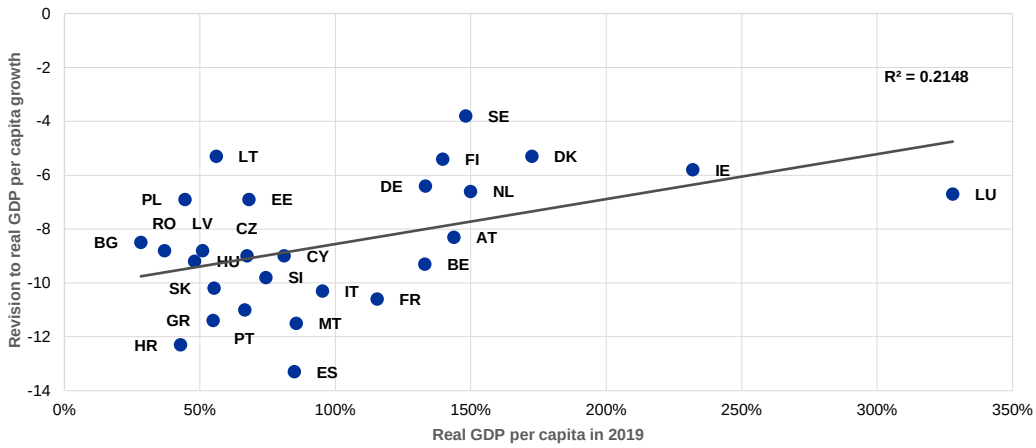
Sources: Eurostat and ESRB Secretariat calculations.
Note: The yellow dots compare the maximum GDP level over the period Q1 2007 – Q4 2008 with the minimum GDP level over the period Q1 2008 – Q4 2014.

Chart 1.2.B

Real GDP per capita evolution in the EU

The COVID-19 crisis tended to be more pronounced in EU countries with lower pre-crisis GDP per capita levels

(x-axis: real GDP per capita level in 2019, in percent of EU average; y-axis: post-crisis revisions to projected GDP growth in 2020, percentage points)



Sources: Eurostat and ESRB Secretariat calculations.
Notes: The revision to real GDP per capita growth is the difference between the projection for 2020 in the European Commission Autumn 2019 Forecast and the Autumn 2020 Forecast. EU average refers to the average of the EU27 Member States. The black line indicates the trend line, with R2 = 0.215.

The rebound of economic activity in the EU in the third quarter was stronger than expected, but new waves of COVID-19 infections and the concomitant rise in containment measures increased economic uncertainty and weighed on short-term growth prospects. The renewed rise in containment measures led to a decline in euro area GDP of 0.7% q-o-q in the fourth quarter of 2020 and 0.6% q-o-q in the first quarter of 2021. While activity in the manufacturing sector continued to hold up relatively well, new restrictions on social interaction had a pronounced impact on significant parts of the service sector. Although fiscal policy measures are supporting households and firms, consumers remain cautious on account of concerns about the impact of the pandemic on employment and incomes. Moreover, weaker balance sheets and an uncertain economic outlook are weighing on business investment. At the same time, inflation remained very low in 2020 in the context of weak demand and significant slack in labour and product markets.

While the start of vaccinations has perceptibly reduced the probability of more severe scenarios, new waves of COVID-19 infections have raised uncertainty regarding the timing and strength of the recovery in 2021. The recovery is expected to gain momentum only in the second half of 2021 in line with the rollout of vaccinations and the decline in the stringency of social distancing measures, with real GDP in the EU expected to increase by 4.2% in 2021 and 4.4% in 2022. While the GDP level of Q4 2019 is now expected to be reached in Q4 2021 in the EU – about a year earlier than projected in the autumn 2020 forecast – some Member States (most notably Italy and Portugal) are only forecast to return to their pre-crisis GDP levels towards the end of 2022. Significant downside risks prevail in respect to the emergence of further mutations of the COVID-19 virus and the effectiveness of vaccines in respect to these mutations. Moreover, rising vulnerabilities in the NFC sector and their possible spillover to the financial system constitute a major downside risk for the medium-term economic outlook. To bridge the gap until the uncertainty recedes and the economic recovery is firmly entrenched, policies to support favourable financing conditions and an expansionary fiscal stance remain essential.

The COVID-19 crisis can be expected to cause or accelerate permanent structural changes in the EU economy. These include changes to living and working habits and associated changes in consumption and investment patterns, with pronounced positive or negative effects for the cash flow and profitability of individual sectors. They may also include a deepening of existing economic divergences between Member States on account of the different country-specific composition of value added (Chart 1.2.C). Looking ahead, while we know that the “new normal” will be different from the status quo of the pre-crisis era, the extent and precise direction of the ongoing permanent structural changes are still uncertain. While some heavily affected sectors—such as tourism—are likely to recover at some point, other sectors may suffer from permanent losses (e.g., companies are likely to avail themselves of digital meetings to replace a sizeable part of business travel, while the demand for commercial real estate and especially lower-quality office buildings is likely to permanently decline due to the more widespread use of teleworking). At the same time, at least a part of the beneficial impact of lockdowns on digital businesses is likely to persist. The crisis may also influence the structure and scope of value chains. These structural changes may also have an impact on financial stability, as sectors that are temporarily but severely affected and those suffering from permanent scarring can be expected to face rising solvency pressures and possibly a sizeable wave of corporate insolvencies. This could be exacerbated through cliff effects caused by a premature withdrawal of public support measures—notably in countries where concerns about limited fiscal space and high sovereign debt may constrain further fiscal support (Chart 1.2.D).

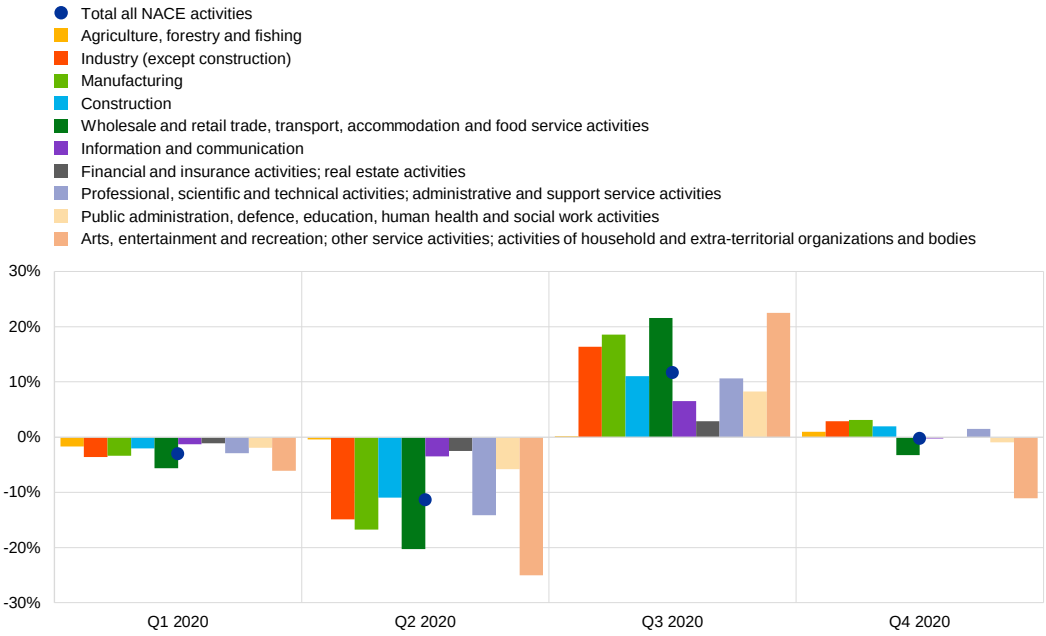
Rising NFC sector vulnerabilities may also trigger asset price corrections, which could in turn affect the banking system. Moreover, the surge in public debt-to-GDP ratios may over time reduce the fiscal space for continued policy support—most notably in countries that entered the COVID-19 crisis with already high levels of public debt (Section 1.3).

Chart 1.2.C

Evolution of gross value added per economic (NACE) sector

The impact of COVID-19 in the EU differed significantly across sectors

(q-o-q evolution of gross value added per economic sector, EU level, percentage)



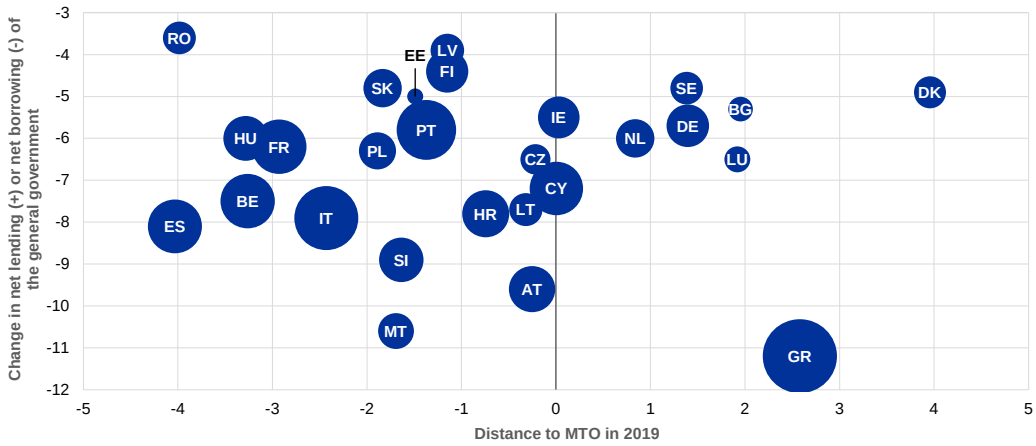
Sources: Eurostat and ESRB Secretariat calculations.
Note: The NACE sectors "Financial and insurance activities" and "Real estate activities" have been merged for better readability of the chart.

Chart 1.2.D

Distance to medium-term objective (MTO), general government net lending and public debt

Pre-crisis fiscal space was a determinant of the size of fiscal expansion in 2020

(x-axis: pp distance to MTO; y-axis: pp difference between 2019 and 2020 lending/borrowing)



Sources: Eurostat, European Commission (AMECO) and ESRB Secretariat calculations.
Notes: The difference between the net lending (+) or net borrowing (-) by general governments is calculated as the difference between the net lending/borrowing in 2019 and the forecast net lending/borrowing in 2020 according to the spring 2021 forecast by the European Commission. Distance to MTO is calculated as the difference between the structural budget balance in 2019 and the MTO, as defined by the European Commission. The size of the bubbles indicates the public debt-to-GDP ratio.

1.3 Financial stability implications of public support measures

To mitigate the impact of the COVID-19 pandemic on the real economy, Member States implemented swift and unprecedented public support measures, with beneficial effects for financial stability.[7] The measures took the form of debt service moratoria, public loan guarantees, public loans, transfers, subsidies, tax deferrals, tax relief, public support for trade credit insurance and equity participation.[8] In many countries, private loan moratoria were also announced by the financial industry.

In June 2020, the ESRB issued Recommendation ESRB/2020/8 to gather comprehensive information on these support measures; in February 2021, it published a report on their

7 The European Union's state aid temporary framework to support the economy in the context of the COVID-19 pandemic provided governments with the necessary flexibility to adjust their fiscal support to the crisis circumstances. The European Commission adopted the temporary framework to enable Member States to use the full flexibility foreseen under state aid rules to support their economy after the COVID-19 outbreak, which was first introduced in March and twice amended in April and May 2020. From direct grants to public loans and state guarantees for loans, the temporary framework allows for these types of aid, which can be granted by Member States. A full list of state aid measures which have been adopted under Articles 107(2)b, 107(3)b and 107(3)c TFEU and under the temporary framework can be found on the European Commission website: **Coronavirus Outbreak - List of Member State Measures approved under Articles 107(2)b, 107(3)b and 107(3)c TFEU and under the State Aid Temporary Framework**.

8 Note that drawing upon the terminology used by Recommendation ESRB/2020/8, "direct grants" refer to subsidies to both households as well as enterprises. Furthermore, while the widespread labour market policies Member States have applied during the pandemic are subsumed under grants, they were not a focus topic of the ESRB's work and will be covered in a separate paragraph of this section.

financial stability implications (Box 1).[9] While these measures were primarily targeted at the real economy, they have so far prevented the COVID-19 crisis from morphing into a crisis of the financial system. The effectiveness of the public support measures in preserving financial stability depends on their size and design features.

The most common measures used by Member States were public loan guarantees (used by all Member States[10], albeit to different degrees), direct grants (used by 29), tax deferrals (28) and loan moratoria (25). As of December 2020, the reported uptake of the fiscal programmes (excluding moratoria) was above €800 billion (6% of EU GDP), with €461 billion corresponding to publicly guaranteed loans (Table 1.3.A). In addition, around €474 billion of loans (3% of the outstanding stock of bank loans)[11] were subject to moratoria. However, compared with the announced size of the public guarantee programmes, the uptake was rather modest in many countries (33%). This may reflect administrative bottlenecks as well as a possible reluctance of fragile or already highly indebted companies to assume more debt.[12]

9 See **Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic,** ESRB, February 2021. On the same topic for the euro area, see "**Financial stability considerations arising from the interaction of coronavirus-related policy measures**", *Financial Stability Review*, ECB, November 2020, Special Feature A.

10 By 2020, the ESRB had 31 Member States, before the United Kingdom left on 31 January 2021.

11 The total loans considered refer to September 2020 data from ECB CBD and BSI databases. Methodological differences exist compared with the numbers published by the EBA with reference date June 2020 (which refer to direct reporting data from banks).

12 Other explanatory factors might include: very strict eligibility criteria, low loan demand due to high uncertainty, deliberately ambitious announced sizes of the programmes, or a relative advantage of other forms of public support.

Table 1.3.A

Announced size and uptake of moratoria and fiscal programmes (December 2020)

The total announced size of moratoria and fiscal measures across the EU is substantial, whereas the uptake as of December 2020 was still relatively limited

	2020Q4			
	(EUR billion)		(percentage of 2019 GDP)	
	Uptake	Announced size	Uptake	Announced size
Moratoria	474		3.3%	
Public guarantees	461	1,531	3.2%	10.7%
Public loans	79	202	0.6%	1.4%
Direct grants	136	315	0.9%	2.2%
Tax deferrals	106	167	0.7%	1.2%
Tax relief	34	75	0.2%	0.5%
Public support for credit insurance	4	216	0.0%	1.5%
Total fiscal measures	**820**	**2,507**	**5.7%**	**17.5%**
Total support (incl. loan moratoria)	**1,294**		**9.0%**	

Sources: Recommendation ESRB/2020/8 (reference date 31 December 2020), ECB (MNA, BSI, CBD).
Notes: Announced size refers to field 1.1.01 and uptake to field 2.2.10 for all measures apart from tax relief and tax deferrals (where fields 2.12.10 or 2.13.10 were used if the latter was not available), and public support for credit insurance (where field 2.14.10 was used). Reporting data gaps exist – results should be interpreted with caution in particular for the uptake of direct grants, tax measures and credit insurance guarantees, where reporting was not mandatory.

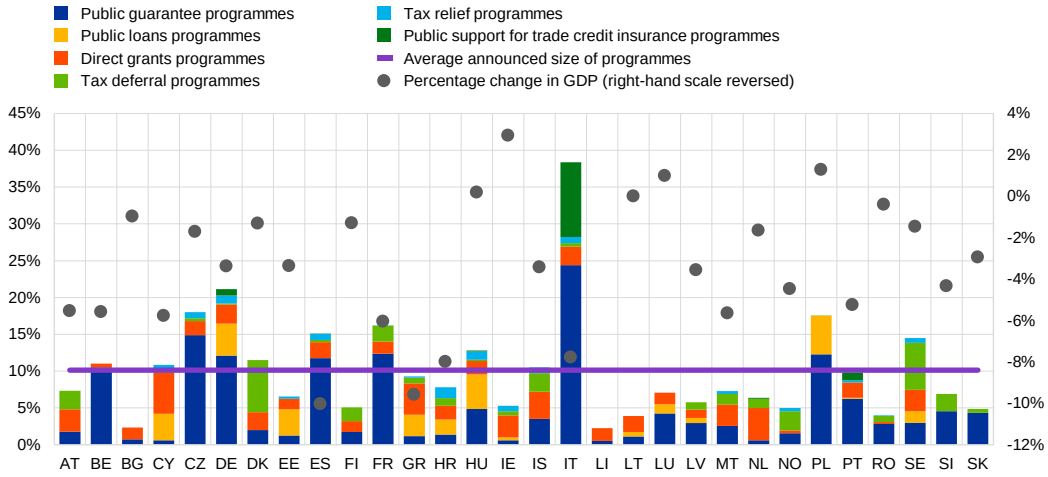
The significant cross-country heterogeneity – in terms of the size, uptake and design of public support measures – primarily reflects differences in vulnerabilities and fiscal space. Chart 1.3.A illustrates the heterogeneity in scale and scope of public support measures across countries. The specific policy mix differs across countries. While most countries implemented extensive public loan guarantee programmes, others also announced large-scale envelopes of direct grants and tax deferrals. The heterogeneity is reflected in the balance of liquidity versus solvency measures, in the gap between the overall envelopes and the uptake of measures, but also in the size of the uptake itself, which is most evident in the case of moratoria (Figure 1.3.A).

Chart 1.3.A

Announced size of fiscal programmes

The policy mix chosen differed significantly across countries, but many of them implemented large-scale public guarantee schemes

(percentage of 2019 GDP)



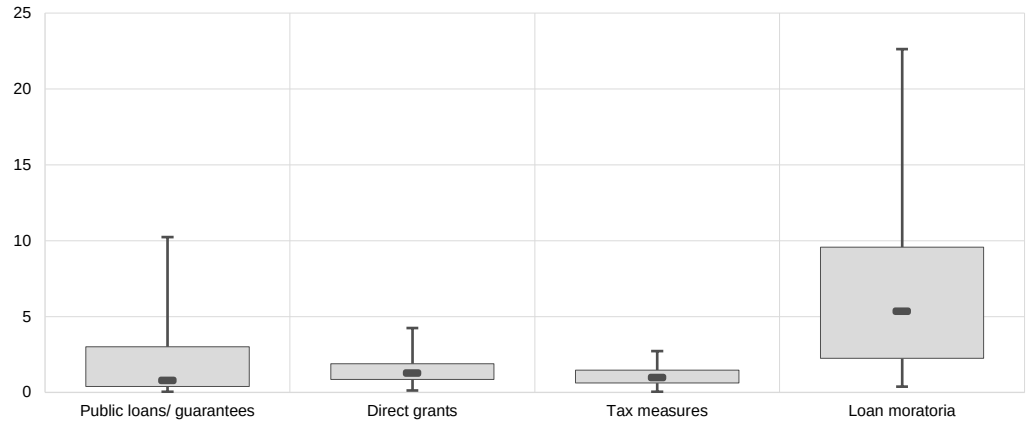
Sources: Recommendation ESRB/2020/8 (reference date 31 December 2020), ECB (MNA).
Notes: GDP at current prices. Moratoria programmes are not included as they usually do not have a predefined envelope size. Reporting data gaps exist – results should be interpreted with caution. 2020 GDP for LI is not available, and therefore the percentage change in GDP is not represented in the chart.

Figure 1.3.A

Heterogeneity in the uptake of moratoria and fiscal measures by 31 December 2020

The heterogeneity across countries is also reflected in the uptake of measures, most evidently for moratoria.

(percentages)



Sources: Recommendation ESRB/2020/8 (reference date 31 December 2020), ECB (MNA).
Notes: Total uptake refers to (i) field 2.2.10 of Template 2 for public guarantees, public loans and direct grants, (ii) field 2.12.10 or 2.13.10 for tax relief and tax deferrals. For moratoria uptake, amount outstanding (field 2.5.10) was considered when available, and in other cases volume accepted (field 2.2.10) was considered for non-expired measures. There are gaps in the data reported and the results should be interpreted with caution, especially for the uptake of direct grants and tax measures, where reporting was not mandatory. The box plot shows the median, 25th and 75th percentile (grey box) as well as the maxima and minima across countries for selected programmes. In the box plot of moratoria, CY was excluded given that the uptake was an extreme outlier.

In the course of the crisis, liquidity support measures were gradually complemented with solvency support. At the beginning of the crisis, public support measures predominantly focused on easing liquidity constraints. The swift implementation of public guarantees to loans, public loans and tax deferrals, but also of loan moratoria programmes, enabled NFCs to mitigate the abrupt fall in cash flows by transferring a part of their current liabilities to the future. The provision of new lending to the NFC sector was strongly supported by fiscal measures, with about one-third of the new loan commitments provided by banks to NFCs in the euro area benefiting from either public guarantees or public loans.[13] Households benefited from short-time work arrangements as well as loan moratoria and tax deferrals, which allowed them to cope with declining income. The longer the crisis lasts, however, the clearer the limits of liquidity support become, as vulnerable companies, including those with high pre-crisis indebtedness, are increasingly unable to assume more debt and liquidity stress gradually morphs into solvency problems. Against this background, governments have started to gradually complement liquidity support with solvency support in the form of subsidies, tax relief and equity participations, even if in many cases the latter only target very large companies (see Table 1.3.A).

During the COVID-19 pandemic, EEA countries also applied labour market policies to sustain household incomes and protect employment. At the onset of the crisis, priority was

[13] The new commitments of NFCs as reported by AnaCredit between March and September 2020.

given to immediate relief and containment measures, i.e. compensating for income loss owing to redundancies and reduced working hours. In addition, countries used wage and hiring subsidies as well as targeted active labour market measures such as retraining. To reduce wage costs while mitigating a decline in labour income, many countries implemented or revised short-time work or temporary layoff schemes. Thus, a substantial share of employees was on short-time work or temporary layoff during the height of the first wave of COVID-19 infections. Estimates in five of the largest euro area countries range from 10 million in Germany (24% of employees) to around 12 million in France (47% of employees).[14] There is evidence that short-time work arrangements indeed reduced employment losses in Europe. Thanks to short-time work benefits, the drop in euro area households' net labour income from reduced working hours during the lockdowns amounted to 7%, as opposed to an estimated decline of 22% in the absence of such arrangements.[15]

Looking ahead, it will be essential to continue fiscal support measures to bridge the gap until the recovery is firmly entrenched on the back of the rollout of vaccinations. By generating cliff effects, a premature withdrawal of fiscal support measures could cause significant damage to the economic recovery prospects. That being said, governments may wish to reassess the efficiency and effectiveness of different forms of policy support with a view to improving the focus of support measures. This will be particularly important in countries for which the increase in public debt, including on account of explicit and implicit contingent liabilities, may be perceived as limiting fiscal space. In a similar vein, the rise in NFC sector vulnerabilities will increase the need to complement liquidity with solvency support measures for viable but overindebted companies. A comprehensive approach to addressing NFC sector vulnerabilities will also be key to containing spillover effects to the banking system.

Box 1

Monitoring the financial stability implications of debt moratoria, public guarantee schemes and other measures of a fiscal nature to protect the real economy

A close dialogue between macroprudential and fiscal authorities is necessary to ensure a timely and effective assessment of the financial stability implications of moratoria and fiscal measures to protect the real economy in response to the COVID-19 pandemic. National and EU authorities swiftly took decisive measures to support the liquidity and solvency of firms and protect households' income during the COVID-19 pandemic. While these measures primarily targeted the non-financial sector, they also had implications for financial stability. Hence, on 14 May 2020, the ESRB sent a letter to EEA governments to encourage fiscal authorities to engage in an intensified dialogue with national macroprudential and supervisory authorities for the purpose of

[14] The remaining estimates are: 8.5 million in Italy (44% of employees), 3.9 million in Spain (23% of employees) and 1.7 million in the Netherlands (21% of employees). See "**Short-time work schemes and their effects on wages and disposable income**", *Economic Bulletin*, Issue 4, ECB, 2020. For Spain there is an alternative estimate for employees under such schemes: 3 million wage earners (21.9% of total); see Izquierdo, M., Puente, S. and Regil, A., "Furlough schemes in the COVID-19 crisis: an initial analysis of furloughed employees resuming work", *Economic Bulletin*, Issue 2, Banco de España, 2021.

[15] "**Short-time work schemes and their effects on wages and disposable income**", *Economic Bulletin*, Issue 4, ECB, 2020.

monitoring the implications of fiscal measures on financial stability.[16] Cooperation between all relevant national authorities has mutual benefits, both in terms of collecting information and assessing the impact of support measures not only on the real economy but also financial stability.

On 27 May 2020, the ESRB issued Recommendation ESRB/2020/8[17] to national macroprudential authorities asking them to monitor the financial stability implications of debt moratoria, public guarantee schemes and other measures of a fiscal nature as well as to report relevant data to the ESRB. Under this recommendation, national macroprudential authorities are advised to (A) monitor the design features and uptake of measures in their jurisdictions as well as their implications for financial stability, and (B) to report to the ESRB the design features and uptake of measures.

On 16 February 2021, the ESRB published a report on the financial stability implications of support measures aimed at protecting the real economy from the effects of the coronavirus (COVID-19).[18] The report uses data from both Recommendation ESRB/2020/8 and banking data. It shows that the fiscal response designed to support the real economy helped stabilise bank lending and the functioning of the financial system. The report also identifies policy priorities for the design and duration of the fiscal measures, enhanced transparency and reporting, and preparedness for further adverse scenarios.

1.4 Increasing vulnerabilities in the household and NFC sectors

Vulnerabilities in the household sector

Fiscal support measures contained income and employment losses during the COVID-19 crisis. Short-time work schemes helped mitigate the decline in employment and gross wages, while an increase in social transfers and, in part, temporary tax relief helped stabilise household gross disposable income. Disposable income declined by 2.6% y-o-y in the second quarter, before rising by 1.2% y-o-y in the third quarter and 0.7% in the fourth quarter (Chart 1.4.A). For 2020 as a whole, however, gross disposable income in the euro area grew marginally, by 0.2%, on the back of substantial growth of social transfers. The sustainability of household debt was not only supported by income support measures and loan moratoria, but also by the continuation of record-low debt servicing costs on the back of expansionary monetary policy.

16 See **ESRB letter to the Economic and Financial Affairs Council on implications for the financial system of guarantee schemes and other fiscal measures to protect the real economy in response to the coronavirus**, ESRB, 14 May 2020.

17 **Recommendation ESRB/2020/8**.

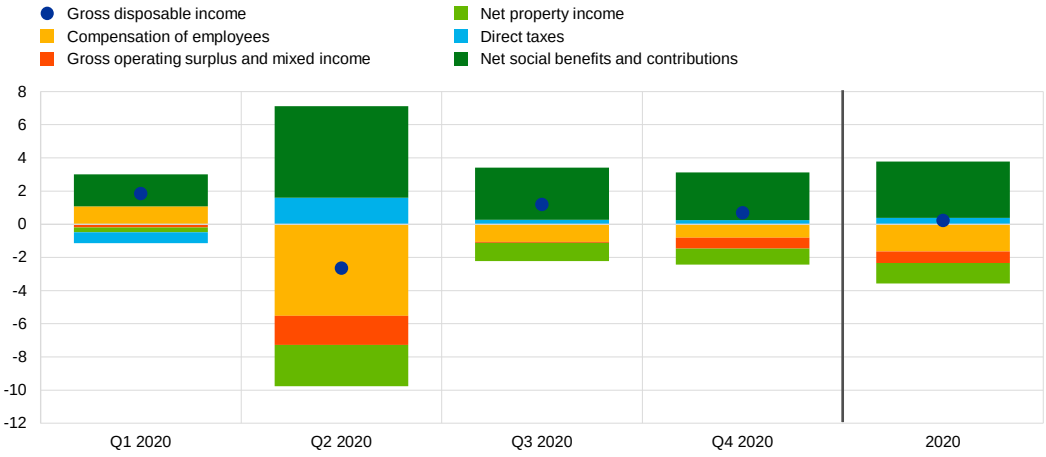
18 See **Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic**, ESRB, February 2021.

Chart 1.4.A

Growth of disposable household income in the euro area

The increase in social transfers in Q2 largely offset the decline in employee compensation

(y-o-y percentage changes)



Sources: Eurostat (QSA) and ESRB Secretariat calculations.
Notes: Individual factors are calculated as the contribution to total gross disposable income growth. Data refer to the euro area only.

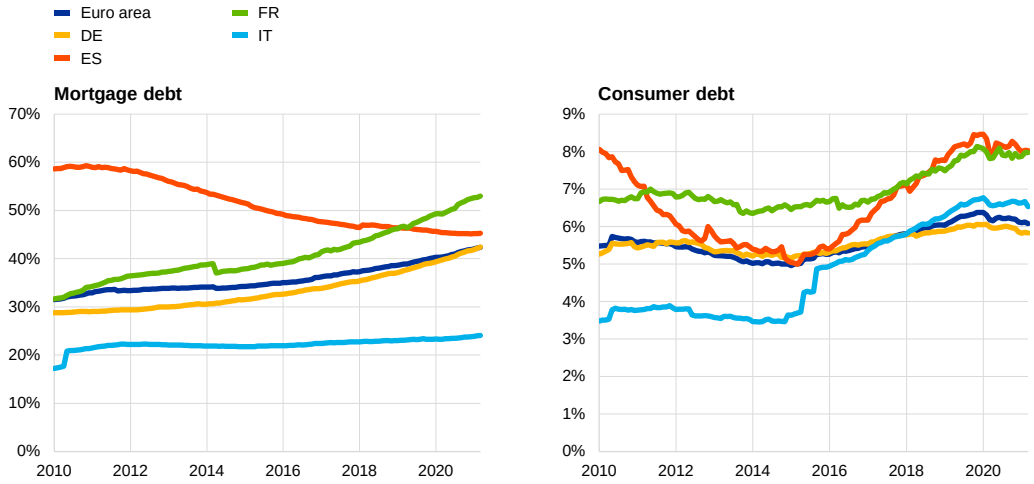
Household debt continued to increase in 2020, but growth decelerated somewhat on the back of uncertainty about income and employment prospects. Growth in lending to euro area households slowed from 3.5% y-o-y in Q4 2019 to 3.2% y-o-y in Q4 2020. This slowdown reflected the deceleration in consumer lending, while mortgage lending slightly accelerated to 4.4% in December 2020 from 3.9% a year earlier. A tightening of lending standards in the course of 2020, as reflected in the ECB's bank lending survey (BLS), on account of an increase in perceived risks, weighed on credit expansion for all types of loans. The household debt-to-GDP ratio in the euro area increased from 57.8% at end-2019 to 62.7% at end- 2020, in part reflecting the drop in nominal GDP (Chart 1.4.B). Overall, and in line with pre-crisis trends, total household debt levels held by monetary financial institutions (MFIs) increased by 3.2% at end-2020 compared with end-2019 (Chart 1.4.C).

Chart 1.4.B

Consumer and mortgage debt levels as a percentage of GDP

Mortgage debt levels remained stable and in line with pre-crisis trends, whereas consumer debt decreased in a number of countries during the year

(household loans as percentage of GDP)



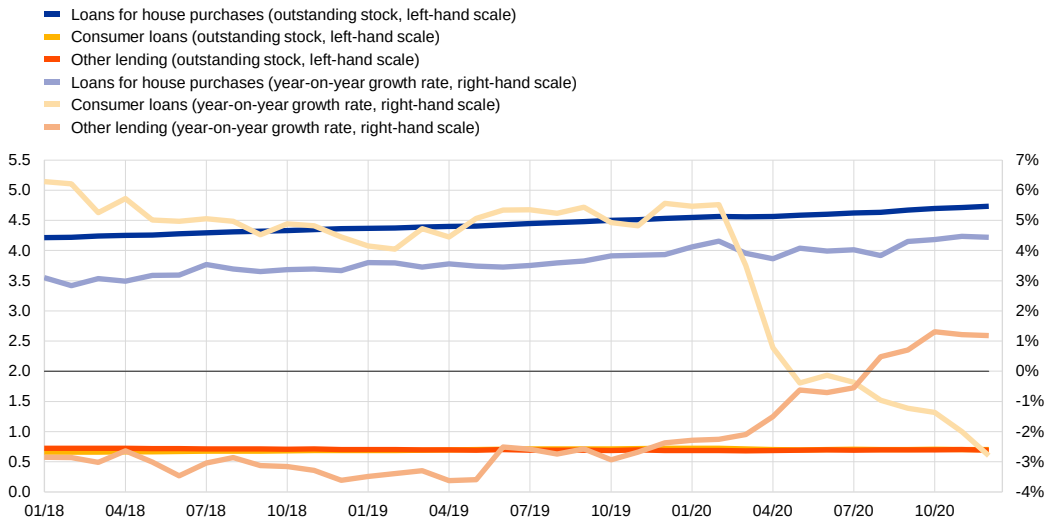
Sources: ECB (BSI), Eurostat and ESRB Secretariat calculations.
Note: GDP figures refer to 2020 GDP.

Chart 1.4.C

Household debt in the euro area

Household debt continued to increase in line with pre-crisis trends, mostly driven by loans for house purchases

(LHS: EUR trillions; RHS: percent)



Sources: ECB (BSI) and ESRB Secretariat calculations.

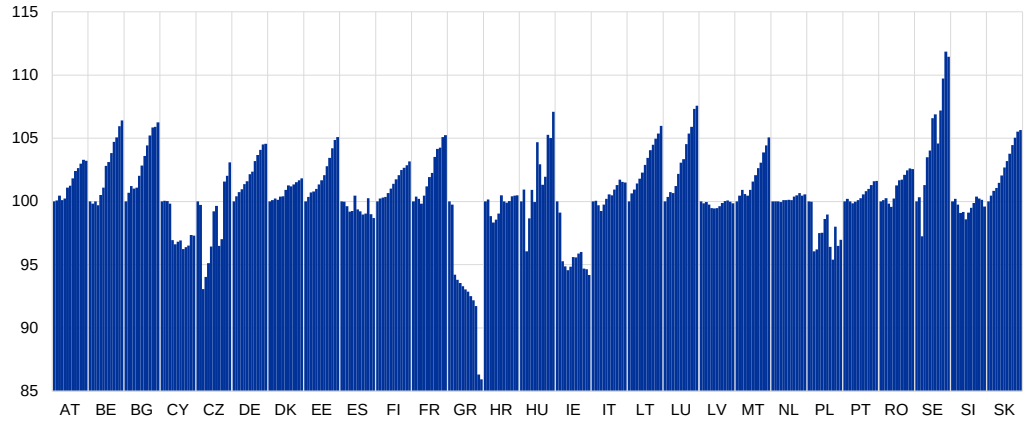
There was significant heterogeneity in household sector debt trends across EEA countries. This heterogeneity existed prior to the COVID-19 crisis and can be partly explained by the development of mortgage loans, which make up the biggest share of household debt. The COVID-19 crisis hit households in different ways across countries: while a notable decline in outstanding amounts of loans to households was recorded in some countries (CY[19], ES, GR, IE, PL), most saw their loans to households increase (Chart 1.4.D).

Chart 1.4.D

Outstanding amounts of loans to households held by MFIs domestically, Jan 2020 - Jan 2021

Net lending to households in individual Member States was very heterogeneous

(index: January 2020 = 100)



Sources: ECB (BSI) and ESRB Secretariat calculations.
Note: The blue bars show the outstanding amount, at the end of each month in 2020, of loans to households, indexed to January 2020 = 100.

Looking forward, the debt repayment capacity of households will crucially hinge on the recovery path from the COVID-19 crisis. The longer the crisis lasts, the more pronounced its impact on household balance sheets will be. While Member States have been extending several fiscal measures to avoid cliff effects, they will expire at some point or be replaced with more targeted measures. In addition, household balance sheet stress will become more visible when debt service moratoria expire in the course of 2021. Moreover, concerns about household debt sustainability may also be rising in countries in which stretched asset valuations for residential real estate already prevailed prior to the crisis (Section 1.7).

Vulnerabilities in the non-financial corporate sector

The COVID-19 shock caused a pronounced deterioration in NFC sector balance sheets. This was driven by falling sales, declining actual and expected profitability, and rising indebtedness.

[19] The reduction in outstanding loans to households held by MFIs in Cyprus in 2020 was largely driven by the sale of banks' NPL portfolios to credit-acquiring companies and write-offs.

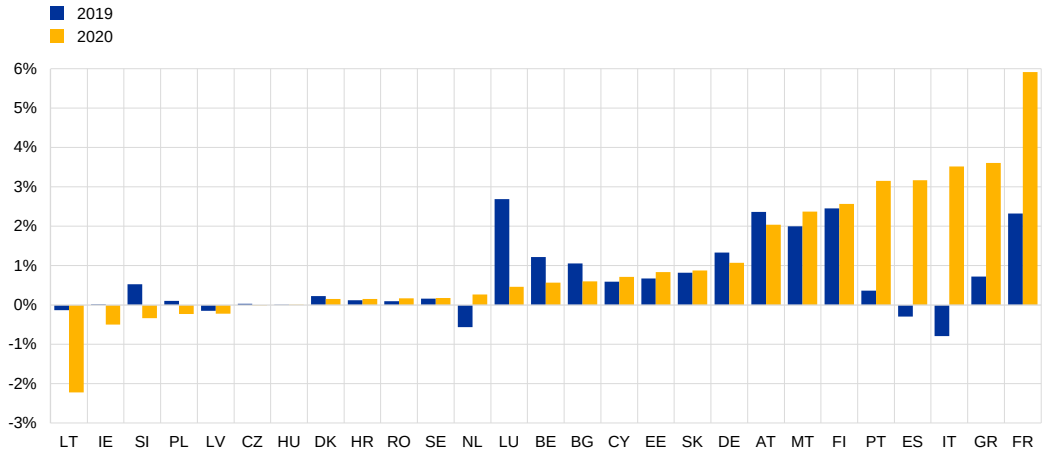
While the large-scale liquidity support to the NFC sector was a necessary line of defence to prevent a broad-based meltdown, it further increased NFC sector indebtedness (Chart 1.4.E). Bank net credit flows to NFCs increased significantly in 2020 compared to 2019 in most countries amid large cross-country heterogeneity reflecting different volumes and structures of public support measures, especially public loan guarantees and loan moratoria[20] (Chart 1.4.E). The outstanding stock of bank loans to the NFC sector increased by 6.7% in nominal terms between end-2019 and end-2020[21], while the stock of NFC debt securities increased by 10.9% (Chart 1.4.F). This increase was particularly pronounced in EU countries with elevated pre-crisis NFC sector debt levels, taking into account loans and debt securities. As a result, the crisis compounded cross-country heterogeneity (Chart 1.4.G). Moreover, companies in countries with elevated corporate debt levels experienced the largest loss in gross operating surplus (Chart 1.4.H), reflecting the differentiated magnitude and sectoral composition of the economic shock. On aggregate, a large part of the additional NFC sector borrowing in Q2 was used to increase cash buffers—implying that net debt in this quarter remained broadly stable.

Chart 1.4.E

Bank credit to NFCs

Net credit flows increased significantly in 2020[22]

(percentage of 2019 GDP)



Sources: ECB (BSI), Eurostat and ESRB Secretariat calculations.
Notes: Credit flows are defined as financial transactions under the BSI framework. The definition of a financial transaction is the change in the outstanding amount at the end of two periods, minus the changes due to revaluations and reclassifications. Annual averages are used.

20 By shifting amortisation payments for participating loans to the future, debt service moratoria temporarily reduced the impact of maturing loans on net lending flows.

21 The total stock of loans to NFCs grew by only 2.4%, as the increase in the stock of NFC loans granted by MFIs (+6.7% between end-2019 and end- 2020) was largely offset by decreasing stocks of loans granted by other financial institutions (OFIs) and counterparties outside of the euro area (-3.3% and -6.5%, respectively). OFIs and counterparties outside of the euro area together accounted for about 42% of the total stock of NFC loans. Loans granted by insurance corporations and pension funds (ICPFs) grew by 14.2% and loans granted by governments by 30.0%. The shares of these sectors in NFC loans are small though at 1.0% and 2.7%, respectively.

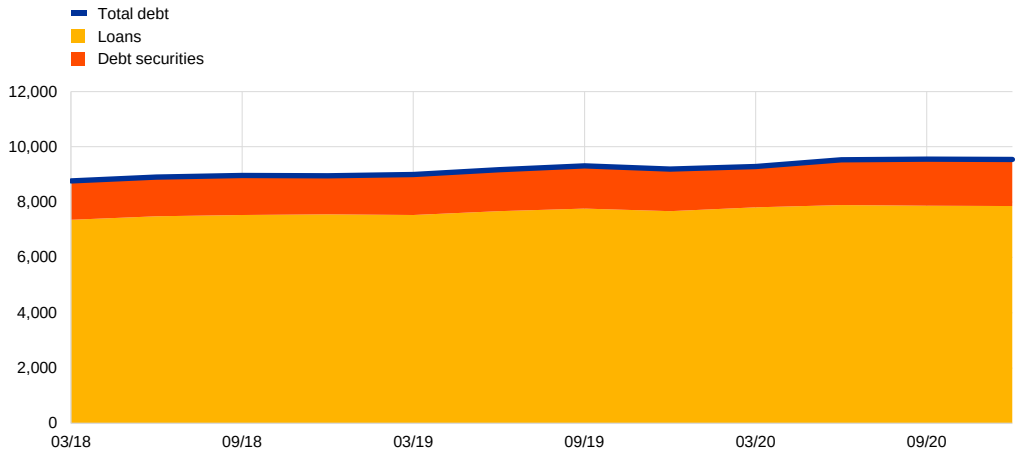
22 Although new lending in Cyprus was subdued in 2020, the stock of loans recorded a positive annual growth rate at end-2020 as the suspension of instalments for loans under moratoria had a positive impact (due to interest rate capitalization) on the stock of loans. Loans under moratoria represent a significant percentage of total loans in the banking sector.

Chart 1.4.F

NFC debt composition in the euro area

Total NFC debt in the euro area increased significantly as a result of increased loan extensions

(EUR billions)



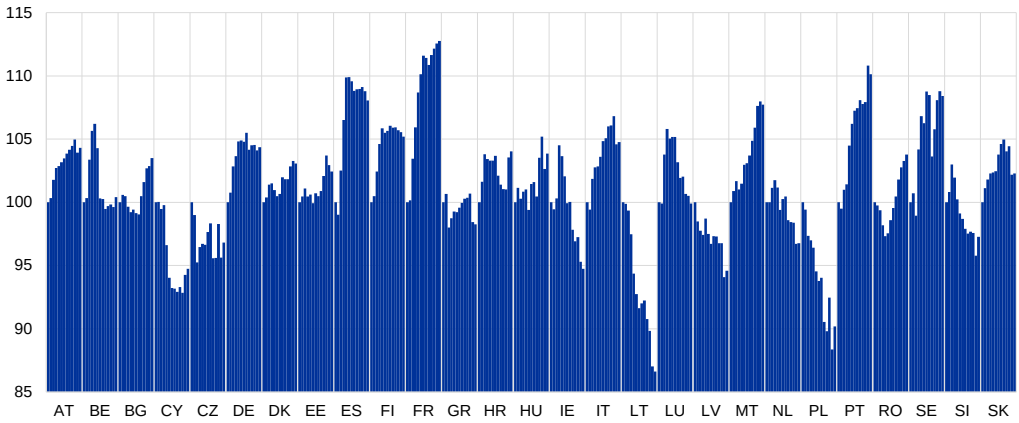
Sources: Eurostat (QSA) and ESRB Secretariat calculations.

Chart 1.4.G

Outstanding amounts of loans to NFCs held by MFIs domestically, Jan 2020 - Jan 2021

Developments to NFC credit in the individual Member States were very heterogeneous

(index: January 2020 = 100)



Sources: ECB (BSI) and ESRB Secretariat calculations.
Note: The blue bars show the outstanding amount, at the end of each month in 2020, of loans to NFCs, indexed to January 2020 = 100.[23]

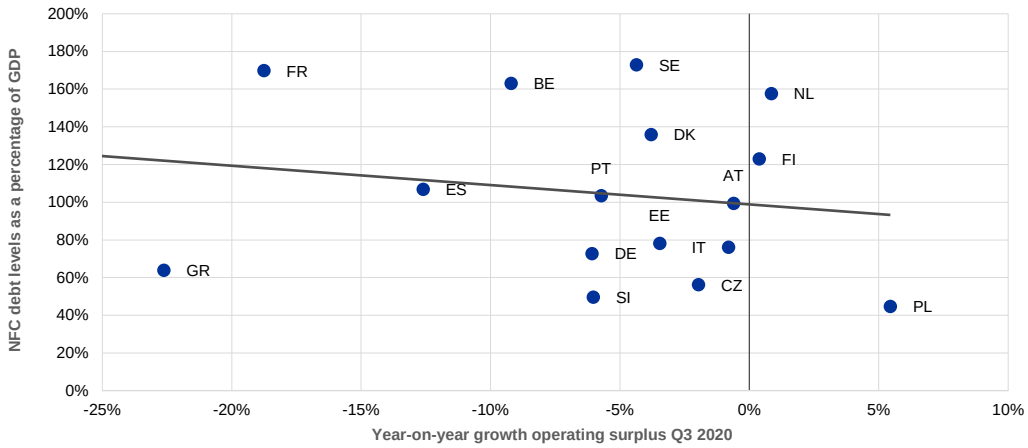
[23] The reduction in outstanding loans to NFCs held by MFIs in Cyprus in 2020 was largely driven by the sale of banks' NPL portfolios to credit-acquiring companies and write-offs.

Chart 1.4.H

Operating surplus and total financial debt levels in the NFC sector

Member States with higher pre-crisis NFC debt experienced a more severe decline in NFC operating surpluses during the COVID-19 crisis

(x-axis: Q3 2020 operating surplus as percentage of Q3 2019 surplus; y-axis: NFC debt levels as percentage of GDP as of Q3 2020)



Sources: Eurostat (QSA) and ESRB Secretariat calculations.
Notes: Sample of countries based on available operating surplus data. Ireland was excluded from the sample as operating surplus figures are significantly influenced by the presence of large multinational corporations.

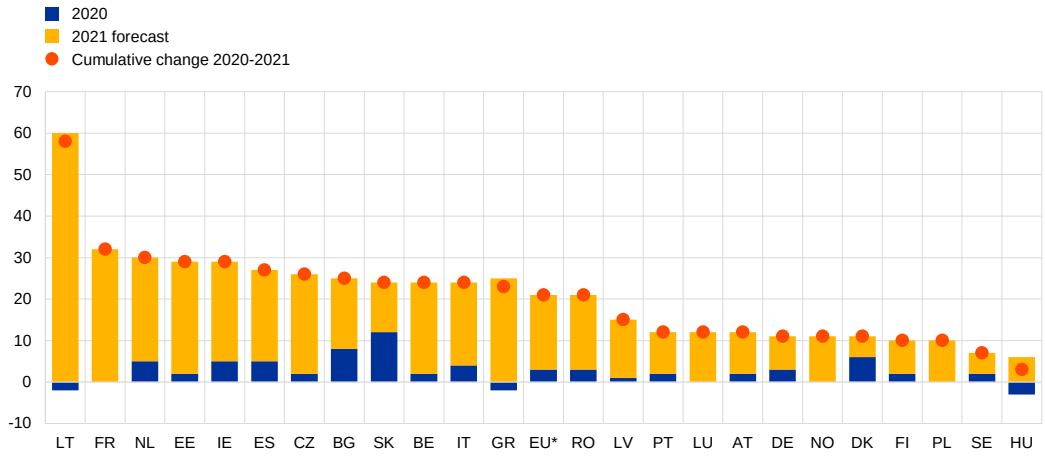
The scale of government support to the NFC sector to a large extent concealed and postponed the surge in NFC sector vulnerabilities. The wave of corporate insolvencies that might have been expected on account of the severity of the COVID-19 crisis has not yet materialised. Insolvency rates declined in 2020 compared with the previous year. However, the longer the crisis lasts, the more companies will exhaust the scope for short-term cost-saving measures and deplete their cash buffers to compensate for the drop in cash flow. At the same time, the NFC sector will be increasingly confronted with a rising debt burden—the downside of the far-reaching reliance on large-scale liquidity-support measures—, implying that for vulnerable firms the liquidity crisis may morph into a solvency crisis. Once fiscal support measures, debt moratoria and temporary deferrals of insolvency procedures expire, a significant increase in insolvencies could be expected (Chart 1.4.I). In the second half of 2020, however, net debt levels stopped increasing as a result of a rise in liquid assets combined with a slowdown in the accumulation of gross debt (Chart 1.4.J).

Chart 1.4.I

Insolvency forecasts for 2020 and 2021

Insolvency levels are expected to rise over time

(percentage change from the previous year)



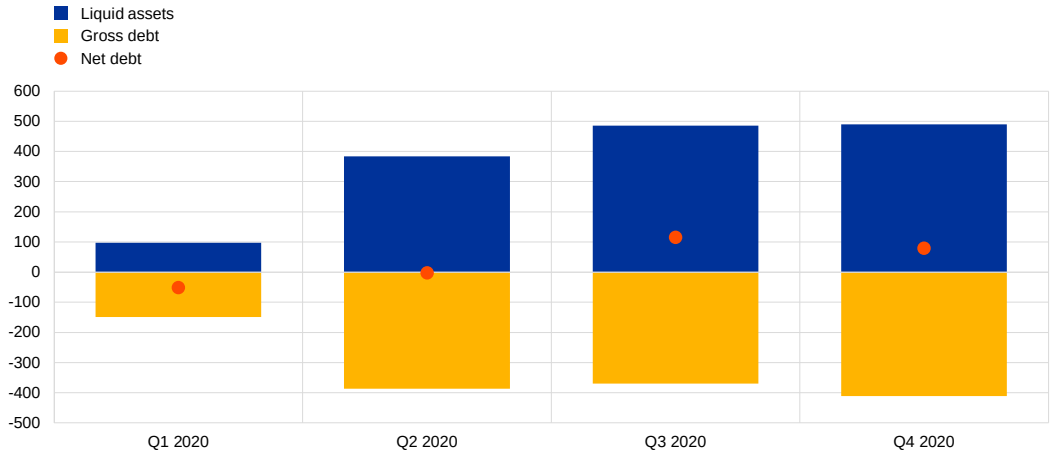
Sources: Euler Hermes and Allianz Research.
Notes: Forecasts for DE, FR, ES, IT and NL are based on a revised version of the Euler Hermes and Allianz Research report dated 24 September; those for other countries are based on the previous report dated 16 July. EU refers to the GDP-weighted sample of countries shown in the chart. 2020 figures come from Euler Hermes' database.*

Chart 1.4.J

Change in liquid assets, gross debt and net debt of NFCs since Q4 2019 in the euro area

Due to a slowdown in gross debt growth in Q3, net debt started to decrease in the latter half of 2020

(change since Q4 2019, EUR billions)



Sources: Eurostat (QSA) and ESRB Secretariat calculations.
Notes: "Liquid assets" comprise deposits and currency; "Gross debt" includes debt securities and loans; "Net debt" is the difference between gross debt and liquid assets. A positive net debt indicates a decline in net debt compared with Q4 2019, as the growth of liquid assets exceeded the growth of gross debt.

Research based on firm-level data suggests that the number of firms in distress could substantially increase. IMF staff research assessed the impact of the COVID-19 crisis on the liquidity and solvency of the NFC sector in European countries, taking into account the effects of public support measures.[24] It found that the announced policy packages in advanced EU economies could reduce the pandemic-induced liquidity gap by four-fifths to about 5% of GDP. However, cross-country heterogeneity was very significant, with Greece, Slovakia, Portugal and Italy showing the highest remaining liquidity gap. Compared with their impact on liquidity, public support measures were found to be significantly less effective in addressing solvency gaps, as several policy measures—such as debt moratoria, tax deferrals, and guaranteed loans—address only liquidity but not solvency strains. As a result, less than two-fifths of the increase in solvency gaps in advanced EU economies was estimated to be covered by policies (versus four-fifths for liquidity gaps), implying that the share of insolvent firms could increase from 11% to 17% amid pronounced country heterogeneity. However, given that the impact of policies was assessed on the basis of their announced size and not their actual take-up, the results are subject to an optimistic bias, given that take-up rates, for example for public loan guarantees, often fell significantly short of announced envelopes. BIS staff research[25] found that the drastic fall in corporate earnings severely impaired the interest coverage ratio of many firms, implying that their survival is at risk if earnings remain depressed for an extended period, while cash buffers may provide only limited protection.[26] Moreover, while covering losses through new borrowing is essential for preventing firm exits in the short run, exit pressures emanating from rising indebtedness may build up over time, possibly leading to a wave of exits at a later stage.[27] A European Commission study concluded that on account of the COVID-19 shock between 25% and 35% of companies would experience a financing shortfall by the end of 2020 after exhausting working capital and liquidity buffers, respectively. In an adverse scenario, these shares could increase to 35% and 50%, respectively.[28] An OECD simulation[29] predicted that—in the absence of any policy intervention—30% of the firms in the sample would face a cash shortfall after two months of lockdown and more than 50% of firms after a lockdown of seven months. These results mainly reflect the impact of confinement in the

[24] Ebeke, C., Jovanovic, N. , Valderrama, L. and Zhou, J., "**Corporate Liquidity and Solvency in Europe during COVID-19: The Role of Policies**", IMF Working Paper WP21/56, International Monetary Fund, March 2021. The simulations of the effects of the COVID-19 pandemic on corporate solvency and liquidity are based on firm-level data for balance sheet and income statements from Orbis. Country coverage includes all European economies with a sufficient coverage in Orbis, which in this study amounts to 26 countries.

[25] Banerjee, R. and Kharroubi, E., "**The financial vulnerabilities driving firms to the exit**", BIS Quarterly Review, Bank for International Settlements, December 2020.

[26] An earlier BIS study estimated that, if revenues in 2020 declined by 25%, debt service and operating costs would exceed cash buffers and revenues for 40% of the sampled corporates from 26 countries, assuming that these companies were able to rollover their maturing debt in 2020; see Banerjee, R., Illes, A., Kharroubi, E. and Serena, J. M., **"Covid-19 and corporate sector liquidity**", BIS Bulletin No 10, Bank for International Settlements, April 2020.

[27] The BIS study finds that high short-term debt and low earnings relative to interest expenses are the two most significant financial predictors of firm exits, with a lag between a rise in corporate vulnerabilities and the peak in exits amounting to about two years.

[28] **Identifying Europe's recovery needs**, Commission Staff Working Document, European Commission, May 2020. The study uses ORBIS-based data on balance sheets, income and cash flows to estimate the impact of the economic downturn on firms' profits and losses, taking into account the implicit solvency support provided by governments through short-term work schemes.

[29] **Corporate sector vulnerabilities during the Covid-19 outbreak: assessment and policy responses**, Organisation for Economic Co-operation and Development, May 2020. The methodology used by the OECD to evaluate firms' liquidity position during the COVID-19 crisis is based on ORBIS data on financial statements of non-financial corporations comprising both listed and unlisted firms in 16 European countries with sufficient coverage. However, the OECD data set excludes firms with less than three employees. "The economic shock from measures of social distancing is modelled as a change in firms' operating cash flow, resulting from the decline in sales and firms' limited ability to fully adjust their operating expenses. To reflect this adjustment capacity, elasticities of intermediate costs to sales and of the wage bill to sales are estimated by assuming, for simplicity, that they are identical and constant across countries and sectors."

particularly hard-hit sectors. When policy support measures (tax deferrals, debt moratoria and wage bill subsidies) were taken into account, the share of firms facing a liquidity shortfall after a two-month lockdown declined from 30% to 10%. Gourinchas et al. estimated that due to COVID-19, the bankruptcy rate in the SME sector in 19 European countries could rise by about 9 percentage points, with pronounced sectoral heterogeneity on account of sector-specific demand and supply shocks and their interaction.[30] Overall, the above-referenced approaches as well as other research must be interpreted with caution as they rely on several key assumptions. Nonetheless, despite their divergence, they all support the case for decisive and sustained public intervention to contain the rise of bankruptcies.

Looking ahead, the resilience of the NFC sector hinges crucially on the economic recovery path as well as the scope and effectiveness of policy support measures. Given the already heightened vulnerability of this sector, a premature withdrawal of support measures or a perceptible tightening in financing conditions could trigger a sharp increase in default rates—particularly for firms which increased their leverage ratio in recent years or became overindebted or non-viable during the pandemic. The high debt burden and its impact on employment and investment poses a threat to a swift and sustained recovery.[31] Given that the use of loan moratoria has been particularly pronounced for SMEs, which also benefited from public loan guarantees, the expiration of these measures would hit SMEs particularly hard.[32] Moreover, as SMEs often struggle to avail themselves of market-based funding sources, they are more exposed to a tightening of bank lending standards.

1.5 Strengthening of the sovereign-bank-corporate nexus

The sovereign-bank nexus strengthened during the COVID-19 crisis. The doom loop between banks and their domestic sovereign was a key factor in the euro area sovereign debt crisis. In contrast to the global financial crisis, the COVID-19 crisis did not have its origin in the financial sector. Importantly, the public support measures, some of which implied an increase in sovereign debt, were crucial in mitigating difficulties in the corporate and financial sectors. However, there is a risk that intensifying vulnerabilities in the corporate sector could spill over to banks and the sovereign.

---

30 Gourinchas, P. O., Kalemli-Özcan, Ş., Penciakova, V. and Sander, N., "**COVID-19 and SME Failures**", NBER Working Paper 27877, National Bureau of Economic Research, September 2020, revised May 2021. The authors use a model-based partial equilibrium approach to assess the impact of the COVID-19 crisis on business failures in the SME sector in 18 European countries, whereby the model is mapped to firm-level data using the latest version of the ORBIS global dataset.

31 Relying on regression analysis and looking at the historical relationship between firms' leverage and investment, an OECD study examined the potential impact of higher debt levels on investment during the recovery. It found that a 15 pp (1 standard deviation) increase in firms' financial leverage would lower the investment rate by 30% in firms with median pre-crisis leverage. Firms at the top of the leverage distribution before the crisis would lower investment by more than half in response to the same increase in their leverage. See Demmou, L, Calligaris, S., Franco, G., Dlugosch, D., McGowan, M. A. and Sakha, S., "Insolvency and debt overhang following the COVID-19 outbreak: Assessment of risks and policy responses", OECD Economics Department Working Papers, No 1651, Organisation for Economic Co-operation and Development, January 2021.

32 The flow of new credit to NFCs has been stronger for SMEs, and 35% of the new credit benefited from either public guarantees or public loans. See **Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic**, ESRB, February 2021.

The exposure of European banks to domestic sovereign debt increased significantly in 2020 after the outbreak of the COVID-19 pandemic. Compared to December 2019, the exposure at end-June was 9% higher in the euro area (+12% in the EU, Chart 1.5.A). The increase was particularly large in CZ, EE, LV and MT (more than 45% at end-June), as well as in FR (+20%) and ES (+14%), compared to DE (less than 5%, Chart 1.5.A). The rise observed in 2020 ended a period of more than four years of declining domestic sovereign debt exposures. The share of domestic sovereign exposures in total bank assets significantly differed from country to country (Chart 1.5.B and Chart 1.5.C[33]). It was particularly elevated in RO, HU, HR and PL (more than 20%) but also in Italy (17.5%), PT (10.1%) and ES (9.6%). In contrast, exposures in FR and DE amounted to less than 5% (Chart 1.5.B). An increase in sovereign exposures is of particular concern when the respective country already had an elevated public debt-to-GDP ratio prior to the crisis (e.g., IT, GR and PT; Chart 1.5.C). Risks can be compounded when an increase in the exposure of domestic banks to their respective sovereign is accompanied by an increase in their exposure to other euro area sovereigns for which risks are highly correlated.[34] This is the case for PT for instance, where the exposure to sovereigns from IT, GR and ES as a percentage of total assets has been increasing faster than the exposure to its domestic sovereign since the beginning of 2020, albeit remaining smaller than the domestic sovereign exposure.[35] At the same time, the exposure of sovereigns to domestic banks has also increased, as banks have been absorbing a considerable portion of the government bonds issued to finance public support measures. Moreover, rising solvency pressures in the NFC sector could affect the health of exposed banks, with potential repercussions for the respective sovereigns.

[33] Chart 1.5.A, Chart 1.5.B and Chart 1.5.C include loans and securities, while Chart 1.5.D includes securities only.

[34] For banks in ES, GR, IT and PT, the correlation between the exposure to their domestic sovereign and to the sovereigns of other countries in the group is highly significant and positive. For the group as a whole, the correlation could be as high as 0.9 (T = 20.8).

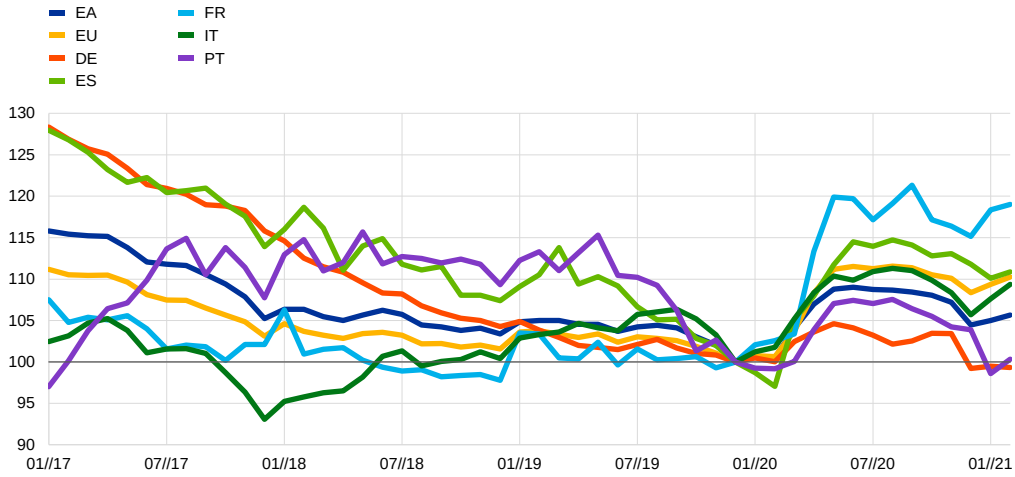
[35] According to COREP and FINREP data, the exposure of Portuguese banks to the domestic sovereign as a percentage of total bank assets increased by 0.7 percentage points between March 2020 and September 2020, while the exposure of Portuguese banks to the domestic sovereign plus to the sovereigns of IT, ES and GR as a percentage of total bank assets increased by 2.3 percentage points.

Chart 1.5.A

EU banks' exposure to domestic sovereign debt

EU banks increased their exposure to domestic sovereign debt in 2020 after several years of decline

(MFI sovereign debt exposure growth, indexed to December 2019)



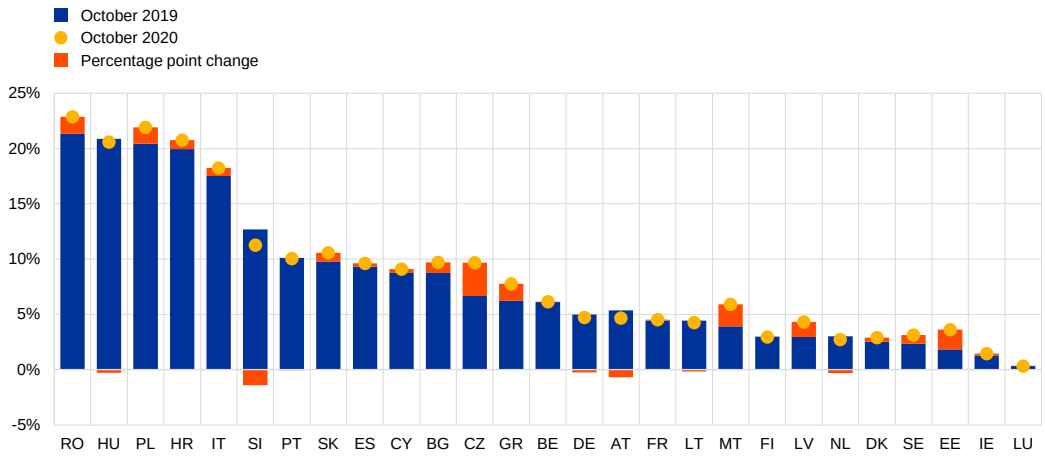
Sources: ECB (BSI) and ESRB Secretariat calculations.
Notes: December 2019 = 100. Sovereign debt consists of debt securities and loans. Last data point used: February 2021.

Chart 1.5.B

EU banks' exposure to domestic sovereign debt as a percentage of total assets

The exposure of European banks to domestic sovereign debt as a percentage of total assets increased in 19 Member States between 2019 and 2020

(2019-2020 change in MFI sovereign debt exposure as a percentage of total MFI assets)



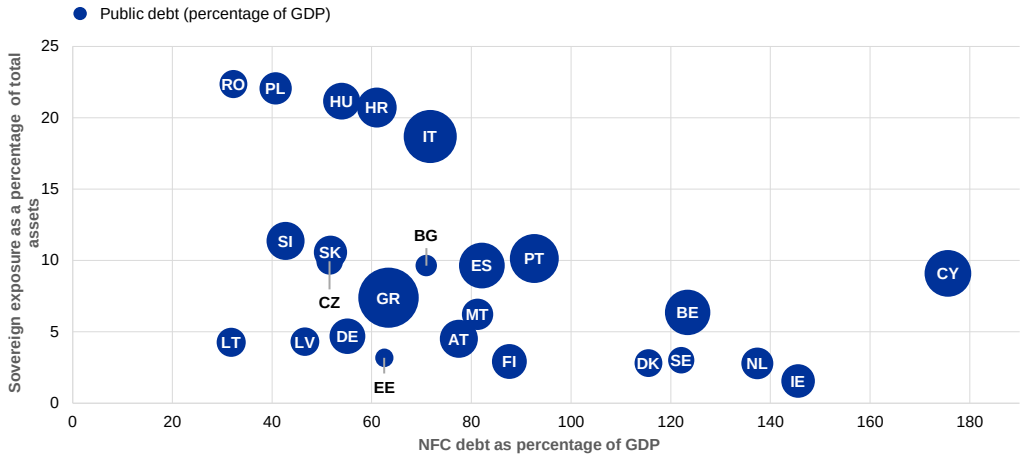
Sources: ECB (BSI) and ESRB Secretariat calculations.
Note: Sovereign debt consists of debt securities and loans.

Chart 1.5.C

EU banks' domestic sovereign exposure, NFC debt and public debt[36]

NFC sector vulnerabilities potentially compound the sovereign-bank nexus

(x-axis: NFC debt as a percentage of GDP; y-axis: sovereign exposure as a percentage of MFI total assets)



Sources: ECB (BSI & GFS) and Eurostat.

Notes: MFI exposure to the domestic sovereign includes debt securities and loans. NFC debt includes loans and securities and is consolidated. The size of the bubbles reflects the public-debt-to-GDP ratio. Data refer to Q3 2020.

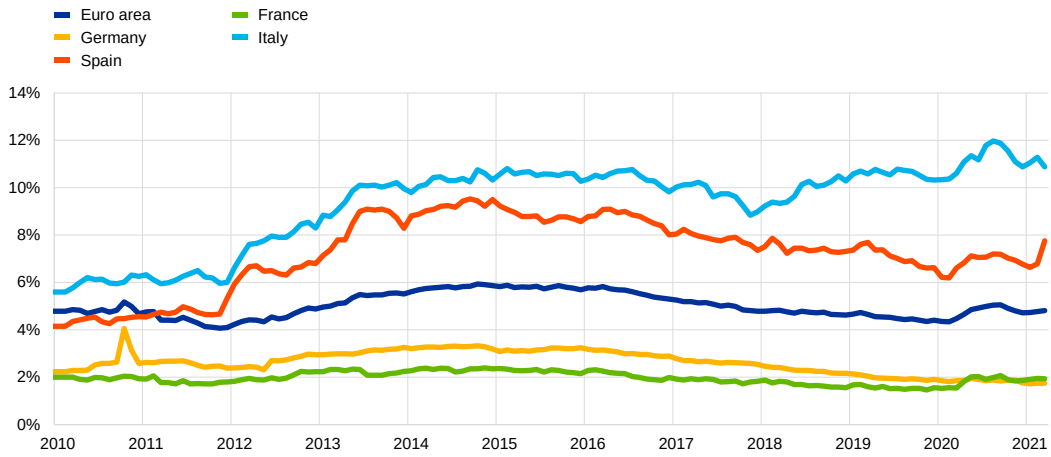
[36] In CY, NFC debt includes special-purpose entity (SPE) debt, which consists of debt of foreign companies to mostly foreign banks and as such does not give rise to financial stability issues for the Cypriot banking system. Adjusting for SPEs, NFC debt amounted to 107.5% of GDP in Q3 2020. In IE, private sector debt is significantly influenced by the presence of large multinational corporations. Restructuring by these entities has resulted in extremely large movements in Irish private sector debt, particularly from 2014 onwards.

Chart 1.5.D

Exposure of euro area banks to domestic sovereign debt securities

After declining since 2015, the exposure of euro area banks to domestic sovereign debt securities increased again during the COVID-19 crisis

(EA banks' exposure to domestic sovereign debt securities as a percentage of total bank assets)



Sources: ECB (BSI) and ESRB Secretariat calculations.
Notes: EA banks' exposure to domestic sovereign debt securities. Last data point: April 2021.

High and rising sovereign exposures increase the vulnerability of banks to a potential rise in risk premia. Decisive monetary and prudential measures helped reverse valuation losses of banks' sovereign portfolios that occurred early in the crisis. Moreover, only 47% of banks' sovereign debt exposures are currently subject to fair value accounting[37], thereby mitigating the impact of potential valuation changes on CET1 ratios.[38] However, looking ahead, further increases in sovereign exposures may compound the vulnerability of banks to valuation changes. A further increase in public debt could result in rising sovereign risk premia and heighten the risk of sovereign rating downgrades, which, in turn, could trigger a subsequent wave of domestic bank rating downgrades and a concomitant deterioration in bank financing conditions in the respective country.[39] Vulnerabilities are particularly elevated where domestic sovereign exposures are close to or exceed CET1 capital, which is the case for ten euro area countries (Chart 1.5.E).

37 Only part of banks' assets is subject to fair value accounting. These assets are in general financial assets used for trading purposes, while loans are usually measured at amortised costs as they are assumed to be kept longer on the balance sheet.

38 A case can also be made that banks and other institutional investors play a fundamental role in reducing price volatility in their national sovereign debt market by acting as "contrarian investors" in times of market stress.

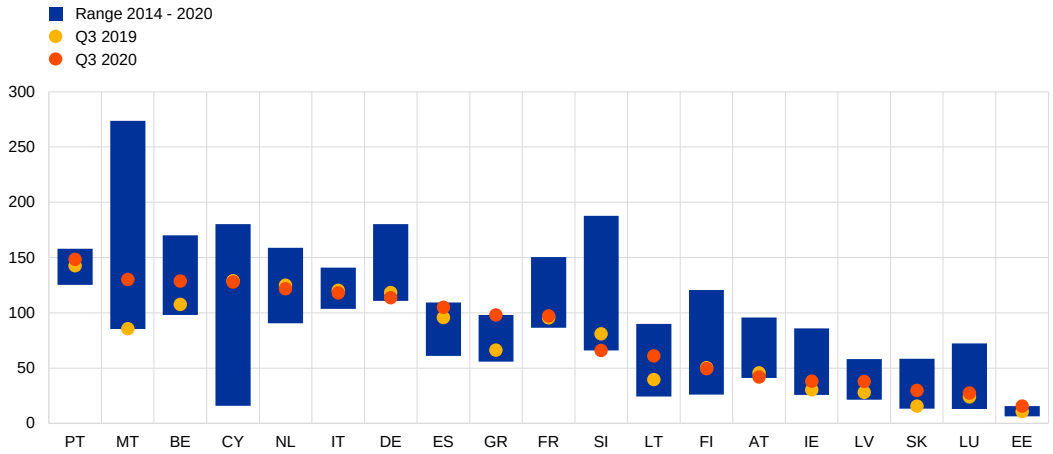
39 While the increase in public sector debt-to-GDP ratios will partially reverse once GDP recovers, the elevated nominal debt levels will have a persistent effect on governments' debt service needs going forward. Moreover, higher debt levels render sovereigns more vulnerable to a tightening of financing conditions.

Chart 1.5.E

EA banks' exposure to domestic sovereign debt as a percentage of CET1 capital

Exposure to domestic sovereign debt is close to or exceeds CET1 capital in ten euro area countries

(EA bank exposure to domestic sovereign debt, percentage of CET1 capital)



Sources: FINREP, COREP and ESRB Secretariat calculations.
Notes: The range shows the difference between the minimum and maximum value of the ratio between 2014 and 2020. Exposure to domestic sovereign debt includes loans, securities and advances.

Vulnerabilities of NFCs further exacerbated the sovereign-bank nexus – effectively turning it into a sovereign-bank-corporate nexus. Government loan guarantees, loan moratoria and moratoria on insolvency filings have so far prevented a large-scale wave of NFC defaults. However, the longer the COVID-19 crisis lasts, the more pronounced its impact on liquidity and – for a sizeable number of companies – solvency will be, resulting in a rising number of bankruptcies (Section 1.4). The consequences of the sovereign-bank-corporate nexus are twofold: first, as public loan guarantees were mostly granted only for newly extended loans, they cover only a fraction of the outstanding stock of bank credit to the NFC sector[40] – with very large cross-country variations – implying that banks will need to shoulder the bulk of the deterioration in asset quality. Second, rising NFC sector vulnerabilities will be reflected in a higher share of called-up loan guarantees and a further perceptible rise in public debt. Public debt levels may also increase further on account of implicit contingent liabilities, i.e. liabilities arising from political commitments to keep vulnerable companies afloat through liquidity or equity support. In both cases, the increase in public debt could lead to a repricing of sovereign risk, which would limit the scope for additional sovereign debt and therefore constrain the fiscal space to sustain the support for the corporate sector. It could also raise pressure on domestic banks to step up purchases of domestic sovereign debt securities. Overall, the strength of bank and government balance sheets crucially hinges on the recovery of the corporate sector. It is therefore of particular concern that highly indebted sovereigns are exposed to domestic NFC sectors that were particularly affected by the pandemic.[41] Moreover, the

[40] Such public loan guarantees tend to be focused on newly issued medium to long-term loans. See **Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic**, ESRB, February 2021 and "**Public loan guarantees and bank lending in the COVID-19 period**", *Economic Bulletin*, Issue 6, ECB 2020.

[41] This in part reflects the different sectoral composition of the corporate sector, with the weight of highly affected sectors (such as tourism and hospitality) being particularly pronounced.

recovery paths of banks and corporates also depend on the fiscal space of governments and the sustainability of their debt.

Finally, rising NPL levels would also negatively affect the NFC sector. Experience with previous financial crises has shown that rising NPL levels and the associated pressure on profitability and bank capital go hand in hand with a slowdown in the extension of credit to the private sector, thereby putting at risk the role of the banking sector in supporting the recovery from the COVID-19 crisis through favourable financing conditions.

1.6 Financial market developments

The pandemic-related turmoil in financial markets in March 2020 was followed by a remarkable rebound in asset prices. Following the market turmoil in March 2020, financial conditions eased on the back of swift and broad-based monetary and fiscal policy measures. Better-than-previously-forecast macroeconomic data, the increased credibility of policy support—including on account of the political agreement on the Next Generation EU (NGEU) package on 21 July 2020—and the roll-out of COVID-19 vaccinations significantly improved investor sentiment. These factors were reflected in a narrowing of credit spreads and rising equity market valuations. In the EU, sovereign bond market yields gradually declined, notwithstanding a perceptible increase in public debt-to-GDP ratios. This decline was supported by large-scale central bank purchases of sovereign bonds as well as the agreement on the EU recovery fund.

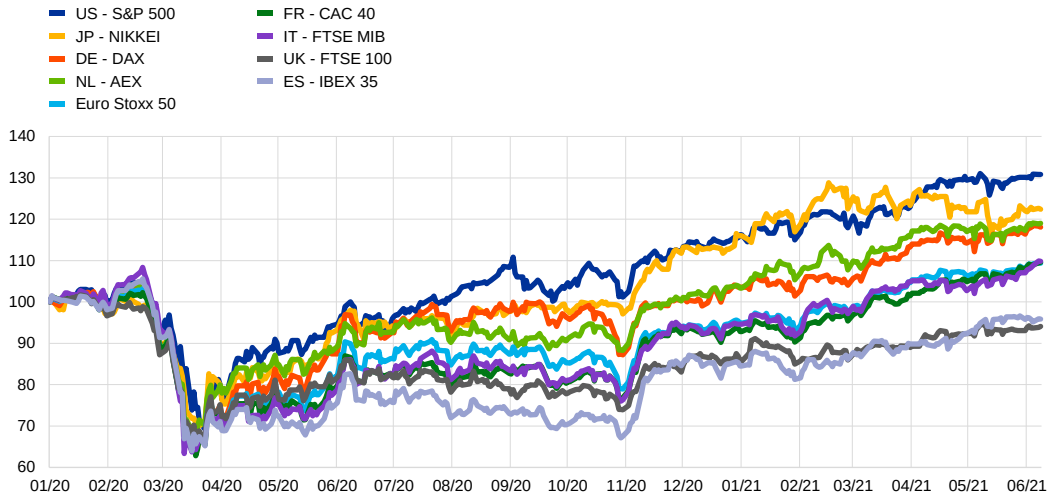
The strength of the rebound in equity markets is not fully reflected in analysts' expectations of future earnings and may point to a disconnect between asset prices and economic fundamentals. The strength of the equity market rebound varied across countries and sectors. The strongest equity price increases were recorded in the United States and the technology sector (Chart 1.6.A and Chart 1.6.B). In the EU, the rebound in equity markets was somewhat less pronounced amid resurfacing concerns about longer-term earnings expectations on account of resurging COVID-19 infections in October 2020. There was also pronounced heterogeneity in equity market trends in the EU, reflecting differences in earnings growth expectations across the European NFC sector as a result of the differentiated sectoral and country-specific impact of the COVID-19 crisis. Cyclically adjusted price/earnings ratios, which measure prices relative to longer-run past earnings, remain below their long-run median values in all major economic regions, with the exception of the United States, where there is some evidence of stretched valuations.

Chart 1.6.A

Market indices indexed on the first trading day of 2020

Equity markets' index performance since January 2020

(1 January 2020 = 100)



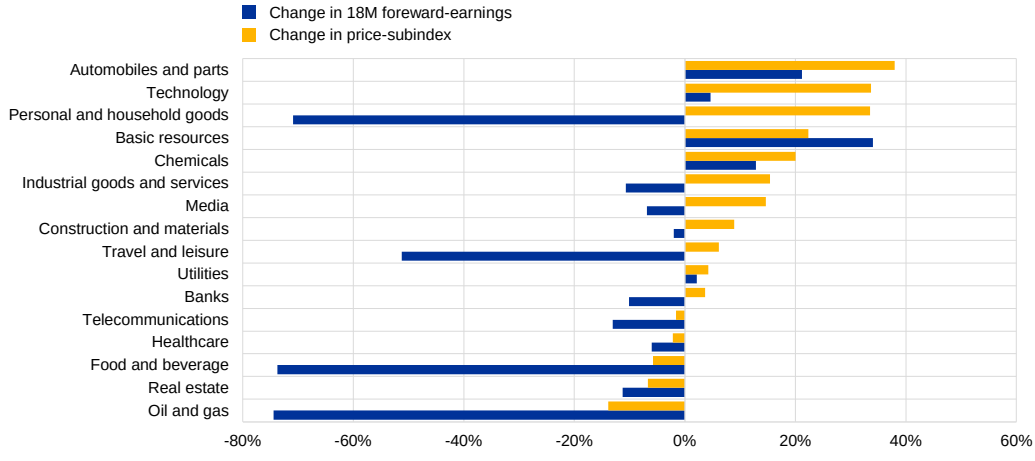
Sources: Bloomberg and ESRB Secretariat calculations.
Notes: All indices are recorded in local currencies and indexed on the 1 January 2020. Subsequently, movements in the foreign exchange markets could affect these indices and thus the movements in the series used in this chart.

Chart 1.6.B

Variation of prices and forward earnings among the sub-indices of the EURO STOXX

While certain sub-indices performed well during the pandemic relative to others, all have since seen a decline in forward earnings, indicating a somewhat pessimistic outlook on the recovery phase

(percentage change)



Sources: Reuters (IBES) and ESRB Secretariat calculations.
Note: Latest data from 8 June 2021; all numbers relative to the monthly average of January 2020.

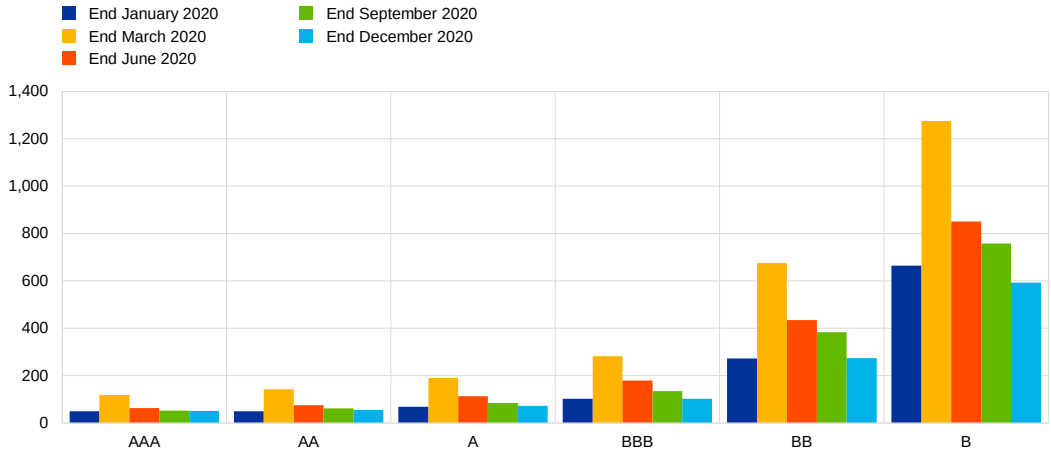
Notwithstanding rising NFC sector vulnerabilities, credit spreads on corporate bond markets narrowed between March 2020 (their peak) and December 2020 and approached pre-pandemic levels across the rating spectrum. The narrowing of credit spreads was supported by continued investor inflows into euro area corporate bond funds and reflected the renewed search for yield on the back of improved risk sentiment. Following the rebound, corporate bond spreads are well below the levels observed during the global financial crisis and the euro area sovereign debt crisis and appear to be tight in view of corporate earnings projections and the credit rating outlook (Chart 1.6.C). This is particularly the case for the high-yield segment of the corporate bond market. This compression of corporate bond spreads raises the risk that a weaker-than-expected economic recovery could lead to a sudden widening of corporate spreads.

Chart 1.6.C

Z-spread for euro area NFCs by credit rating

Credit spreads increased drastically at the onset of the pandemic before returning to pre-pandemic levels over the course of the year

(Z-spread for euro area NFCs by rating in basis points)



Sources: iBoxx, indices for EUR NFCs, three to five-year maturities.

While continuing to provide financing to the NFC sector following the initial COVID-19 shock, non-bank financial intermediaries have increased their risk-taking. The low interest rate environment continues to strengthen incentives for investors to increase their exposure to riskier assets to generate higher returns. As inflows into euro area investment funds recovered in the course of 2020, non-bank financial intermediaries increased their exposure to lower-rated NFC debt, while also extending the duration of their NFC debt portfolio. This raised their vulnerability to outflows, notably as valuation changes are passed to investors, who may reassess the credit risk of NFCs. While corporate bond funds temporarily increased their cash holdings following the market turmoil in March 2020, cash positions subsequently declined to pre-crisis levels. The investment fund sector as a whole increased its exposure to less liquid assets, thereby increasing the vulnerability to sizeable outflows should severe market tensions re-emerge.

1.7 Developments in residential and commercial real estate

Residential real estate

The ESRB analysed vulnerabilities in the RRE sector and issued recommendations and warnings to several members in 2016 and 2019. Following the methodology outlined in its corresponding report[42], the ESRB published in 2019 a report on vulnerabilities in the RRE sector in EEA countries[43], concluding that most countries were in a firm or mature expansionary phase of the residential real estate cycle. A number of risks were identified and ESRB recommendations for six particularly vulnerable countries put forward a number of macroprudential policy proposals to address those risks. In addition, warnings were issued for five other countries.[44]

Subsequently, RRE prices continued to rise in 2020 in real terms despite the COVID-19 pandemic. For the EU, the increase amounted to 5.4%y-o-y as of Q4 2020, with cross-country variation ranging from 0.2% in Romania to 17.3% in Luxembourg. The resilience of the RRE market was supported by several factors. First, government support measures mitigated the impact of the crisis on real disposable household incomes (Section 1.4). Second, the continuation of extremely favourable financing conditions helped sustain growth in mortgage lending and housing demand. Third, in the context of low interest rates and high uncertainty, housing continued to be perceived as an attractive investment. Moreover, the increase in home office work arrangements may have strengthened demand for more convenient and spacious housing in suburban areas and the countryside. Finally, as home ownership tends to be more widespread in higher income brackets, which were less affected by the crisis, overall demand for housing may have been less affected by the rise in labour market slack.

The continued increase in house prices in 2020 further exacerbated the overvaluation of house prices prevailing prior to the crisis. Price-to-income ratios in Q4 2019 were around 50% higher than their long-term trend for Luxembourg and Sweden (Chart 1.7.A). For another seven EU countries, they exceeded their long-term trend by close to or more than 10%. For five other countries, this indicator points to an undervaluation of at least 10%. While being surrounded by elevated uncertainty, evidence from econometric models suggests a similar trend. The indicators of overvaluation are shown for Q4 2019 as in 2020 some of the explanatory variables were affected by temporary factors related to the COVID-19 crisis that did not reflect to the same extent an overvaluation of house prices.

---

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

43 See **Vulnerabilities in the residential real estate sectors of the EEA countries**, ESRB, September 2019.

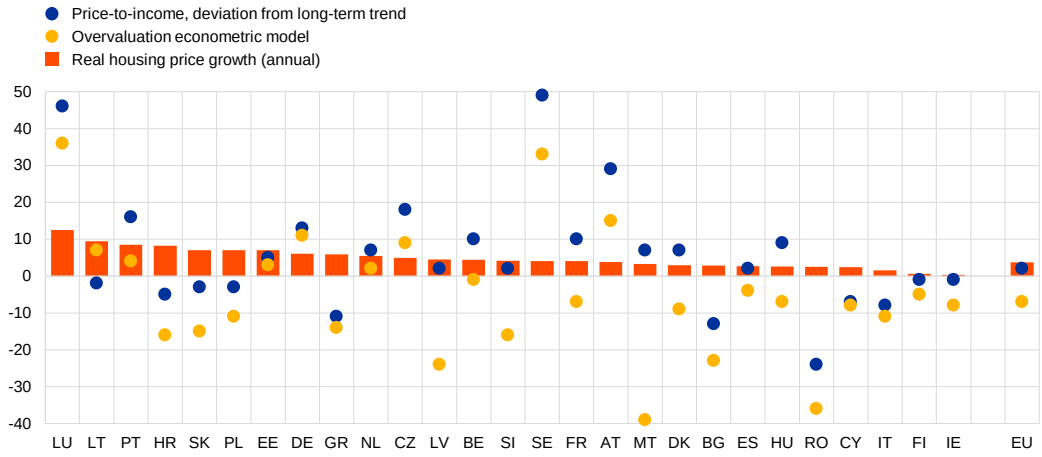
44 In 2019, the ESRB adopted warnings for five Member States and recommendations for six Member States on medium-term vulnerabilities in the residential real estate sector. The warnings were sent to the competent ministers of the following five countries: the Czech Republic, Germany, France, Iceland and Norway. Similarly, the recommendations were sent to the competent ministers of the following six countries: Belgium, Denmark, Luxembourg, the Netherlands, Finland and Sweden. See the corresponding **press release**.

Chart 1.7.A

Measures of house price overvaluation

Further house price increases led to stronger overvaluation in several countries

(percentages, sorted by house price growth)



Source: ECB.

Notes: For the price-to-income ratio and the econometric model, the last data point is Q4 2019. For real housing price growth, the last data point is Q3 2020 for all countries except CY (Q2 2020). Annual real housing price growth is the average year-on-year growth over the last four quarters. The EU overvaluation figures refer to the median EU country. The ECB's estimates may differ from those of national authorities. For instance, according to estimates from the Nationale Bank van België/Banque Nationale de Belgique, the overvaluation was 13.5% in Belgium in Q2 2020. The house price overvaluation was estimated to be around -10% in Denmark (whole country). Finally, the estimated average overvaluation in Luxembourg, based on the average of econometric models and statistical methods, stood at 20.1% in Q3 2020 according to the Central Bank of Luxembourg.

Growth in average rents somewhat decelerated in the EU following the onset of the COVID-19 pandemic. Rent growth in the euro area declined from 1.7% y-o-y in January 2020 to 1.3% in December 2020 (Chart 1.7.B). Except for Austria, Belgium, the Netherlands and Slovakia, all EU countries reported a lower or unchanged annual growth in rents in December 2020 compared to one year earlier.

Chart 1.7.B

Rental index for the EU

Rent growth declined during the pandemic

(annual percentage change)

Source: SDW.

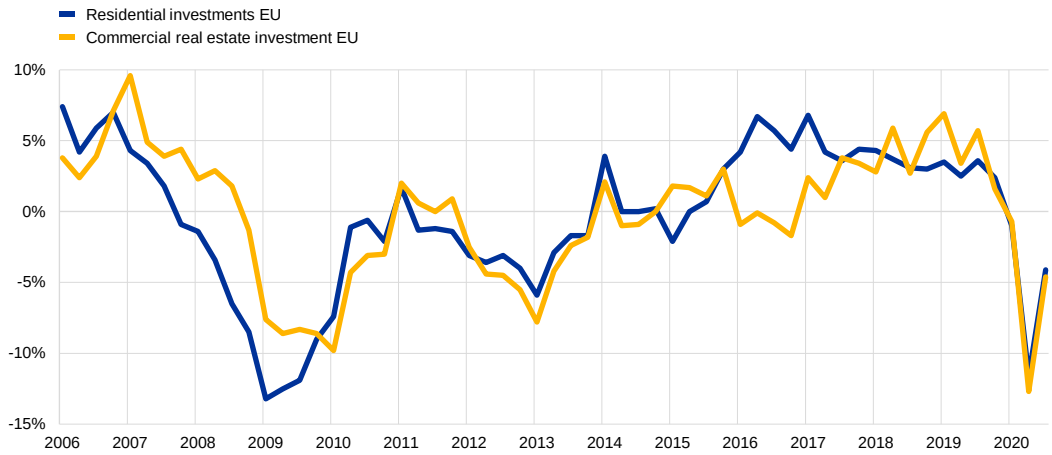
On the supply side, RRE investment declined significantly in the first half of 2020 but recovered somewhat in the third quarter of 2020. While the size of the decline was similar to the one observed during the global financial crisis, it was steeper in the current crisis (Chart 1.7.C).

Chart 1.7.C

Real estate investment in the EU

Housing investment fell significantly in H1 2020

(real annual percentage change)



Sources: SDW, Eurostat.
Note: Last observation: Q3 2020.

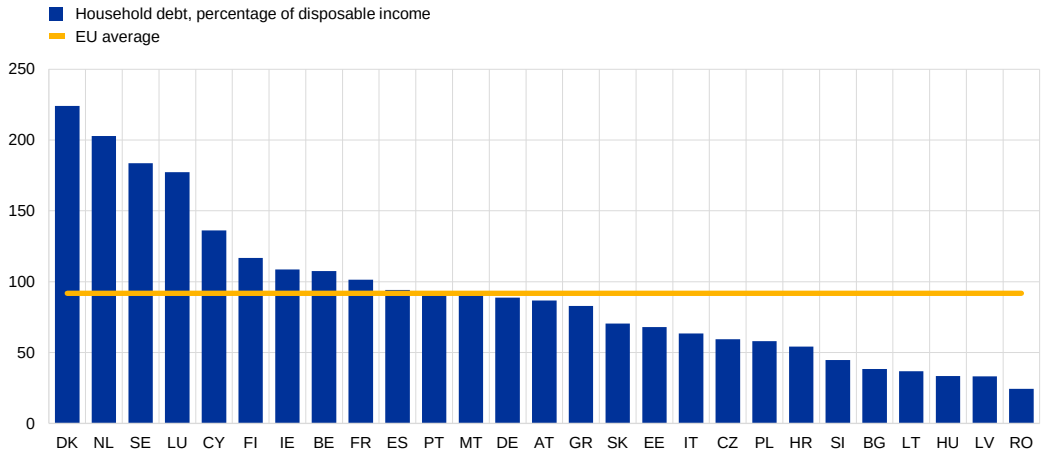
Household indebtedness as a percentage of income is high in many EU countries and stands above 90% for the EU average (Chart 1.7.D). While data availability differs significantly across countries, this ratio is above the EU average in the six countries which had received ESRB recommendations, suggesting continued vulnerabilities. Most countries with high household indebtedness also have a high debt service-to-income ratio, which adds to their vulnerability.

Chart 1.7.D

Household debt-to-income ratio

The household debt-to-income ratio was particularly high for countries which received recommendations on medium-term vulnerabilities in the RRE sector

(percentage of real disposable income)



Sources: SDW, BCL, ESRB Secretariat calculations.
Notes: Last observation is Q3 2020 for Austria, Belgium, the Czech Republic, Germany, Denmark, Spain, Finland, France, Italy, Luxembourg, the Netherlands, Portugal, Sweden and Slovenia; Q2 2020 for Ireland; Q1 2020 for Greece and Poland; Q4 2019 for Cyprus, Romania, Slovakia, Estonia, Hungary, Lithuania and Latvia; Q4 2017 for Bulgaria; Q2 2017 for Malta; and Q4 2016 for Croatia. Data on household disposable income for LU are available on an annual basis only up to 2018, and the quarterly values are BCL projections.

Commercial real estate

Compared with the fairly resilient RRE market, the COVID-19 crisis had a severe impact on the CRE market. Transactions in the CRE market fell by around 50% y-o-y in the last three quarters of 2020 (Chart 1.7.E) on the back of falling demand from both domestic and international investors, with the drop in foreign demand being more pronounced.[45] Prime CRE prices declined especially for retail-related real estate in Q3 2020 (Chart 1.7.F). Moreover, the previously observed increase in prices for prime office space flattened somewhat.

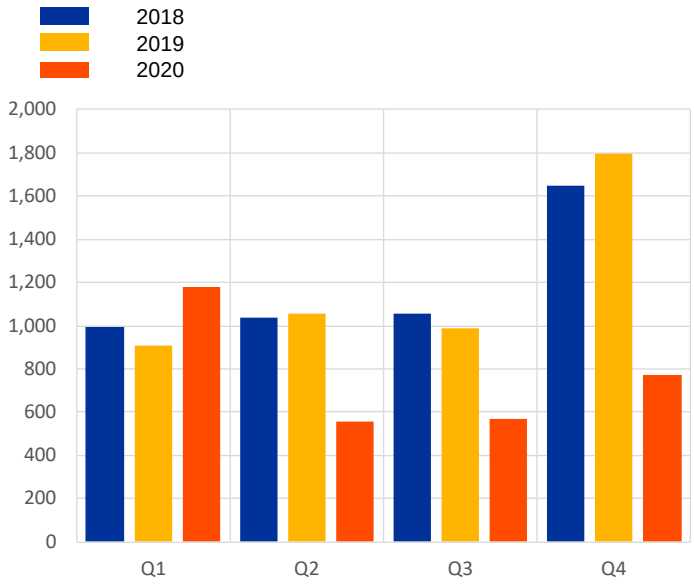
[45] See also **Financial Stability Review**, ECB, November 2020.

Chart 1.7.E

CRE transactions in the EU

CRE transactions fell sharply as a result of the COVID-19 crisis

(number of transactions)



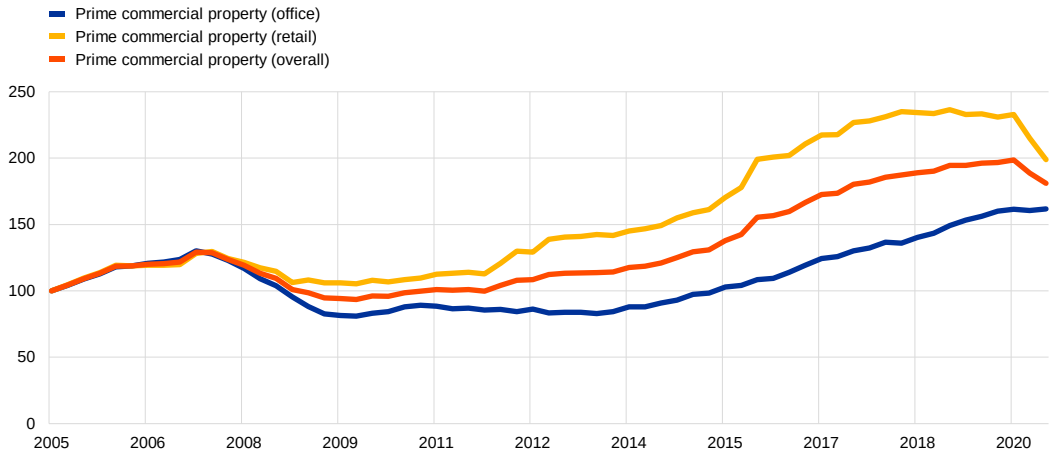
Source: RCA.
Notes: The EU sample includes all EU27 states. The data for Q4 2020 are preliminary, and the overall figures may rise once up-to-date information is available.

Chart 1.7.F

CRE price indices in the EU

CRE prices declined due to the pandemic

(real index 2005 = 100)



Sources: JLL, SDW.
Note: Last observation: September 2020.

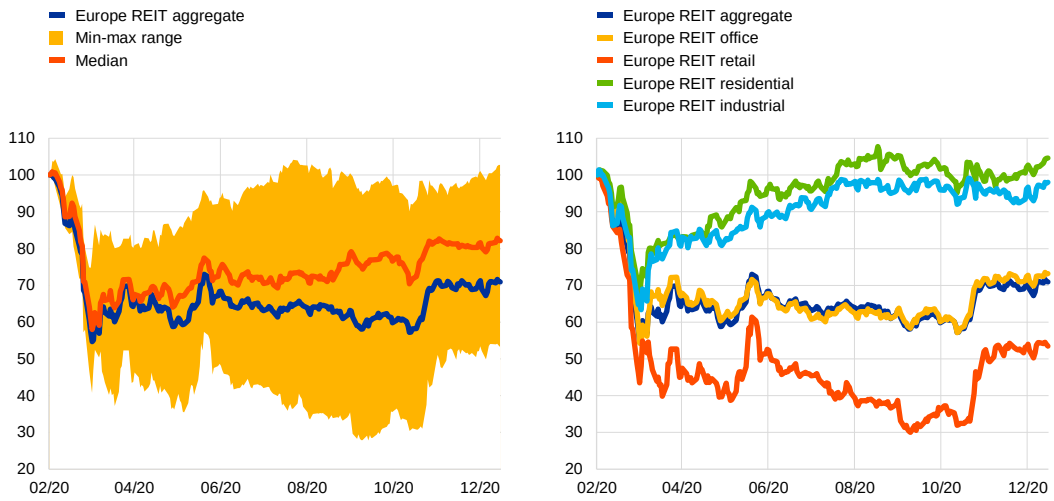
More forward-looking price indicators from financial markets suggest that the CRE market may decline further over an extended period. Real estate investment trust data suggest that all price indices in CRE sectors significantly declined at the beginning of the pandemic. While for industrial real estate (Chart 1.7.G) and for Germany[46] they reverted to their previous level shortly afterwards, many countries and sectors continued to trade between 30% and 50% below their February levels. The impact of the COVID-19 crisis on both offices and retail property prices varied across countries (Chart 1.7.G right-hand side). The retail real estate sector may be more severely hit by long-term behavioural changes relating to a permanent increase in the market share of e-commerce. Moreover, while a considerable number of staff will return to their offices in the wake of the pandemic, remote working arrangements will play a much bigger role in the future. This could result in a "K-shaped" recovery, with higher-quality properties that can adapt to health requirements being less impacted. Towards the end of 2020, the price indices were boosted by positive vaccine news, with the sectors most affected by the pandemic (i.e. retail and office) seeing the largest gains.

Chart 1.7.G

REIT price developments

The pandemic had an uneven effect on CRE across countries and sectors

(index 17, Feb 2020 = 100)



Source: Bloomberg.

Notes: Last observation: 31 December 2020. The min-max range and median are based on a sample of countries which includes: Austria, Belgium, Finland, France, Germany, Ireland, Italy, the Netherlands, Spain and Sweden. The sample of countries was chosen based on data availability. The European aggregate index also includes European countries which are outside of the European Union.

European real estate funds[47] are predominantly investing in the European real estate market. In the third quarter of 2020[48], European real estate funds allocated almost 90% of their investments to Europe (Chart 1.7.H). Investors in European real estate funds are also

[46] While Germany is not shown in Chart 1.7.G, it is the only country in our sample whose REIT index reverted to its pre-pandemic level as of end-December 2020.

[47] Based on AIFMD data.

[48] Data for the fourth quarter of 2020 are not yet complete, hence only the third quarter is reported here.

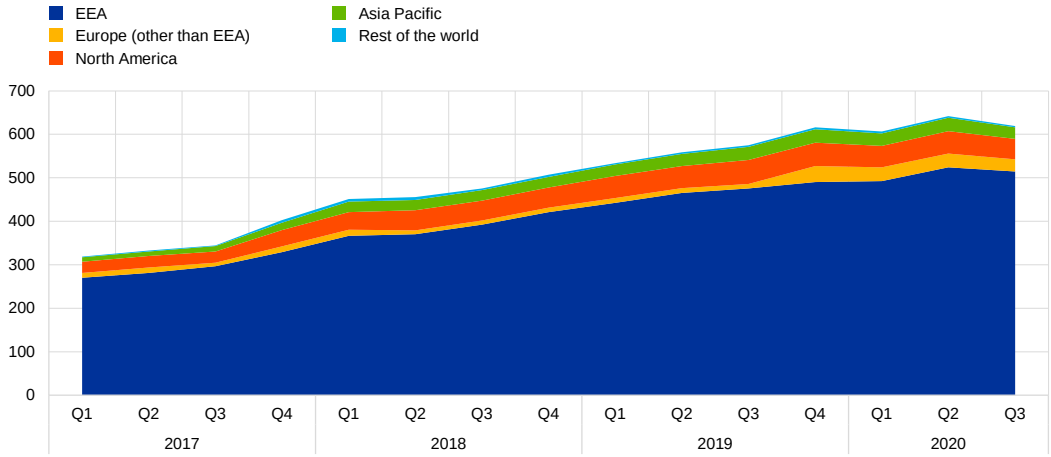
predominantly located in Europe. Insurance corporations and pension funds are the largest investors and held more than 40% of fund shares in Q3 2020 (Chart 1.7.I). These potential cross-border linkages may increase correlation across European real estate markets and could act as a channel of contagion during severe market stress.

Chart 1.7.H

Geographical distribution of investments by real estate funds

Europe accounts for the largest share of invested funds

(NAV in EUR billions)



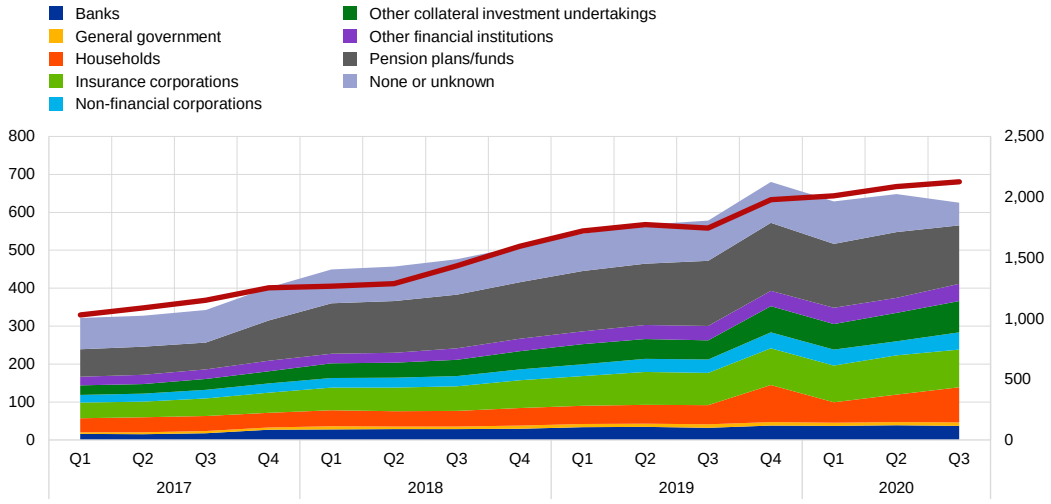
Sources: AIFMD, ESRB Secretariat calculations.
Notes: The chart shows the regional breakdown of investment by real estate funds as reported under AIFMD. Funds domiciled in EEA. Last observation: Q3 2020.

Chart 1.7.I

Real estate funds' investor base

Insurance corporations and pension funds are the largest investors

(left-hand scale: NAV in EUR billions; right-hand scale: number of funds)



Sources: AIFMD, ESRB Secretariat calculations.
Notes: The chart shows the breakdown over time of the ownership of units in the alternative investment fund beneficially owned by each investor group. The red line shows the number of funds comprised in the data in each period. Funds domiciled in EEA. Last observation: Q3 2020.

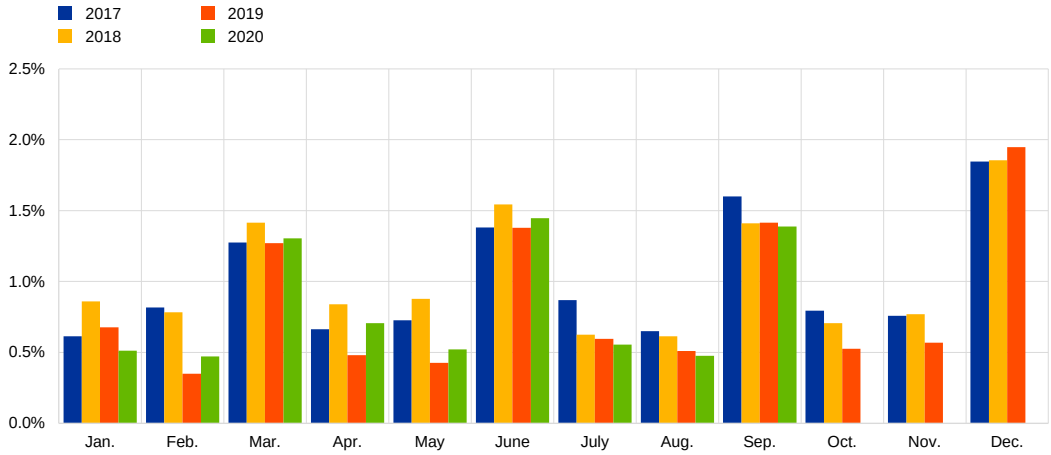
On average, real estate funds reported positive gross investment returns in 2020, even during the peak of the crisis. While European CRE market valuations declined, real estate funds yielded a cumulative return of nearly 7% over the first three quarters of 2020. Fund performance also decoupled from developments of real estate investment trusts (REITs), which experienced significant declines in market prices, especially in the first quarter of 2020 (Chart 1.7.J). In May, the ESRB issued a recommendation pertaining to valuation uncertainty in funds with significant exposures to real estate (for more information on the recommendation see Section 4.4).

Chart 1.7.J

Real estate funds' performance

Fund performance decoupled from that of REITs

(gross return)



Sources: AIFMD, ESRB Secretariat calculations.
Notes: The chart shows monthly gross returns over time. Last observation: Q3 2020.

2 General policies

Following the outbreak of the COVID-19 pandemic, authorities took measures to ensure the resilience of the financial sector, strengthening its capacity to support the real economy and reducing the risk of failures of financial institutions. These measures comprised temporary capital and operational relief (see Section 2.1), allowing banks to operate temporarily below the level of capital defined by the Pillar 2 Guidance (P2G), the capital conservation buffer (CCoB) and the liquidity coverage ratio (LCR). Furthermore, authorities released cyclical and structural capital buffers of banks (see Section 3.3) and implemented measures targeted at non-bank financial intermediaries (see Section 4). As examples, weekly data on discount risk-free rates were published to monitor insurers' solvency positions in a timely manner, and special support measures were incepted for trade credit insurance. In addition, EIOPA revised its timetable for the Solvency II 2020 Review, and new transitional measures for capital relief for insurers were authorised in some countries. These measures were complemented with system-wide restraints on distributions (dividend payments, share buybacks and other pay-outs) aimed at preserving capital within the system, thereby increasing loss-absorbing capacity and maintaining stable lending levels (see Section 2.2). To assess the resilience of financial entities, authorities used stress tests that they adapted to the already stressed situation (see Section 2.3).

2.1 Operational and regulatory relief measures

To dampen the impact of the COVID-19 pandemic on the financial sector, supervisory and regulatory authorities resorted to operational and regulatory relief measures. Supervisory and regulatory authorities recognised the difficult operating environment for supervised entities and took measures designed to help them through the pandemic. These measures comprised both operational and regulatory relief measures as well as other measures. Several of these measures had a macroprudential nature and are listed here.

- **Operational relief measures** aimed at temporarily freeing up resources in supervised entities. For the banking sector, such measures included for instance (i) the postponement of the stress test to 2021 (see also Section 2.3), (ii) the rescheduling of the remittance date for supervisory reporting, (iii) the decision to take a pragmatic approach to the 2020 Supervisory Review and Evaluation Process (SREP), (iv) the postponement of the market risk standardised approach (FRTB-SA) reporting requirements under the CRR2 to September 2021, and (v) the one-year deferral of the two final implementation phases of the margining requirements for non-centrally cleared derivatives. For the insurance sector, remittance deadlines for certain supervisory reporting (e.g. annual SFCR reports) were postponed, while updated information on the solvency capital requirement for improved monitoring was added.[49] Also, Europe-wide data requests such as for the Holistic Impact Assessment for the Solvency II 2020 Review were postponed.[50] Other examples of operational relief measures

[49] See **Recommendations on Supervisory Flexibility Regarding the Deadline of Supervisory Reporting and Public Disclosure – Coronavirus/COVID-19**, EIOPA, 20 March 2020; at the same time, insurers were asked to include an updated evaluation of their solvency position in the SFCR report for 2019.

[50] See **EIOPA revises its timetable for advice on Solvency II Review until end December 2020**, EIOPA, 30 April 2020.

were the temporary suspension of the requirement for physical board meetings in AT[51] and the acceptance of electronic signatures in DE[52]. For the financial markets, the European Securities and Market Authority (ESMA) provided relief regarding a number of deadlines (e.g. consultations), including with regard to the Securities Financing Transaction Regulation, in order to address the effects of the COVID-19 pandemic and help market participants' business continuity.

- **Regulatory relief measures** aimed at temporarily relaxing regulatory standards to help regulated entities by deferring the impact of credit risk developments and mitigate the procyclicality of that impact. For banks, such measures directly complemented capital buffer releases and included (i) guidance on the criteria for classifying exposures as forborne or defaulted in the light of public and private payment moratoria[53], (ii) the mitigation of the procyclical effect of the prudent valuation framework given the unprecedented market volatility during the COVD-19 pandemic[54], and (iii) the frontloading of certain regulatory measures included in the CRR "quick fix" [55], such as the earlier implementation of the revised SME supporting factor. For the insurance sector, measures were incepted for trade credit insurance, as risk transfer to state guarantee schemes could, like reinsurance, be reflected in lower solvency capital requirements under certain conditions.[56] Furthermore, new capital relief measures (transitional measures, volatility adjustment) were granted to specific insurers in DE and PT and also approved retroactively in DE as of 31 March 2020. For capital markets, relief was provided by publishing a regulatory technical standard (RTS) under the European Market Infrastructure Regulation (EMIR), providing for a one-year deferral of the two implementation phases for bilateral margining requirements[57] and extending the consultation period for EMIR

51 **Informationsschreiben COVID-19 Maßnahmen Versicherungs- und Pensionskassenaufsicht**, Österreichische Finanzaufmarktaufsicht, 18 March 2020.

52 **COVID-19-Lage: Neue Entwicklungen und wichtige Informationen der BaFin**, Bundesanstalt für Finanzdienstleistungsaufsicht, 1 March 2021.

53 The **EBA guidelines on legislative and non-legislative loan repayment moratoria** published on 2 April 2020 detailed the criteria to be fulfilled by legislative and non-legislative moratoria on loan repayments applied in the light of the COVID-19 crisis. They aimed to ensure that banks, while maintaining comparable metrics, would be able to grant payment holidays to customers avoiding the automatic classification of exposures under the definition of forbearance or as defaulted under distressed restructuring. Since the expiration of the EBA guidelines on 30 September 2020, banks returned to the practice that any rescheduling of loans should follow a case-by-case approach according to the usual prudential framework. On 2 December 2020, in response to the second wave of the COVID-19 pandemic, **the EBA reactivated the guidelines until end-March 2021**.

54 The **EBA regulatory technical standards published on 25 June 2020 in the Official Journal** adjust the calibration of the prudent valuation of banks' fair-valued financial instruments. They aim at mitigating the excessive procyclical impact of the unprecedented market volatility in the light of the COVID-19 pandemic on aggregated fair-valued financial instruments. The application of the increased aggregation factor expired on 31 December 2020.

55 Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic (CRR "quick fix") was published in the Official Journal on 26 June 2020. The CRR "quick fix" is part of a series of measures taken by European institutions to mitigate the impact of the COVID-19 pandemic on banks across the Member States. In addition to the flexibility already provided in the existing rules, the CRR "quick fix" introduces certain adjustments to the CRR, including temporary measures intended to enhance credit flows to companies and households, thereby supporting the EU's economy.

56 See **Supervisory Statement on the Solvency II Recognition of Schemes based on Reinsurance with Regard to COVID-19 and Credit Insurance**, EIOPA, 20 July 2020.

57 In response to the COVID-19 outbreak, the European Supervisory Authorities (EBA, EIOPA and ESMA – ESAs) published joint draft RTSs to amend the Delegated Regulation on the risk mitigation techniques for non-centrally cleared OTC derivatives (bilateral margining) under EMIR and incorporate a one-year deferral of the two implementation phases of the bilateral margining requirements. See the corresponding **press release**.

reporting requirements.[58] Additional measures were taken in the form of a coordinated supervisory risk-based approach for periodic fund management reporting and the postponement by one year of the entry into force of the open access provisions regarding exchange-traded derivatives under the Markets in Financial Instruments Regulation (MiFIR) until 3 July 2021.

- **Other measures** for banks included (i) the two-year extension of transitional arrangements on IFRS 9 so that the capital impact of additional provisions recognised under IFRS 9 would be minimised[59], and (ii) the one-year deferral of the implementation date of Basel III standards to 1 January 2023. On the non-banking side, ESMA issued a statement to promote coordinated action by national competent authorities (NCAs) regarding the auditing of benchmark providers and supervised contributors and encouraging them not to prioritise supervisory actions against these parties relating to the timeliness of fulfilling said audit requirements. In addition, ESMA published statements relating to corporate disclosure issues, reflecting the effects of COVID-19 in financial statements and addressing difficulties encountered by issuers in meeting specific financial reporting deadlines. Finally, for credit rating agencies (CRAs), ESMA focused its supervisory engagement on business continuity and adherence to key requirements of the CRA Regulation, as well as closely monitoring CRAs' rating actions through enhanced data analytics and assessing their possible impact on financial stability.

2.2 System-wide restraints on dividend payments, share buybacks and other pay-outs

A number of European and national authorities took action to encourage financial institutions under their remit to refrain from discretionary pay-outs (e.g. dividends, bonuses and share buybacks aimed at remunerating shareholders). At EU level, the EBA issued a statement on 12 March 2020 on actions to mitigate the impact of COVID-19 on the EU banking sector, emphasising the need for banks to follow prudent dividend and other distribution policies, including variable remuneration.[60] On 31 March 2020, the EBA issued a second statement urging banks "to refrain from dividend distribution or share buybacks which result in a capital distribution outside the banking system, in order to maintain its robust capitalisation".[61] On 17 March 2020, EIOPA also issued a statement urging (re)insurers to take measures to preserve their capital position in balance with the protection of the insured and pursue prudent dividend and other

[58] In view of the effects of the ongoing COVID-19 pandemic on stakeholders and market participants, ESMA decided to extend the response date for the consultation on the technical standards on reporting, data quality, data access and registration of trade repositories under EMIR Refit to 3 July 2020.

[59] Following the application of IFRS 9, a sudden significant increase in expected credit losses (ECLs) under the COVID-19 pandemic scenario would have had a direct impact on capital levels and, for that reason, it was commonly accepted in the international regulatory community that some flexibility should be allowed during these exceptional and unprecedented circumstances. In April 2020, the Basel Committee on Banking Supervision (BCBS) decided to introduce some changes as regards the application of IFRS 9 transitional arrangements by allowing an extension of the transitional period and a higher percentage of ECLs that could be added back to CET1, neutralising their negative impact on regulatory capital. As part of the European response to the COVID-19 pandemic and in order to limit the possible volatility in the regulatory capital, some amendments were also introduced to Regulation (EU) No 575/2013 (the CRR "quick fix").

[60] See **EBA statement on actions to mitigate the impact of COVID-19 on the EU banking sector**, EBA, 12 March 2020.

[61] See **EBA statement on dividends distribution, share buy backs and variable remuneration**, EBA, 31 March 2020.

distribution policies, including variable remuneration.[62] On 2 April 2020, in a follow-up to a request for prudent distribution policies, EIOPA updated its communication and urged (re)insurers to temporarily suspend all discretionary dividend distributions and share buybacks aimed at remunerating shareholders.[63]

On 27 March 2020, the ECB recommended[64] that, at least until 1 October 2020[65], no dividends should be paid out and no irrevocable commitments to pay out dividends should be undertaken by credit institutions for the financial years 2019 and 2020, and that credit institutions should refrain from share buybacks aimed at remunerating shareholders. This recommendation was addressed to significant institutions (SIs) directly supervised by the ECB and to NCAs with regard to less significant institutions. In addition, some national authorities implemented similar restrictions in their respective jurisdictions.[66]

In support of these initiatives and to strengthen the case for a uniform approach across the EU and across different segments of the financial sector, the ESRB issued a recommendation on restrictions of distribution (see Box 2). It asked relevant authorities to request financial institutions under their supervisory remit to refrain, at least until 1 January 2021, from distributing dividends or irrevocably committing to distribute dividends, from buying back ordinary shares and from creating an obligation to pay variable remuneration to material risk-takers.

Relevant national authorities and the ECB urged the entities under their supervisory remit to withhold distributions, to refrain from buying back ordinary shares and to apply prudent and sustainable variable remuneration policies and practices until 1 January 2021.[67] These requests were issued mainly in the course of the second and third quarters of 2020, addressed banks, investment firms, (re)insurance companies and central counterparties (CCPs), and took either a legally binding or non-binding form.

As a result, banks' and non-banks' distributions in 2020 were lower than originally planned.[68] In response to the supervisory requests, the vast majority of banks refrained from making dividend pay-outs, resulting in a very limited number of distributions during 2020 in the

---

62 See **EIOPA statement on actions to mitigate the impact of Coronavirus/COVID-19 on the EU insurance sector**, EIOPA, 17 March 2020.

63 See **EIOPA statement on dividends distribution and variable remuneration policies in the context of COVID-19**, EIOPA, 2 April 2020.

64 **Recommendation of the European Central Bank of 27 March 2020 on dividend distributions during the COVID-19 pandemic and repealing Recommendation ECB/2020/1** (ECB/2020/19).

65 The ECB amended Recommendation ECB/2020/19 on 27 July 2020 (**ECB/2020/35**), extending pay-out restrictions until January 2021 and clarifying the timeline to restore buffers.

66 On 30 March 2020, the **Bundesanstalt für Finanzdienstleistungsaufsicht** communicated to financial institutions its strong expectation not to distribute dividends, although not imposing a blanket approach but rather a case-by-case procedure to safeguard the equity capital base of supervised firms. On 19 March 2020, **Българска народна банка (Bulgarian National Bank)** implemented a set of measures aimed at preserving the stability of the banking system and strengthening its flexibility to reduce the adverse effects on households and companies from the restrictions caused by the COVID-19 pandemic. Those measures encompassed retaining year-end 2019 profit for all banks, including a ban on the redistribution of profit accumulated during previous years. According to this decision, credit institutions were not permitted to distribute profits for 2019, in whole or in part, in the form of dividends or other similar payments.

67 The ESRB is currently in the process of assessing the compliance with Recommendation ESRB/2020/7 and aims at publishing its findings in the course of 2021. In addition, the ESRB Secretariat regularly monitors the effectiveness of the measures taken by relevant authorities in response to its recommendation.

68 The ESRB gathered information on the effectiveness of the measures by conducting surveys among its member institutions. The information provided in this section is only partial and provisional, since official information was not available by the publication date of this report.

banking sector. In the non-banking sector, insurance and reinsurance companies as well as CCPs constrained their pay-outs to a lesser extent than the banking sector, but here too the overall level of distributions was low.

In the light of the ongoing COVID-19 crisis, the European and national authorities (including the ESRB) decided to prolong the measures in place or to issue new statements to cover the planned distributions for 2021. On 15 December 2020, the ECB recommended that significant supervised groups and significant supervised entities exercise extreme prudence with respect to pay-outs, specifying that it was generally considered not prudent to engage in distributions and share buybacks amounting to more than 15% of their accumulated profit for the financial years 2019 and 2020, or more than 20 basis points in terms of their CET 1 ratio, whichever was lower.[69] On the same date, the ESRB amended its recommendation (see Box 2) and asked relevant authorities to request that financial institutions refrain from making any distributions unless they applied extreme caution and, in any event, to not exceed the conservative threshold set by their competent authority. Also on 15 December, the EBA issued a statement[70] calling banks to continue applying conservative distribution policies and to carefully take into account the resulting impact of dividends or other distributions on their capital trajectory. As regards the insurance sector, EIOPA stated on 18 December 2020 that any dividend distributions, share buybacks or variable remuneration should not exceed the thresholds of prudency and that institutions should ensure the resulting reduction in the quantity or quality of their own funds remained at levels appropriate to the current levels of risk.[71]

The implemented measures remain largely effective. Few banks have informed relevant authorities of an intention to disregard their requests for restraint on distributions, at least during the first and second quarter of 2021. Most Competent Authorities engaged in supervisory dialogue with individual institutions to assess their intention to proceed with some limited distributions. As regards the insurance sector, the vast majority of NCAs were informed about the intention of insurers (life and non-life) to proceed with some limited pay-outs (especially in February 2021 for the accounting year 2019).

Box 2
ESRB recommendation on restriction of distributions

The ESRB fully supported the initiatives of its member institutions and recommended restriction of distributions to ensure that financial institutions maintained sufficient levels of capital and loss-absorbing capacity to mitigate the impact of the crisis and contribute to recovery. Recommendation ESRB/2020/7 on restriction of distributions during the COVID-19 pandemic[72] asked relevant authorities to request financial institutions under their supervisory remit to refrain, at least until 1 January 2021, from any actions which had the effect of reducing the

69 **Recommendation of the European Central Bank of 15 December 2020 on dividend distributions during the COVID-19 pandemic and repealing Recommendation ECB/2020/35** (ECB/2020/62).

70 **The EBA continues to call on banks to apply a conservative approach on dividends and other distributions in light of the COVID-19 pandemic**, EBA, 15 December 2020.

71 **EIOPA outlines key financial stability risks and vulnerabilities for insurance and pension sector and recommends that any dividend distributions should not exceed thresholds of prudency**, EIOPA, 18 December 2020.

72 **Recommendation of the European Systemic Risk Board of 27 May 2020 on restriction of distributions during the COVID-19 pandemic** (ESRB/2020/7).

quantity or quality of their own funds at EU group level (or at individual level where the financial institution was not part of an EU group), and, where appropriate, at sub-consolidated or individual level. These included dividend distributions or irrevocable commitments to make a dividend distribution, buybacks of ordinary shares and the creation of an obligation to pay variable remuneration to a material risk-taker. The recommendation covered banks, certain investment firms, insurers, reinsurers and central counterparties and took into account the critical role these sectors of the financial system play for the real economy, in particular during crises.

Recommendation ESRB/2020/7 originally covered the period until 1 January 2021, but continuing uncertainty and short-term risks to the recovery from the crisis in the fourth quarter of 2020 made it necessary to consider its extension. Markets and authorities still lacked information on the long-term impact of the crisis on the financial sector and credit markets. Notwithstanding the continuation of unprecedented policy support measures, many businesses were confronted with impaired cash flows, weak earnings and rising indebtedness. Given this context, the ESRB considered that an exceptional extension of pay-out restrictions to account for uncertainty about the future macroeconomic development was necessary to maintain a sufficiently high level of capital in financial institutions to mitigate systemic risk and contribute to economic recovery.

Hence, on 15 December 2020, the ESRB General Board adopted Recommendation ESRB/2020/15 amending Recommendation ESRB/2020/7.[73] According to the revised recommendation, relevant authorities are recommended to request banks, investment firms, insurance companies and reinsurance companies[74] to refrain, until 30 September 2021, from distributions which have the effect of reducing the quantity or quality of own funds, unless these financial institutions apply extreme caution in carrying out distributions and the resulting reduction does not exceed the conservative threshold set by their competent authority. The revised recommendation is in line with the decisions taken in parallel by the EBA, EIOPA and ECB. Previously, the General Board also included CCPs within the scope of its recommendation. However, the stress test exercise regarding CCPs in the EU conducted by ESMA confirmed the overall operational resilience of EU CCPs to common shocks and multiple defaults for credit, liquidity and concentration stress risks. Considering the effectiveness of the measures deployed by CCPs to mitigate operational risk, the General Board decided that it was no longer necessary to include CCPs within the scope of the recommendation.

At the same time, Recommendation ESRB/2020/15 recognises the importance of distributions in enabling financial institutions to raise capital externally. Given that the prospect of available COVID-19 vaccines has reduced the probability of more severe scenarios and considering the progress made by authorities and financial institutions in dealing with the effects of the pandemic, the revised recommendation allows some limited distributions under specific circumstances. Financial institutions may proceed with distributions of dividends and buybacks of ordinary shares provided that (i) they engage in discussion with their competent authority, (ii) they

[73] **Recommendation of the European Systemic Risk Board of 15 December 2020 amending Recommendation ESRB/2020/7 on restriction of distributions during the COVID-19 pandemic** (ESRB/2020/15).

[74] The effectiveness of the measures deployed by CCPs to mitigate operational risk showed the overall resilience of this sector to common shocks and multiple defaults for credit, liquidity and concentration stress risks. This evidence suggested that it was no longer necessary to include CCPs within the scope of the recommendation.

apply extreme caution so that they do not put the stability of the financial system and the recovery process at risk, and (iii) the resulting reduction does not exceed the conservative threshold set by their competent authority. The competent authorities are asked to calibrate the conservative threshold paying due regard to: the need for financial institutions to maintain a sufficiently high level of capital, also taking into account the risks of a deterioration in the solvency position of corporations and households in view of the pandemic; the need to ensure that the overall level of distributions of financial institutions under their supervisory remit is significantly lower than in the recent years prior to the COVID-19 crisis; and the specificities of each sector within their remit. The recommendation also includes forward guidance which stresses the temporary nature of these restrictions and the commitment of the General Board to decide, before the expiry of the recommendation, whether the recommendation should be amended, considering, inter alia, macroeconomic developments and available information.

2.3 The use of stress tests and scenario tools in the COVID-19 crisis

The EBA, EIOPA and ESMA are requested by legislation to initiate EU-wide stress tests in their areas of competence in cooperation with the ESRB. As part of this cooperation, the ESRB designs scenarios of adverse economic and financial market developments for these stress tests. These tests are designed to assess the resilience of financial institutions or market participants to adverse developments.

Stress tests and scenario analyses informed policy during the COVID-19 pandemic. Stress tests and scenario analyses are key analytical and policy tools during both benign and stressful periods. During “normal” or benign times, an important focus of stress tests and scenario analyses is on uncovering underlying vulnerabilities that may be building up. In contrast, during periods when stress is materialising, a key contribution of stress tests and scenario analyses is to provide an assessment of how well financial institutions will be able to absorb the stress and to provide reassurance that they will remain resilient in the event of a further deterioration of fundamentals. During the period under review, the market turmoil at the onset of the COVID-19 pandemic put many financial institutions under actual stress. To allow banks to focus on the continuity of their core operations, the EBA postponed its 2020 banking sector stress test.[75] To inform policy, authorities instead focused on scenario analyses that could be performed with top-down models at a higher level of aggregation and without requiring the same level of close interaction with individual financial institutions. Using novel analytical tools, the ESRB contributed to this assessment by coordinating a cross-sectoral analysis that sought to quantify the potential impact of large-scale corporate bond downgrades on the insurance, pension fund, investment fund and banking sectors (see Box 3). Moreover, the ECB conducted a COVID-19 vulnerability exercise of the euro area banking sector (described below).

[75] This postponement was part of a suite of relief measures, helping banks to focus on their core operations. See **EBA statement on actions to mitigate the impact of COVID-19 on the EU banking sector**, EBA, 12 March 2020.

The ECB Banking Supervision's COVID-19 vulnerability analysis during the summer of 2020 found that, overall, the banking system would be resilient to the pandemic-induced stress.[76] The vulnerability analysis assessed how the economic shock caused by the COVID-19 outbreak might impact 86 euro area banks and aimed to identify potential vulnerabilities within the banking sector over a three-year horizon. To do so, the exercise focused on a central and a severe scenario, as set out in the June 2020 ECB staff macroeconomic projections, which both included, to a large extent, the supervisory, monetary and fiscal support measures taken in response to the pandemic. Compared with the more likely central scenario, the severe scenario represented a more adverse but still plausible development of the crisis. It assumed that real GDP would decline by 12.6% in 2020 and grow by 3.3% and 3.8% in 2021 and 2022, respectively. In that scenario, CET1 capital was estimated to drop by 5.7 percentage points from 14.5% to 8.8%. While several banks would have needed to take action to maintain compliance with minimum capital requirements under the severe scenario, overall the results showed that the euro area banking sector would be able to withstand the pandemic-induced stress.

ESMA updated its 2020 stress test guidelines for MMFs to better reflect certain risk factors the ESRB had recalibrated in the light of the market turmoil in March. In addition to informing policy during the COVID-19 pandemic, the market volatility and liquidity stress experienced by financial institutions during the peak of the pandemic-induced market turmoil also pointed to areas where stress tests could be enhanced, thereby informing the design of future exercises. For example, during the market turmoil in March, several categories of investment funds, including MMFs, faced large-scale investor redemptions, while the assets in which they had invested turned illiquid (see Section 4.4). Most of the market moves during March 2020 were less severe than those prescribed by the 2019 MMF stress test guidelines. However, to better reflect liquidity risks and to ensure that the revised scenario would be more severe than the market moves during March 2020 for all risk factors, the ESRB provided ESMA with a recalibrated set of risk factors.[77] ESMA incorporated them in its annual update of its MMF stress testing guidelines for 2020.[78]

ESMA's CCP stress test showed that CCPs were resilient to a range of risk types, with further improvements to CCPs' own liquidity stress testing recommended by the ESRB. During the market disruption of March 2020, initial margins posted to EU and UK CCPs increased by approximately one-third, and variation margin calls also increased sharply (see Section 4.2).[79] ESMA's third CCP stress test, for which the ESRB had provided an adverse scenario in 2019, considered credit, liquidity and concentration risks, and included reverse credit stresses. While ESMA's exercise found CCPs to be resilient against these types of risk overall,[80] the ESRB deemed that – based on its analysis of margin calls during the height of the market turmoil in March – it was important for CCPs to capture comprehensively in their own liquidity stress testing any events that could lead to them experiencing a liquidity shortfall. Reflecting this, the ESRB's recommendation on liquidity risks arising from margin calls issued in June 2020 stated that the EMIR technical standards[81] relating to the liquidity risk controls at CCPs could be enhanced by

[76] See **ECB press release on COVID-19 vulnerability analysis**, ECB, 28 July 2020.

[77] See **Adverse scenario for ESMA's money market fund stress-testing guidelines in 2020**, ESRB, September 2020.

[78] See **Guidelines on stress test scenarios under the MMF Regulation**, ESMA, December 2020.

[79] See Chart 1 in **Liquidity risks arising from margin calls**, ESRB, June 2020.

[80] See **ESMA's third EU-wide CCP stress test finds system resilient to shocks**, ESMA, 13 March 2020.

[81] Developed under Article 44 of the European Market Infrastructure Regulation (EMIR Regulation EU No 648/2012).

requiring CCPs to stress test their liquidity risk against the default of any two entities that provide services to the CCP and whose default could materially affect the liquidity position of the CCP. This would incentivise CCPs to improve the management of their reliance on liquidity service providers.

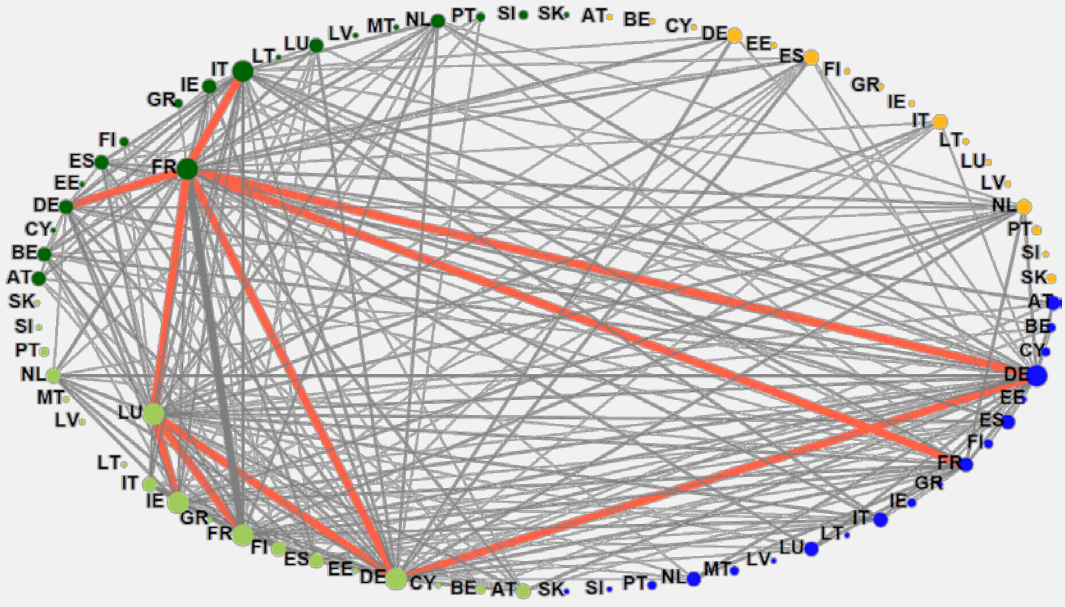
Box 3

A system-wide scenario analysis of large-scale corporate bond downgrades

The ESRB conducted a system-wide scenario analysis of large-scale corporate bond downgrades. The COVID-19 pandemic inflicted an unprecedented shock on the economy, leading to a deterioration of the profitability and credit rating of many non-financial companies. Bonds that cross the threshold from "investment grade" to "high-yield" are commonly called "fallen angels". The ESRB conducted a system-wide simulation exercise in order to better understand the potential impact of forced sales ("fire sales") of fallen angels by constrained institutions (e.g. passive investment funds tracking an investment grade index). Using granular security-level holdings of corporate bonds, the analysis first mapped out significant portfolio overlaps, i.e. sectors in various countries that have similar corporate bond portfolios. Chart 2.3.A illustrates the European corporate bond portfolio overlap network between the pension fund (yellow, top right-hand corner), the banking (blue, bottom right-hand corner), the investment fund (light green, bottom left-hand corner) and the insurance (dark green, top left-hand corner) sectors. The width of the edges quantifies the degree of portfolio similarity, with the ten largest links highlighted in orange. If one of these sectors were to engage in a distressed sale that moved market prices, mark-to-market losses would be suffered by other sectors that are proportional to the degree of overlap between them.

Chart 2.3.A

The European cross-sectoral portfolio overlap network



The top-down exercise showed that the impact of a large volume of sales of fallen angels could be significant but would – in isolation – not generate financial instability. Overall, the

analysis revealed that in a severe mass downgrade scenario with a corresponding yield shock, initial losses from repricing could amount to between €150 billion and €200 billion across the entire financial system, and that fire sale losses stemming from distressed market reactions might add another 20% to 30% to these losses, depending on how much of their holdings institutions would sell and how liquid markets would turn out to be. The results of such a simulation exercise are, by their very design, imbued with uncertainty. To account for this uncertainty, the ESRB combined (i) a range of behavioural scenarios for the various institutional sectors, (ii) an upper and a lower bound for the market impact caused by a fire sale, and (iii) two scenarios of increasingly large numbers of fallen angels. The combination of these three factors led to 12 scenarios being analysed; these are summarised in Table 2.3.A.

Table 2.3.A

Initial losses from downgrades (in all rating categories), volume of fallen angels, volume of sales and lower and upper bounds for losses resulting from fire sales

(EUR billions)

	Scenario 1					Scenario 2				
	Initial losses	Fallen angels	Volume of sales	Lower bound fire sales	Upper bound fire sales	Initial losses	Fallen angels	Volume of sales	Lower bound fire sales	Upper bound fire sales
Mild behavioural assumption	145.9	231.8	30.3	1.7	18.0	212.7	443.1	64.6	3.3	33.0
Severe behavioural assumption	145.9	231.8	68.6	4.0	36.9	212.7	443.1	135.2	7.3	58.7
Extreme behavioural assumption	145.9	231.8	198.1	9.8	64.1	212.7	443.1	373.1	15.7	84.6

Sources: ESAs, Bank of England and ESRB Secretariat calculations.

3 Risks faced by banks and policies to mitigate them

3.1 Introduction

The main economic impact of the COVID-19 pandemic on the EU banking sector has not yet materialised. The initial impact of the COVID-19 pandemic on the financial system was predominantly on financial markets, with large falls in asset prices and stresses in some markets observed during March 2020 (see Section 1). In contrast, the main economic impact on the EU banking system is yet to materialise as the collapse in economic activity takes time to manifest itself in rising unemployment, corporate insolvencies, NPLs and – ultimately – losses that affect banks' capital positions.

The EU banking sector entered the COVID-19 pandemic in a more resilient state compared with the global financial crisis, notably thanks to regulatory and supervisory reforms. At 16.8% at end-2019 compared with 8.1% in June 2007, Tier 1 capital ratios were higher, and the loss absorption quality of capital had increased given the increase in CET1 capital.[82] Asset quality had also improved. By end-2019, NPL ratio had fallen to 2.7%, more than halving over the previous five years.[83] Banks also entered the COVID-19 pandemic in a better liquidity position, in part thanks to the implementation of the LCR requirement. By Q4 2019, the LCR reached on average nearly 150%, having risen consistently in previous years.[84] In addition, the banking sector was more capable of managing NPLs, while the creation of the Single Supervisory Mechanism (SSM) and the Single Resolution Mechanism (SRM) made for a more robust institutional framework that supported a coordinated microprudential response across Member States participating in the banking union, complemented by macroprudential policy action taken at national level.

The initial response by the ESRB and its members was designed to avert a credit crunch. In addition to the provision of critical functions such as payment and settlement services, an important aspect from a macroprudential perspective was that banks meet the demand for credit throughout the cycle, so that a recession was not amplified by a credit crunch. Reflecting this, at the onset of the pandemic, public authorities in Europe, including member institutions of the ESRB, reduced capital buffers (Section 3.3) and operational burdens, for example by easing reporting requirements and by postponing the banking sector stress test (Section 2.3). Although some of these measures were microprudential in nature and/or focused on the use of microprudential tools, they are nevertheless covered in this section of the review because of their macroprudential implications.

In the course of 2020, this initial response was complemented with work designed to ensure that banks could finance the recovery. The banking system plays a critical role in a recovery phase, reallocating resources from unviable firms and sectors to viable and growing firms and sectors. Whether or not the banking sector will play this role depends on: (i) its soundness, so that banks are able to serve the real economy; (ii) the private objectives of banks, notably in terms of

82 See **EBA Risk Dashboard Q4 2020**, **EBA Risk Dashboard Q4 2019** (with CET1 ratio data being displayed on p. 8) and **EU Banking Sector Stability**, ECB, November 2007. Data refer to the Tier 1 ratio.

83 **EBA Risk Dashboard Q4 2019**, p. 3.

84 See **EBA Risk Dashboard Q1 2020**.

external rating and profitability; and (iii) the flexibility, sufficiency and efficacy of the prudential framework, so that it does not disincentivise banks from meeting the demand for credit and from undertaking other critical functions in spite of deteriorating capital ratios. Reflecting this, the ESRB considered whether measures could be introduced that would help facilitate banks financing the recovery. These included the use and availability of capital buffers and the macroprudential toolkit more broadly; the working of corporate insolvency procedures; the functioning of the recovery and resolution framework; and dealing with NPLs, including via risk transfer to other parts of the private sector where these risks can be better absorbed.

3.2 Risks and vulnerabilities in banks

Assessing risks and vulnerabilities in the banking sector is subject to significant caveats in the current circumstances. Due to the COVID-19 crisis, the analysis of asset quality of banks' balance sheets is less straightforward, creating challenges for the assessment of risks and vulnerabilities.[85] The informative content has also been reduced due to temporary exemptions owing to the extraordinary magnitude of the shock.[86] The implications of this reduced flow of information about financial intermediation may differ depending on whether the COVID-19 shock on the economy is temporary or long-lasting. If the economy is subject to a massive yet temporary shock, a lack of updated information may be beneficial for financial stability (smoothing of procyclicality and prevention of abrupt deleveraging). However, if the shock ends up having a long-lasting impact, the periodical dissemination of additional aggregate statistics on the banking sector may be useful in reducing the large degree of uncertainty surrounding their balance sheets. The lack of appropriate information may lead to spillover effects to other intermediaries in the case of distress at one bank.[87] The absence of accurate information on borrower risk may lead to uncertainty over the soundness of financial institutions. Non-banks might also be affected owing to direct exposures to the financial sector.

3.2.1 Trends and composition of banks' assets with a focus on bank loans

Banks continued to lend to the real economy throughout the COVID-19 crisis, and their composition of assets remained broadly stable. In December 2019, bank loans accounted for 63.9% of EU banks' total assets (see Chart 3.2.A). By June 2020, this share had only slightly

85 See **Financial stability implications of support measures to protect the real economy from the COVID-19 pandemic**, ESRB, February 2021.

86 In particular, the prudential rules for recognising forborne and defaulted exposures have been temporarily adapted. European regulators and supervisors have advised banks to make use of the flexibility provided by standards and take a long-term view in assessing which creditors are in a good position to recover from the crisis. Furthermore, for loans under moratoria deemed eligible under the EBA guidelines on moratoria, classification as forborne or defaulted based on the 90-days-past-due criterion is not automatic. The EBA has reactivated the extraordinary prudential treatment of loans under moratoria, recognising the exceptional circumstances of the second wave of COVID-19. Revised EBA guidelines which will apply until 31 March 2021 include additional safeguards against the risk of an undue increase in unrecognised losses on banks' balance sheets. Banks have also always been required to assess the unlikely-to-pay criterion when classifying exposures as non-performing.

87 See, for example, "**The COVID-19 pandemic and the opacity of firms' and banks' balance sheets**", COVID-19 Note, Banca d'Italia, 15 June 2020; and Clerc, L., Giovannini, A., Peltonen, T., Langfield, S., Portes, R. and Scheicher, M., "**Indirect contagion: the policy problem**", *Occasional Paper Series*, No 9, ESRB, January 2016.

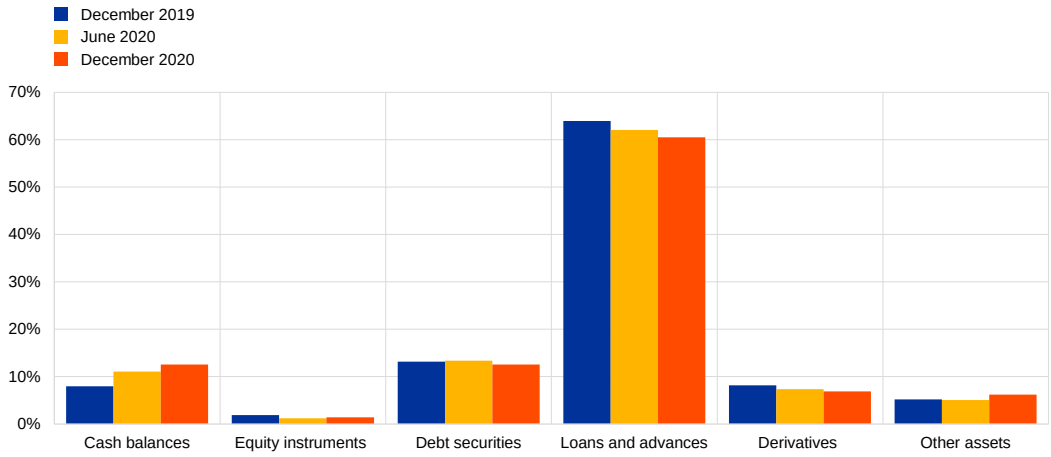
declined to 62% and reached 60.48% at the end of the year. As of March 2020, at the onset of the COVID crisis, credit activity had substantially exceeded the 2019 average for NFCs, with lending growth rates slowing down in the third and fourth quarters, while it stayed rather stable for households (see Chart 3.2.B and Chart 3.2.C).

Chart 3.2.A

EU bank assets as a percentage of total assets

Loans as a percentage of total assets remained stable throughout the COVID-19 crisis

(percentage points)



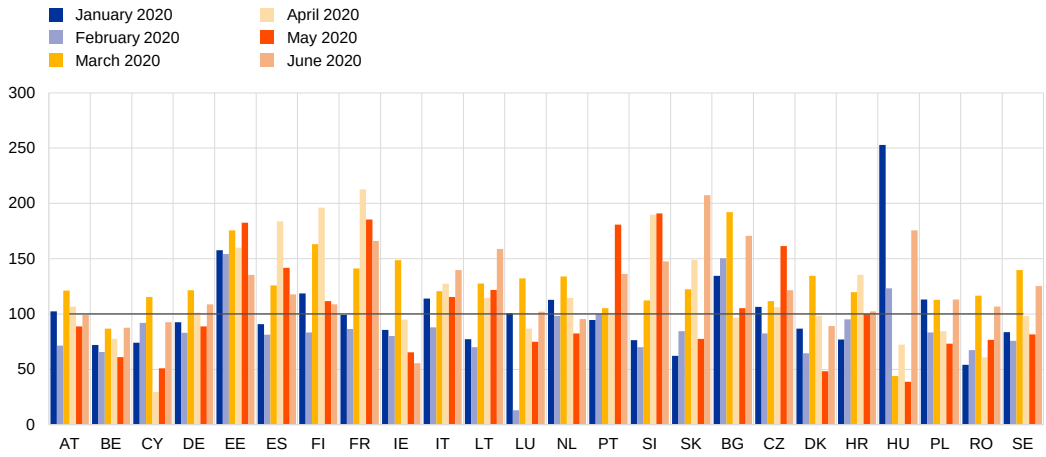
Source: EBA Risk Dashboard, fourth quarter.

Chart 3.2.B

New business loans to NFCs

In most countries, new NFC lending increased in Q2 2020 beyond the 2019 average to satisfy emergency liquidity needs

(index average 2019 = 100)



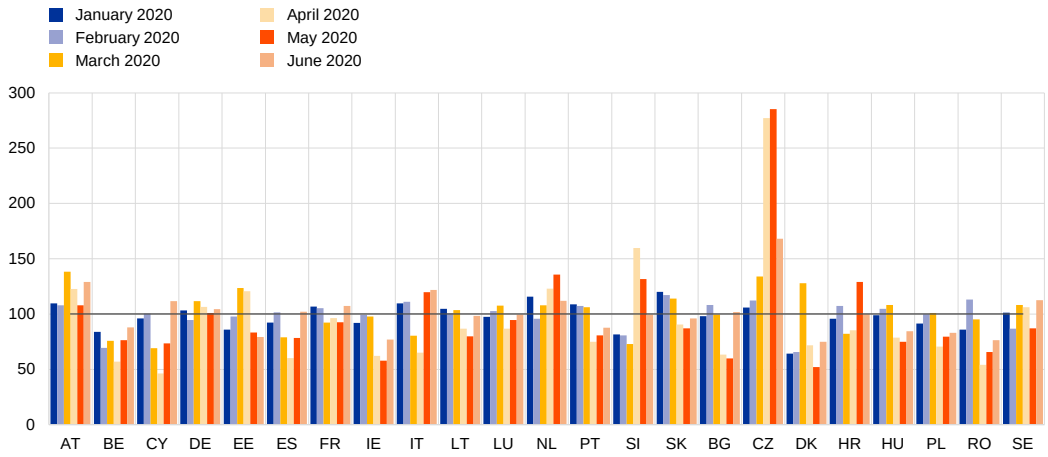
Source: ECB MFI interest rate statistics.

Chart 3.2.C

New loans to households

Lending to households remained stable at the onset of the pandemic for most countries, with few exceptions

(index average 2019 = 100)



Source: ECB MFI interest rate statistics.

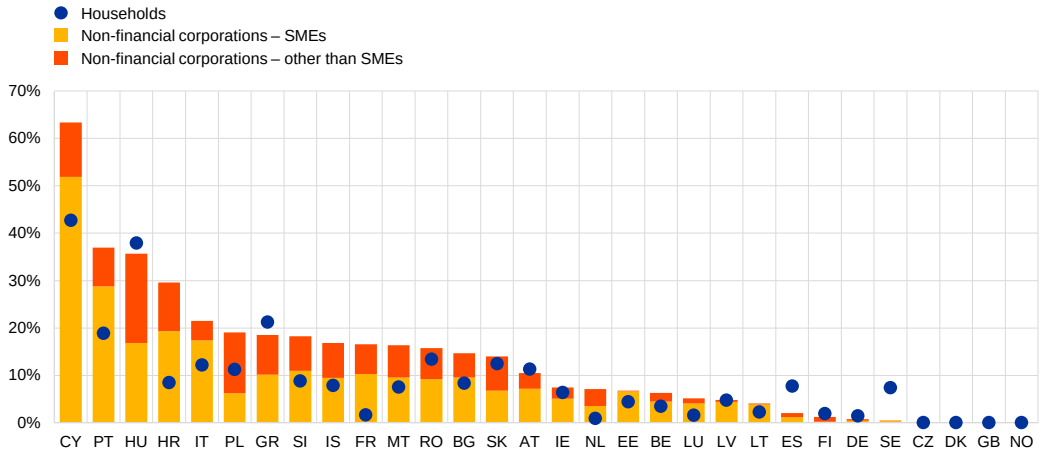
This continued lending was supported by unprecedented public support measures that attenuated the negative impact of the COVID-19 crisis on the real economy and households. As described in Section 1.3, swift and large-scale public support notably in the form of debt service moratoria and public loan guarantees supported the real economy households, preventing the crisis from morphing into a financial crisis. The share of loans and advances under moratoria as well as the share of new loans subject to use of public guarantees were heterogeneous across countries (see Chart 3.2.D and Chart 3.2.E). Banks in CY, PT, HU and HR had the highest share of loans and advances under moratoria, while banks in ES, PT, IT and RO had the highest percentage of loans issued under the public guarantee scheme.

Chart 3.2.D

Loans and advances under moratoria by sector (September 2020)

The adoption of moratoria measures across countries was heterogeneous, with banks in CY, PT, HU and HR relying the most on such measures

(percentage of total loans and advances to the household and NFC sectors)



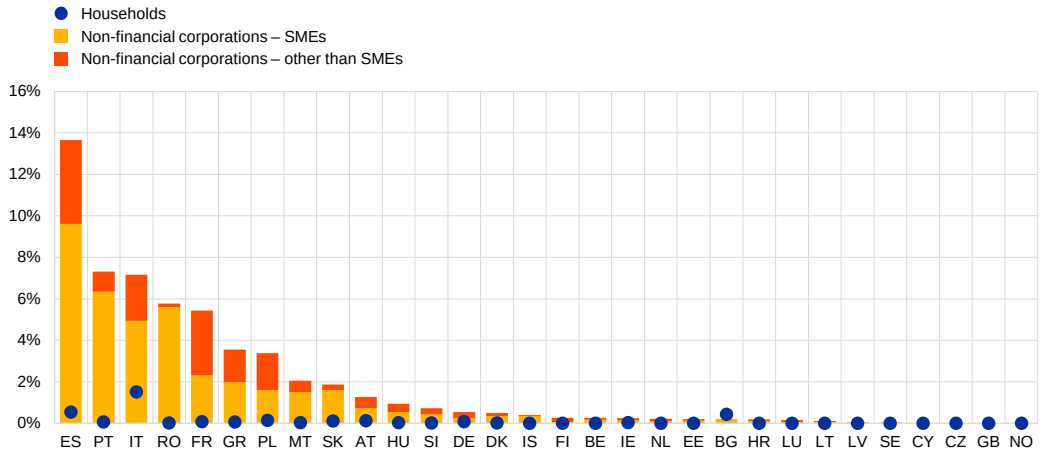
Sources: EBA data, ESRB calculations.

Chart 3.2.E

New loans subject to public guarantees by sector (September 2020)

The adoption of public guarantee schemes was heterogeneous across countries, with banks in ES, PT, IT and RO relying the most on such schemes

(percentage of total loans and advances to the household and NFC sectors)



Sources: EBA data, ESRB calculations.

3.2.2 Rising credit risk, provisioning and loss recognition

The COVID-19 crisis is due to affect the financial soundness of households and NFCs and thereby adversely affect the banking system through an increase in credit risk.[88] While the impact of the unprecedented (peacetime) economic contraction has so far been contained by public policy measures (see Section 1.3), there is high uncertainty regarding future developments, and financial stress in households and NFCs is expected to materialise over time. This will potentially lead to a substantial increase in the number of firms in distress (see Section 1.4).

The increase in credit risk has not yet been reflected in the risk weights of banks' assets, which can mostly be attributed to fiscal support measures and regulatory changes (CRR "quick fix"[89]). Loan guarantees are considered as a risk mitigant in the computation of risk-weighted amounts for the calculation of capital requirements for credit risk. Together with the revision of the SME supporting factor in the CRR "quick fix", they lead to lower risk-weighted amounts for the credit exposures of banks, indirectly providing capital relief to banks. Looking at the change in original exposures and risk-weighted amounts for the main exposure types (see Chart 3.2.F), the increase in original exposures to SMEs was not replicated by a similar increase in risk-weighted amounts, as was the case for the other main exposure types. On the contrary, exposures to SMEs rose while risk-weighted amounts declined. This can be explained by the revision of the SME supporting factor and by the fact that SMEs have been the main beneficiaries of loan guarantees. This trend is also observable in the total volume of risk-weighted amounts, as reported in the EBA Risk Dashboard, where declines are found in the majority of EU countries with only few exceptions.[90]

88 See Section 1 for further details on the impact of the COVID-19 pandemic on the EU economy and financial system.

89 See **Regulation (EU) 2020/873 of the European Parliament and of the Council of 24 June 2020 amending Regulations (EU) No 575/2013 and (EU) 2019/876 as regards certain adjustments in response to the COVID-19 pandemic**.

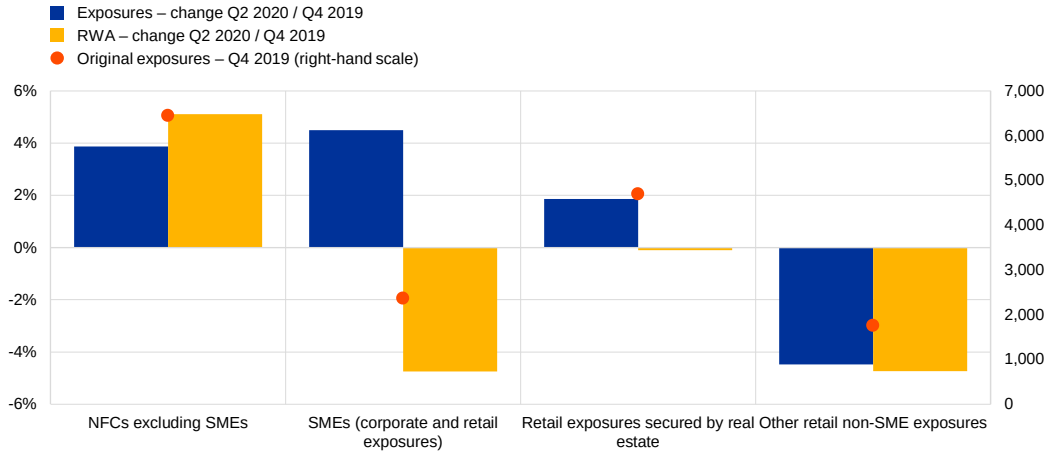
90 See **EBA Risk Dashboard Q3 2020**.

Chart 3.2.F

Changes in original exposures and risk-weighted amounts of main exposure classes

Risk-weighted amounts for exposures to SMEs have declined despite an increase in original exposures

(LHS: percentage; RHS: EUR billions)



Sources: EBA supervisory reporting and ESRB Secretariat calculations.
Notes: NFCs excluding SMEs refers to the exposure class "Corporates – Other". Retail exposures secured by real estate excludes retail SME exposures. The revised SME supporting factor entered into force on 28 June 2020 and, as such, is supposed to be included in the Q2 2020 figures.

Despite concerns about a potential future increase in NPLs, the ratio of NPLs and advances decreased throughout 2020 in relation to the same quarters in 2019.[91] For some countries, the ratio of NPLs even distinctly decreased in 2020 (see Chart 3.2.G). NPL ratios were heterogeneous in the EEA, ranging from 0.5% in Sweden to 25.5% in Greece in the fourth quarter of 2020, though the NPL rate for the latter was driven by legacy issues, as in other countries. According to the EBA analysis, the share of loans classified as Stage 2 (with a significantly increased, but still not materialised, credit risk) had also risen since end-2019 (see Chart 3.2.G). However, the increase was heterogeneous across countries and seems small when considering the size of the shock caused by the COVID-19 pandemic. As pointed out in Section 1, proactively identifying and provisioning for NPLs is crucial in order to avoid repeating the errors made during previous crises, when NPLs accumulated and significantly hampered new lending and hence economic recovery.

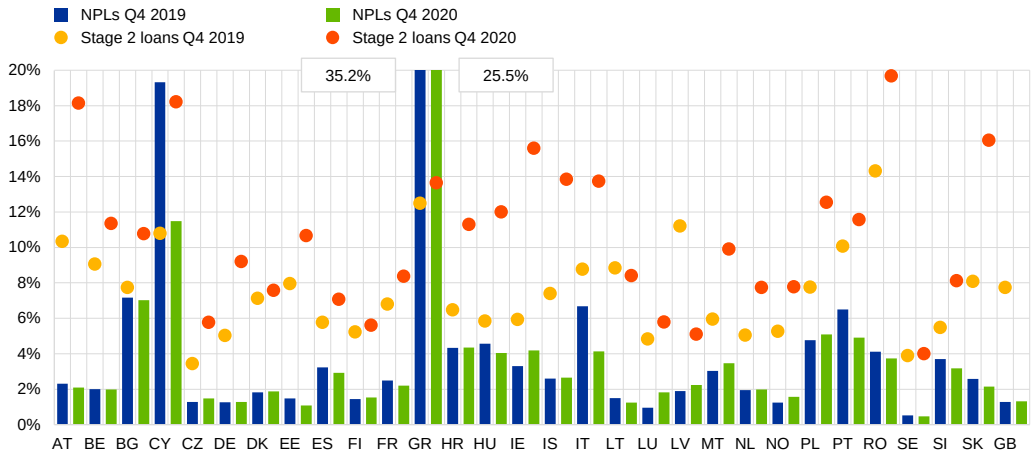
[91] See **EBA Risk Dashboard Q4 2020**, p. 3.

Chart 3.2.G

Overview of ratio of NPLs and advances in the EEA

While there was widespread heterogeneity across the EEA, CY and GR were clear outliers with respect to their ratio of NPLs

(percentages)



Source: EBA Risk Dashboard, fourth quarter.
Note: Data retrieved from the EBA Risk Dashboard exclude Liechtenstein.

Current levels of provisioning by European banks may be insufficient in view of the expected increase in NPLs. While European banks substantially increased their provisions during 2020, closely following developments in the real economy (Chart 3.2.H), it is not possible to identify a clear upward trend in the provisions for Stage 2 loans across European banks (Chart 3.2.I).[92] A comparison with the hypothetical behavioural response of banks to the adverse scenario of the 2018 EBA stress test exercise reveals that the current level of provisions, although rising, may be insufficient. In the first year of the adverse scenario, banks reported an increase in the share of Stage 2 exposures of 6 percentage points, while the increase in coverage amounted to 1 percentage point. As can be seen in Chart 3.2.I, few European banks came close to these amounts at the end of Q3 2020.[93] Furthermore, no relationship between the estimated impact of the COVID-19 pandemic on the country of domicile of banks and the changes to their Stage 2 provisioning can be observed. There is large cross-country and intra-country heterogeneity in this area. Other factors, such as the way banks account for government support measures in their expected credit loss models or profitability constraints resulting in under-provisioning at some banks, could explain the heterogeneity observed in European banks' provisioning during 2020.[94]

92 Coverage can be understood as the accumulated impairment related to some exposures divided by the value of the exposures.

93 For a broader discussion on the role of stress tests and scenario tools in the COVID-19 pandemic, see Section 2.3.

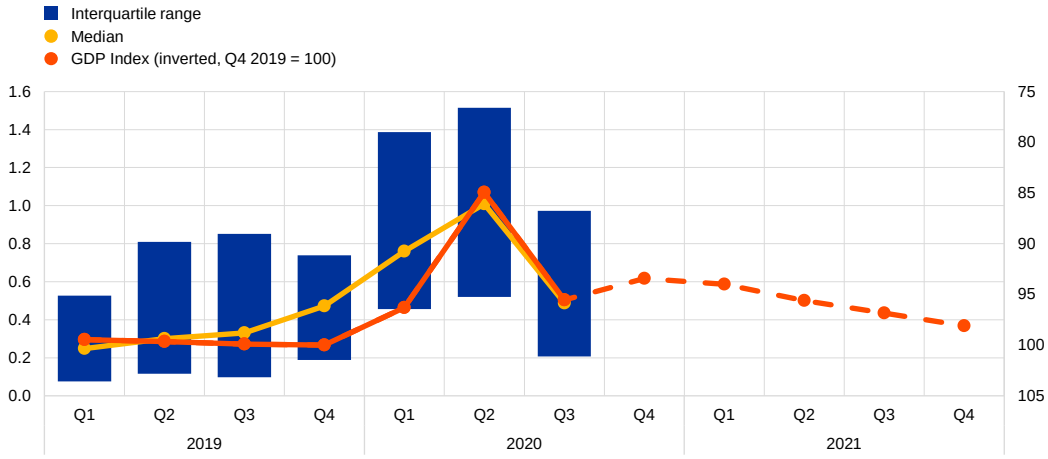
94 See **Financial Stability Review,** ECB, November 2020.

Chart 3.2.H

Loan loss provisions for loans at amortised cost

Provisions have increased, albeit also showing increased heterogeneity across banks

(LHS: percentage; RHS: index, inverted)



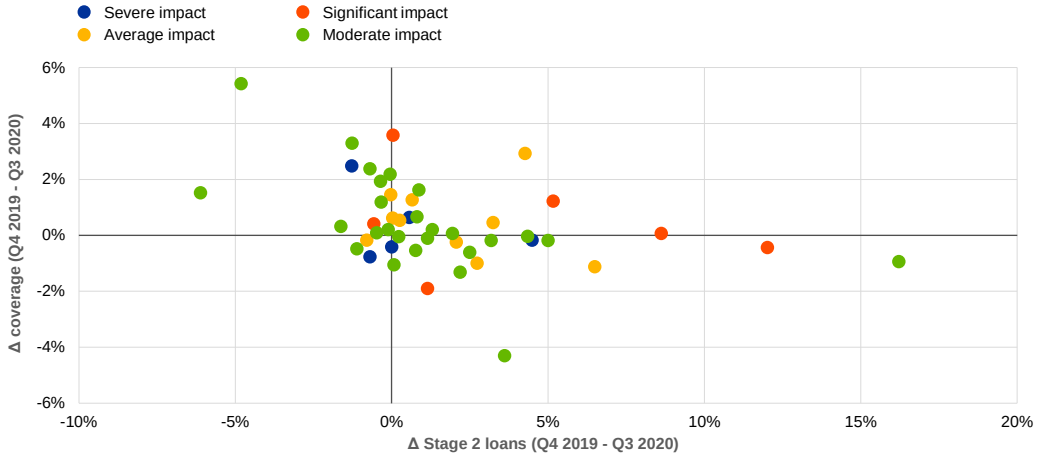
Sources: SNL, ECB and ESRB Secretariat calculations.
Notes: Loan loss provisions are based on impairments reported by a sample of 67 banks in SNL. The GDP index is inverted and in the dotted part refers to the December 2020 central projections by the ECB (RHS).

Chart 3.2.I

Change in the share of Stage 2 loans and their coverage

With few exceptions, the share of Stage 2 exposures and their coverage remained broadly stable

(percentage points)



Sources: S&P Market Intelligence and ESRB Secretariat calculations.
Notes: Based on a sample of 47 European banks from Austria, Belgium, Germany, the Czech Republic, Estonia, Lithuania, Poland, Slovakia, Cyprus, Italy, Spain, Denmark, Finland, Sweden. The impact of the pandemic was estimated using the autumn forecast of the European Commission for the sum of forecasted GDP growth in 2021 and 2020 of the country of domicile of the bank. Severe, significant, average and moderate impact refer to a cumulative GDP fall between 2020 and 2021 above 5%, between 3% and 5%, between 1% and 3% and below 1%, respectively.

Banks tightened lending conditions, particularly in the second half of 2020, but maintained interest rates of new loans at low levels. If banks perceive an increase in credit risk due to a deteriorating macroeconomic environment, they can tighten both the interest rates and the terms and conditions of their loans to shield themselves from potential credit losses in the short term. According to the ECB's BLS, lending conditions for NFCs were aggravated during 2020, particularly from the third quarter onwards (see Chart 3.2.J), even if the tightening was not as pronounced as during the global financial crisis.[95] This tightening could be linked to the expected phase-out of the support measures to NFCs (i.e. loan guarantees and moratoria). For households, lending conditions tightened throughout 2020 as a whole. Regarding interest rates of new loans, evidence from the ECB suggests that interest rates of new loans increased only in the case of lending to NFCs with larger amounts and longer maturities (i.e. those that could generate more credit losses to the bank), whereas a negative trend was observed in other categories of loans.[96] The low interest rate environment as well as the policy actions by monetary, fiscal and prudential authorities may explain why interest rates did not increase despite the increased credit risk.

Chart 3.2.J

Changes in credit standards for loans to NFCs (LHS) and to households for home purchase (RHS)

Lending standards tightened in the second half of 2020

(net percentages)

Sources: ECB and ESRB Risk Dashboard.
Notes: Net percentages of banks contributing to the tightening of standards over the previous three months. The last observation refers to the quarter in which the most recent BLS was published.

3.2.3 Profitability, liquidity and solvency

Banks' capitalisation in relation to RWA remained broadly stable throughout the COVID-19 pandemic. In the EEA[97], the average fully loaded CET1 ratio increased marginally by end-2020

[95] See **The euro area bank lending survey – third quarter of 2020** and **The euro area bank lending survey – fourth quarter of 2020**.

[96] See **ECB Statistics Bulletin**.

[97] Data retrieved from the **EBA Risk Dashboard** (excluding Liechtenstein).

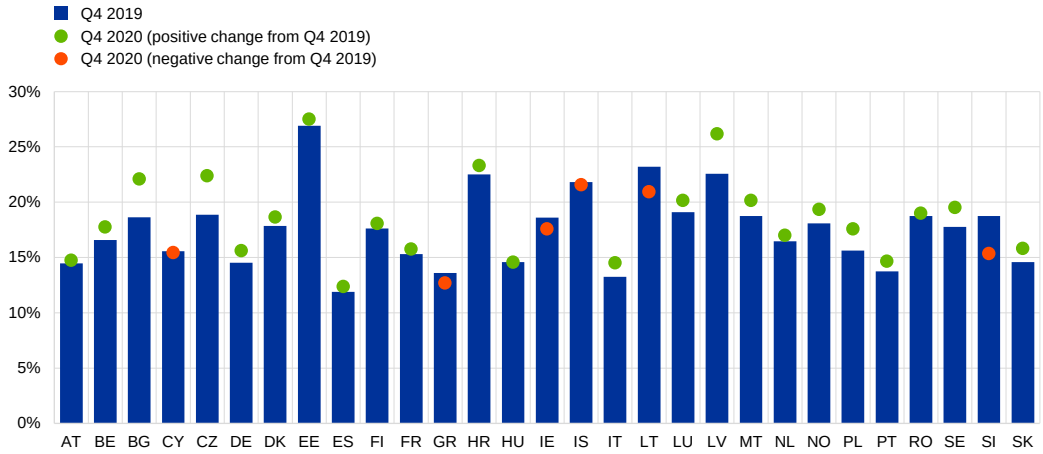
when compared with the end of 2019 (see Chart 3.2.K). There is significant heterogeneity across EEA countries, as some (for example, EE, LV, HR) are better capitalised than others (for example, ES, GR and IT). The average EEA fully loaded CET1 ratio stood at 15.5% in the fourth quarter of 2020, well above the regulatory minimum. The stability of banks' capitalisation was caused by a decline in risk weights, the retention of capital, as well as the low credit losses in 2020.

Chart 3.2.K

Fully loaded CET1 ratio in the EEA

23 EEA countries saw an increase in their CET1 from pre-pandemic levels to the fourth quarter of 2020, while six saw a drop in their capitalisation

(percentages)



Sources: EBA Risk Dashboard, fourth quarter.
Note: Data retrieved from the EBA Risk Dashboard exclude Liechtenstein.

The leverage ratio, which is not dependent on risk weights, declined in the first quarter of 2020 before subsequently returning to its pre-crisis level. The leverage ratio fell by 0.4 percentage points in March 2020 from its end-2019 value in the EU and by more than a percentage point for FI, GR, NO and SI. The average leverage ratio was 5.6% in June 2020, and all Member States were well above the minimum level of 3%. Nevertheless, SE, NL, DK, DE and FR exhibited leverage ratios below 5%. This shows that the amount of equity in the balance sheet of some EU banks was relatively small compared to their total assets. From September, leverage ratios increased back to pre-crisis levels, partially as a result of the exclusion of central bank exposures from the computation of the ratio.[98]

Banks' profitability substantially decreased at the onset of the coronavirus pandemic and remained low throughout 2020. Although return on equity was already at low levels prior to the COVID-19 pandemic, it declined further in the second quarter of the year, undergoing a slight recovery by the end of 2020 (see Chart 3.2.M). The increase in loan loss impairments, derived from the perception of higher credit risk in banks' balance sheets, can explain the deterioration of profitability in the first two quarters of 2020 (see Chart 3.2.L). Low profitability has been one of the

[98] See **ECB allows temporary relief in banks' leverage ratio after declaring exceptional circumstances due to pandemic**, ECB, 17 September 2020.

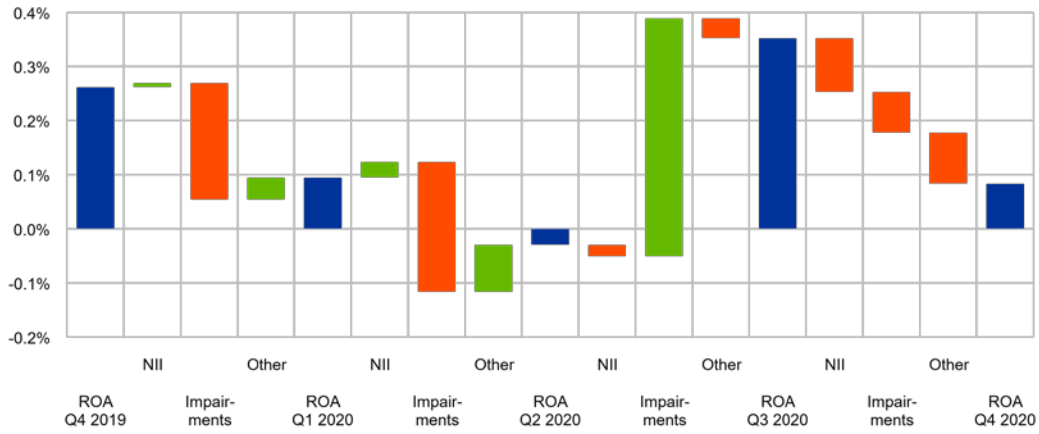
main characteristics of the EU banking system after the global financial crisis. One of the reasons behind the persistently low profitability of EU banks is the elevated operational costs, which negatively affect the efficiency of banks measured through the cost-to-income ratio. The average cost-to-income ratio in the EEA increased by 4% from Q1/Q2 2019 to Q1/Q2 2020. In the fourth quarter of 2020, it stood at 65.1%, with banks in CY, DE, FR, IT and MT having high cost ratios on average. The declines in bank profitability may further exacerbate investors' concerns about the banks' medium-term capacity to generate profits, which may be indicated by the low market capitalisation of banks in many EU countries (also in comparison with the United States).

Chart 3.2.L

Return on assets and contributions by main items in the profit and loss accounts of banks

Banks' profitability was heavily impacted by loan loss impairments

(percentages)



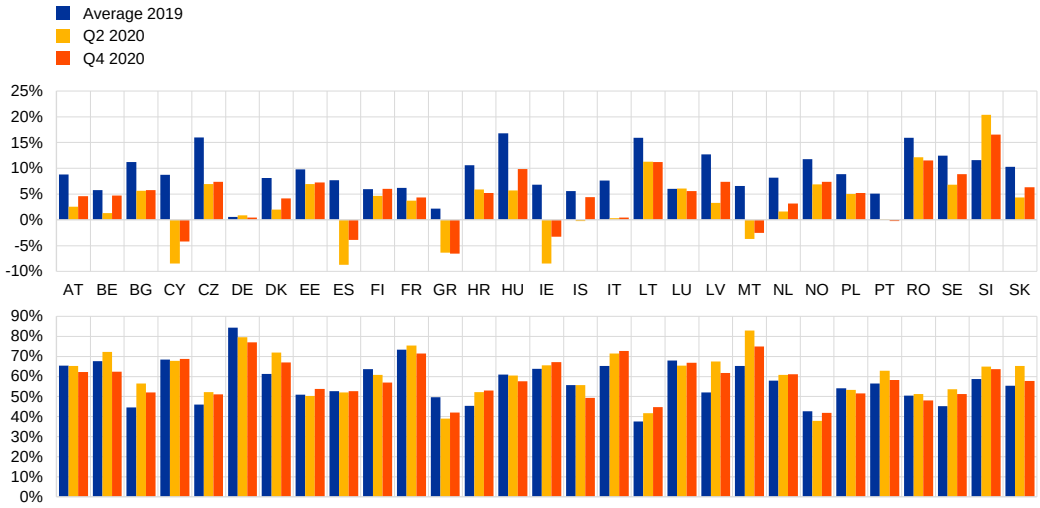
Sources: Goldman Sachs and ESRB Secretariat calculations.
Notes: NII stands for net interest income and ROA for return on assets. Data taken from Goldman Sachs, covering a sample of 50 large European banks headquartered in the EEA (40), UK (five) and Switzerland (five). For the computation of the red and green bars, average assets between beginning and ending period are used. Green bars denote positive contributions to return on assets and red bars negative contributions to return on assets. Large impairment charges on goodwill in Q2 2020 and in Q4 2020, affecting one bank in each quarter, were reclassified to impairments by the ESRB Secretariat.

Chart 3.2.M

Overview of return on equity (top) and cost-to-income ratios (bottom) in the EEA

ROE across the EEA significantly declined from pre-pandemic levels, while cost-to-income ratios increased

(percentages)



Source: EBA Risk Dashboard, fourth quarter.

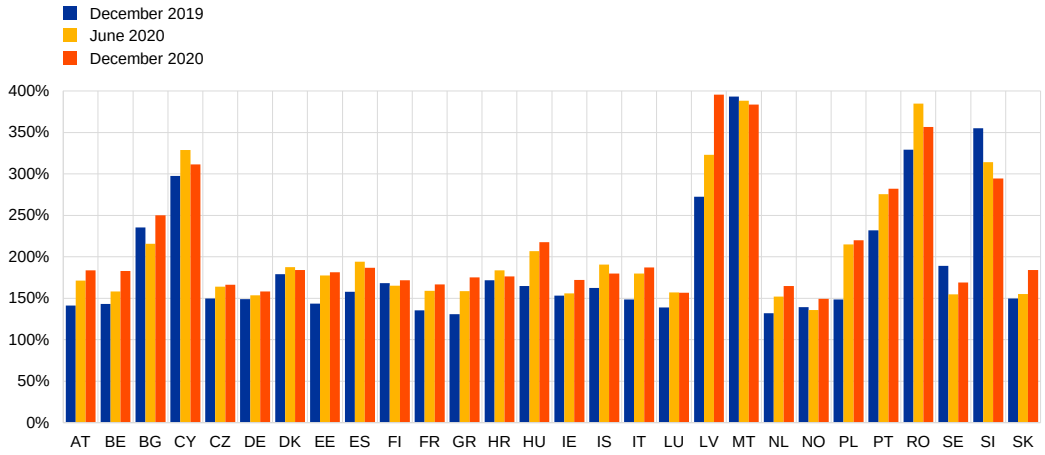
Banks' liquidity is above the minimum regulatory requirement in all EU countries, and it has increased almost everywhere since the start of the pandemic mainly due to central bank support measures. Measured by the LCR, banks' liquidity is above the minimum regulatory requirement of 100% across the whole EEA. Some EU countries (LT, LV, RO, CY, SI) have even reached an LCR well in excess of 300%. Banks in other EU countries (in particular NO, NL, DE, SE) typically have relatively lower liquidity buffers; nevertheless, their ratio is still well above the minimum requirements. Since the onset of the pandemic, liquidity has increased in the majority of Member States. The bulk of this increase was observed in the months between March and June 2020, when the ECB and other national central banks activated measures to support banks' liquidity. Thanks to these measures, banks obtained a material amount of funding at attractive rates despite a deteriorating economic environment. Banks in most Member States continued to increase their liquidity positions in the second half of 2020.

Chart 3.2.N

Overview of the liquidity coverage ratio in the EEA

The LCR is above the minimum regulatory requirement in each country and increased during the second quarter of the pandemic

(percentages)



Source: EBA Risk Dashboard, fourth quarter.

3.3 Policies for banks

In 2020, macroprudential policy was used mostly with the aim to mitigate the effects of the COVID-19 pandemic on banks and on credit supply more broadly. The countries under review took 50 measures of macroprudential interest, an increase of 17 (excluding reciprocations) compared with the previous year.[99] Measures taken in 2020 mostly consisted of releases of the CCyB. Compared to 2019, there was a substantial increase in macroprudential activity regarding the relaxation of liquidity measures, the loosening of borrower-based measures (BBMs) such as loan-to-value (LTV) and debt-service-to-income (DSTI) ratios, changes of the SyRB and O-SII buffers (not only due to COVID-19 but also the entry into force of CRD V[100] in 2021), as well as extensions of national flexibility measures (not related to addressing the effects of COVID-19).

24 EEA countries (and the United Kingdom) took macroprudential actions in 2020 (see Chart 3.3.A). The level of activity exhibited by different countries relates both to the asymmetric way in which COVID-19 affected the Member States' domestic economies and to the instruments they had in their power to counteract it. The latter explains, for instance, why all but one Member State with a CCyB in place at the onset of the pandemic either partially or fully released it or cancelled pending

[99] There were no reciprocating measures in 2020. In 2019, there was an exceptionally high number of reciprocations, which were related to the Belgian, Estonian, French and Swedish national flexibility measures under Article 458 of the CRR taken in 2018.

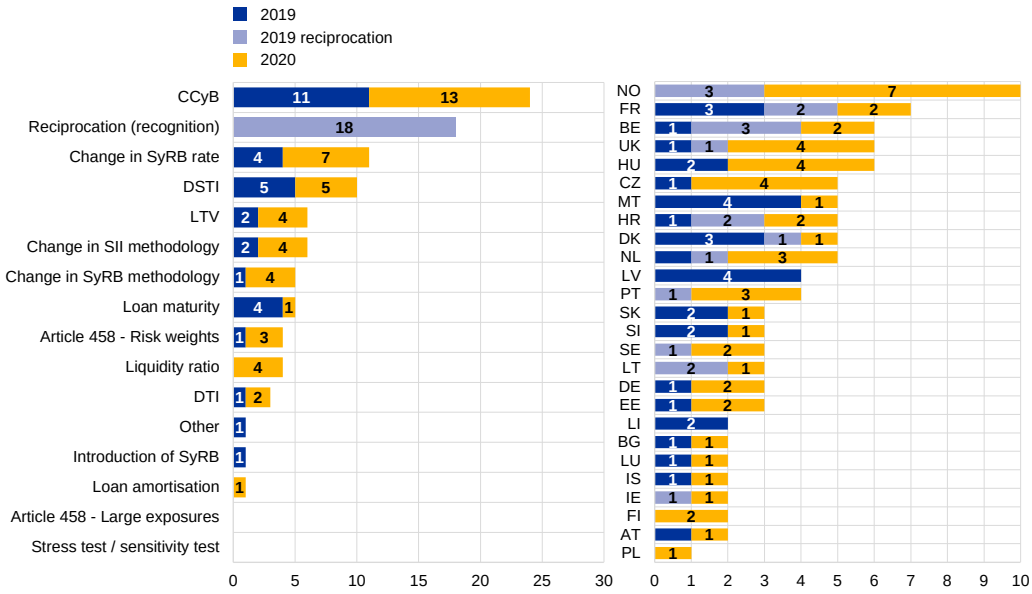
[100] Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, amending Directive 2002/87/EC and repealing Directives 2006/48/EC and 2006/49/EC (OJ L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

increases, and why some Member States which did not have a CCyB in place resorted to structural buffer releases. Other Member States chose to relax BBMs to prevent previously implemented measures from being overly punitive to households whose incomes had already been severely hit by the pandemic.

Chart 3.3.A

Measures taken by Member States in 2019 and 2020

(number of notifications received by measure type (left panel) and country (right panel))



Source: National notifications received by the ESRB in 2019 and 2020.
Notes: Notifications do not necessarily refer to new macroprudential measures, as they can also refer to changes to measures already in place. They also refer to the year the measure was decided, rather than the (sometimes later) year it was implemented. All measures are deemed to be substantial apart from measures of a more procedural or administrative nature, such as exempting small and medium-sized investment firms from the CCoB or CCyB. The chart does not include decisions relating to unchanged CCyB rates. "Change in SII methodology" covers only changes in the methodologies for identifying global systemically important institutions (G-SIIs) and other systemically important institutions (O-SIIs) and the accompanying buffer settings (not changes in the number of G-SIIs/O-SIIs, their buffer levels resulting from the actual application of the same methodology or changes in the phasing-in arrangements). "Change in SyRB rate/methodology" covers changes in the rates or the methodology for setting the systemic risk buffer.

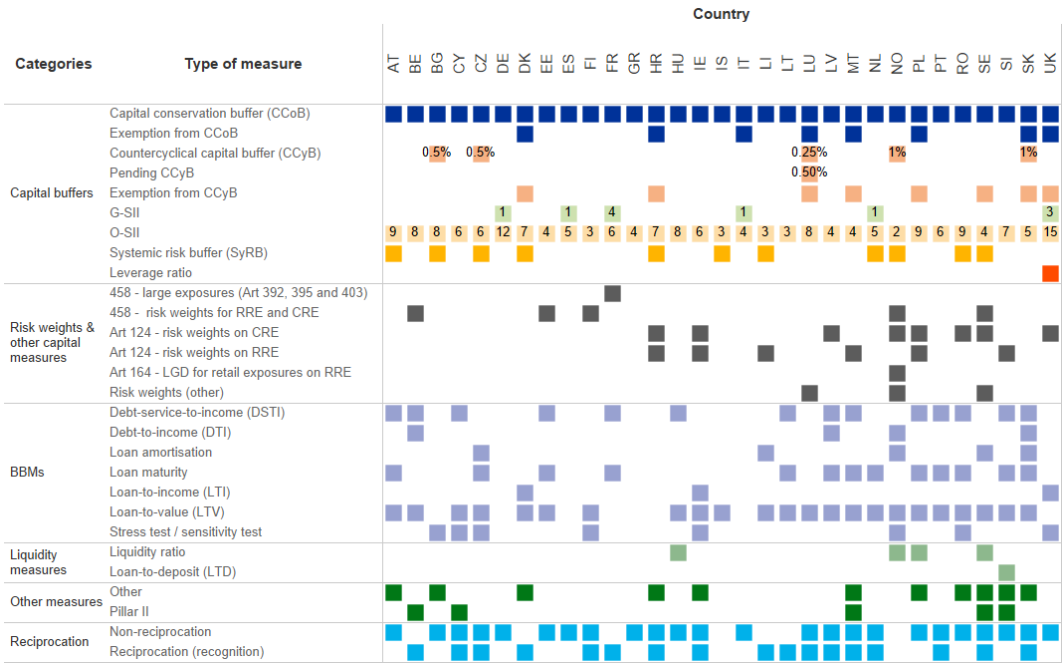
Against the backdrop of COVID-19, Norway, the Czech Republic and Hungary were particularly active in pursuing macroprudential policy (see Chart 3.3.A). Specifically, Norway (temporarily) changed and extended a wide range of BBMs in a reform to its regulatory framework for lending. Hungary temporarily tightened its country-specific liquidity measures, such as the foreign exchange funding adequacy ratio and the foreign exchange coverage ratio (thereafter easing them again to pre-COVID levels); simultaneously, the mortgage funding adequacy ratio was loosened. The Czech Republic used a combination of macroprudential tools, notably a partial release of the CCyB rate, liquidity measures and BBMs, to counter the effects of the pandemic on the economy.

Four measures that fall under Article 458 of the CRR[101] ("national flexibility measures") were extended or newly adopted in 2020.[102] France extended the period of application of its Article 458 measure, which concerns the tightening of large exposure limits applicable to highly indebted large NFCs. Belgium and Sweden did the same for Article 458 measures relating to risk weights for asset bubbles in commercial and/or residential real estate, and Norway introduced two new Article 458 measures relating to risk weights for commercial and residential real estate. In contrast, Finland decided not to extend its Article 458 measure, which had been used to target similar types of risks[103], and the Netherlands postponed the introduction of a risk weight floor on domestic mortgage loan exposures under Article 458.

Table 3.3.A

Overview of active macroprudential measures in Europe (Q4 2020)

EEA countries and the United Kingdom made use of a wide range of macroprudential tools, with a particular emphasis on BBMs and capital buffers



Source: ESRB notifications.

Notes: In the "Countercyclical capital buffer" row, the number in the box refers to the prevailing buffer rate as at Q4 2020, with no box meaning that the countercyclical capital buffer has not been set or a positive rate has been set but not implemented as at Q4 2020, the latter being reflected in the "Pending CCyB" row. The number in the boxes for G-SIIs and O-SIIs refers to the number of such institutions identified in the 2019 identification exercise. This is based on the application dates of the official notifications sent to the ESRB and does not signify whether a SII buffer has been set or not and is regardless of its phasing-in arrangements.

2020 was characterised by a general loosening of macroprudential measures in EEA countries (see Table 3.3.B). Although the assortment of measures to which Member States

[101] 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).

[102] Article 458 of the CRR provides a measure of last resort to address systemic risk in the Member States that cannot be dealt with through other macroprudential tools.

[103] The Finnish measure expired on 1 January 2021. See **press release by FIN-FSA.**

resorted varied greatly, as noted above, the overall direction of policy was fairly homogeneous across the EEA. These loosening actions took the following forms: full or partial release of the CCyB as well as revoking previously announced increases in rates; SyRB reductions; cancellations of pending O-SII buffer increases or phasing-in postponements; easing of the limits applied to borrower-based measures such as the DSTI or LTV and relaxation of the rules underlying the acceptance of FX funds for liquidity measures. Independently of the type of measure used or the extent of its application, the fundamental goal was to support banks and contribute to the supply of credit to the real economy. For BBMs, an additional emphasis was placed on relieving the pressure on households and firms, already heavily strained by the impact of COVID-19.

Some notable exceptions, however, lay in decisions that were not driven by COVID-19. Policy tightening actions in this unprecedented period were also justified by long-term policy priorities. This was true for Norway[104], which activated an Article 458 measure to address the potential materialisation of risks in its commercial and residential real estate sectors, and for Luxembourg, which introduced LTV limits. Sweden implemented additional capital requirements for banks' lending exposures to the commercial real estate sector[105] in January. With the incorporation of the CRD IV framework[106] into the EEA Agreement[107], Norway implemented a new SyRB, setting a single 4.5% rate for all institutions. This constituted a decrease from the level that was previously applicable to O-SIIs (at 5%) and an increase for remaining institutions[108] (at 3%). Finally, the United Kingdom and the Netherlands announced a replacement of their SyRB with O-SII buffer requirements directly related to the entry into force of CRD V.

An analysis based only on the use of individual instruments or changes in their calibration gives an incomplete indication of the macroprudential policy stance in Member States. To obtain a more complete view of a country's effective macroprudential policy stance, the overall macroprudential policy mix in place should be assessed by also taking into account the level of systemic risk in a given Member State. The ESRB is currently operationalising the concept of macroprudential stance, which aims to guide this assessment.[109]

---

104 However, Norway also loosened other measures and is therefore represented in yellow in the "Real estate instruments" column of Table 3.3.B, namely: it temporarily increased the permitted mortgage volume to deviate from the regulatory requirements, and it allowed lenders to deviate from the debt-to-income requirement and stress test when issuing a residential mortgage loan, where the purpose of the loan is to restructure existing debt held by borrowers that are not able to service the debt.

105 The risk weight was set at 35% for corporate exposures collateralised by commercial real estate and 25% for corporate exposures collateralised by commercial residential properties; see **press release by Finansinspektionen**.

106 The CRD IV legislative package comprises Directive 2013/36/EU and Regulation (EU) No 575/2013. It does not include the changes introduced by Regulation (EU) 2019/876 of the European Parliament and of the Council of 20 May 2019 amending Regulation (EU) No 575/2013 as regards the leverage ratio, the net stable funding ratio, requirements for own funds and eligible liabilities, counterparty credit risk, market risk, exposures to central counterparties, exposures to collective investment undertakings, large exposures, reporting and disclosure requirements, Regulation (EU) No 648/2012 (OJ L 150, 7.6.2019, p. 1), and Directive (EU) 2019/878 (OJ L 150, 7.6.2019, p. 253) or any subsequent amendments.

107 Decision of the EEA Joint Committee No 81/2019 of 29 March 2019 amending Annex IX (Financial services) to the EEA Agreement [2020/831] incorporated CRD IV into the Agreement on the European Economic Area.

108 A transitional rule applies, however, for all institutions that do not follow the internal ratings-based (IRB) approach – for these institutions, the rate for all exposures will be 3% until 31 December 2022. This rule is not applicable to systemically important institutions (see **Recommendation ESRB/2020/14**).

109 **A Review of Macroprudential Policy in the EU in 2018**, ESRB, April 2019, Special Feature B.

Table 3.3.B

Tightening or loosening of macroprudential measures in 2020

EEA countries mostly undertook loosening policy actions throughout 2020, the majority of which were in response to the challenges posed by COVID-19

Member State	Countercyclical capital buffer	Systemic risk buffer	SII buffer	Real estate instruments	Other instruments
Austria	→	→	→	→	→
Belgium	↓	n/a	→	→	→
Bulgaria	↓	→	→	n/a	→
Croatia	→	↓	→	→	→
Cyprus	→	n/a	↓	→	→
Czech Republic	↓	→	→	↓	→
Denmark	↓	→	→	→	→
Estonia	→	↓	→	→	→
Finland	→	↓	↓	↓	↓
France	↓	n/a	→	→	→
Germany	↓	n/a	↓	→	n/a
Greece	→	n/a	↓	n/a	n/a
Hungary	→	↓	↓	→	↑↓
Iceland	↓	→	→	→	n/a
Ireland	↓	→	→	→	→
Italy	→	n/a	→	n/a	n/a
Latvia	→	n/a	→	→	→
Liechtenstein	→	→	→	→	→
Lithuania	↓	n/a	↓	→	n/a
Luxembourg	↑	n/a	→	↑	→
Malta	→	n/a	↓	↓	→
Netherlands	→	↓	↑↓	→	n/a
Norway	↓	↑↓	→	↑↓	→
Poland	→	↓	→	↓	→
Portugal	→	n/a	↓	→	↑↓
Romania	→	→	→	→	→
Slovakia	↓	→	→	→	→
Slovenia	→	n/a	→	↓	→
Spain	→	n/a	→	n/a	n/a
Sweden	↓	→	↓	→	→
United Kingdom	↓	↓	↑	→	→

Source: ESRB notifications received in 2020.

Notes: ↑ (red) refers to a tightening; ↓ (green) refers to a loosening; → refers to no change; n/a stands for non-applicable. The latter denotes that no related measure has been notified to the ESRB and recorded in its Overview of national measures of

macroprudential interest in the EU. "Real estate instruments" include any instrument (borrower-based or capital-based) dedicated to the residential or commercial real estate sectors. The "Other instruments" column includes instruments which do not fall into any of the other categories. Tightening/loosening refers to the policy situation compared with the situation before the adoption of the measure. The table refers to measures taken in 2020, but which may sometimes come into effect later. Measures coming into effect in 2020 but adopted earlier are not shown. In the case of O-SII/G-SII buffers, tightening/loosening refers to changes in the methodology of the G-SII/O-SII identification and buffer-setting or changes in the phasing-in arrangements. The loosening action on the O-SII buffer(s) for CY, GR, LT, MT and PT consists of a postponement of their phasing-in schedules. SE lowered the prescribed level of the O-SII buffer on account of CRD V, but the buffer was applied for the first time (previously, the higher of the SyRB and O-SII buffer was applicable – in SE's case, the SyRB). Real Estates measures for SE reflects mainly the pause in amortisation requirement for RRE. It should also be noted that a decision was taken by the FSA in January 2020 to raise risk weights for CRE.

3.3.1 Macroprudential buffers

3.3.1.1 Releases of the CCyB[110] and structural buffers

In response to the COVID-19 pandemic, Member States used the CCyB to support the banking sector and maintain the flow of credit to the real economy. This macroprudential response in times of stress is in line with the intended countercyclical use of the CCyB. The cause of the economic crisis was an unprecedented exogenous shock rather than excessive aggregate credit growth and the endogenous build-up of cyclical system-wide risk. However, the uncertainty about the effect of losses in the real economy on the banking sector was and still is very large. Expected economic difficulties of corporations and households threaten to worsen the credit quality of bank balance sheets. In such an environment, banks might become excessively cautious in their lending, precisely when bank credit is necessary to contain the shock to the real economy and support the recovery. The release of CCyBs sent a signal to banks amid the worsened economic outlook that supervisors were willing to help banks weather the crisis. It freed up capital that banks could use to absorb credit losses and support lending, while the simultaneous communication on system-wide pay-out restrictions[111] ensured that the capital was not used for pay-outs.

Most Member States with a positive CCyB at the start of the year fully or partially released it, while other Member States cancelled pending increases. Of the 11 EEA countries and the United Kingdom that had positive CCyB rates prior to the pandemic, seven fully released (DK, FR, IE, IS, LT, SE, UK) and three partially released (CZ, NO, SK). In addition, seven Member States and the United Kingdom cancelled pending increases. As an exception, LU opted not to release its CCyB nor cancel the pending increase (see Chart 3.3.B). This divergence in approaches cannot be explained by differences in the magnitude of the expected economic shock or its propagation to bank balance sheets and is based on the judgement of the respective designated authorities.

---

110 As this year's review focuses on the COVID-19 pandemic, this section focuses on the CCyB for domestic exposures. As the main text does not cover CCyBs for third-country exposures, this footnote provides an update on the associated developments in 2020. When revising the list of material third countries, the ESRB additionally included Mexico (see Annex 1). **The list now contains Brazil, China, Hong Kong, Mexico, Russia, Singapore, Switzerland, Turkey and the United States.** The Member States also ran their annual revisions of their own lists and followed the methodologies as given in Annex 1. The ESRB, the ECB and the national authorities monitored the third countries found to be material for their respective jurisdictions. For the members of the BCBS, reciprocation of each other's CCyB rate up to 2.5% is mandatory and the same principle applies for the ESRB's membership. However, to date the only country which has implemented a non-zero CCyB and is not a member of the ESRB is **Hong Kong, which lowered its CCyB rate from 2% to 1% on 16 March 2020**.

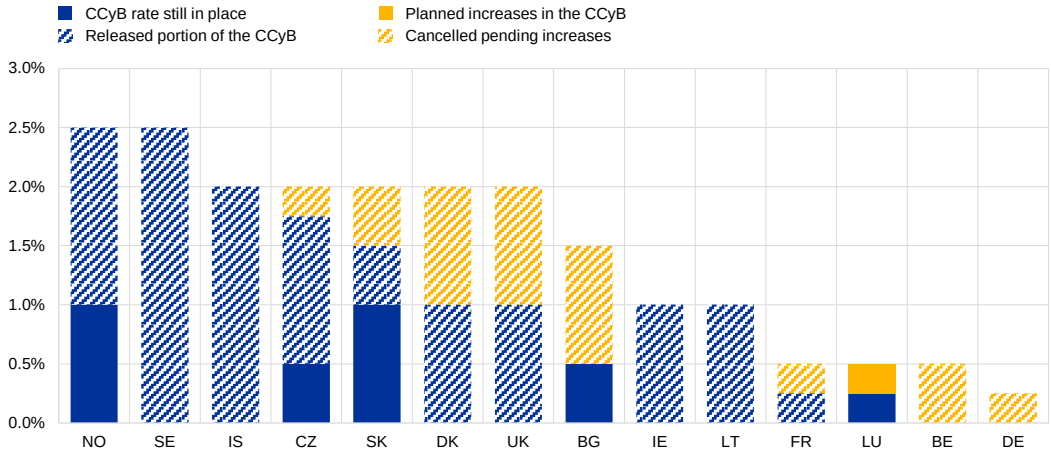
111 See Section 2.2.

Chart 3.3.B

Releases of and cancellations of pending increases in the CCyB rate across EEA countries and the United Kingdom

All but one Member State with a CCyB in place released the buffer or cancelled planned increases

(buffer rates in percentages)



Source: ESRB.

Notes: A CCyB rate was seen as being in place or phased-in as soon as the targeted credit institutions were required to take it into account when computing their institution-specific CCyB rates before 15 February 2020. All announced releases and cancellations of pending increases made in 2020 were taken into account, including subsequent releases and cancellations. In addition to the releases in some Member States, designated authorities communicated forward guidance indicating that no changes to the (released) CCyB rate were envisaged for a certain period, e.g. in IE throughout 2021 as communicated in its ***FSR 2020:II****.*

Countries responded swiftly to the outbreak of the crisis, and by the beginning of April most countries had released their CCyB buffers. During the second week of March, Norway and Denmark decided to release their CCyB buffers. It was during this week that the World Health Organization declared Europe as the centre of the pandemic. These releases took place well before any COVID-19 related increase of NPLs and deterioration of banks' capital positions were expected to materialise. This swiftness supports the hypothesis that, as well as allowing for loss absorption at a later stage and supporting continued credit supply, the calming of markets and the signalling of supervisory flexibility were key objectives behind the releases.

Credit-to-GDP gaps increased due to the contraction in GDP and the increase in lending in some Member States to meet the liquidity needs of the real economy during the crisis, confirming that this indicator is not informative in such periods (especially if lending increases). The credit-to-GDP gap increases when the economic cycle evolves more quickly than the credit cycle. This increase (Chart 3.3.C, upper panel) should not be interpreted as a sign to increase or rebuild the CCyB at this time. Even in its publications prior to the COVID-19 period, the ESRB repeatedly noted the limitations of the credit-to-GDP gap as an indicator to inform the buffer guide.[112]

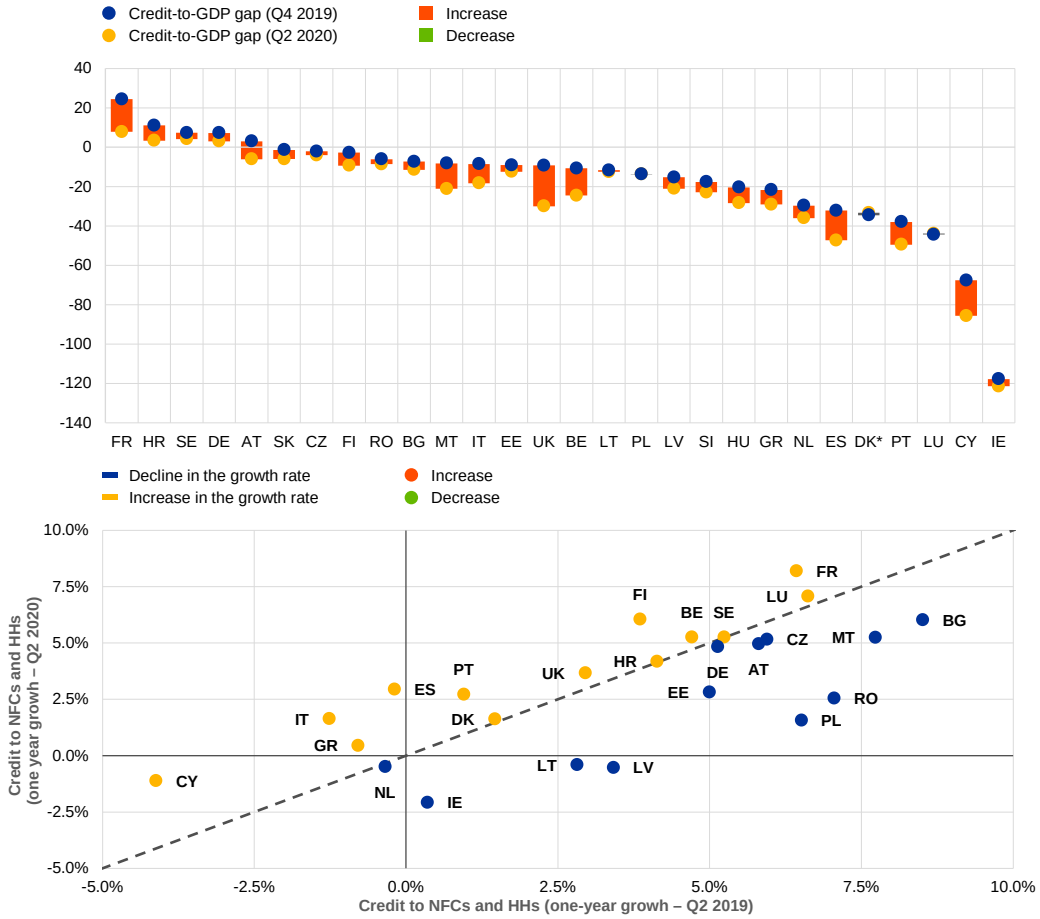
[112] See, for example, **A Review of Macroprudential Policy in 2019**, ESRB, April 2020.

Chart 3.3.C

Changes in the credit-to-GDP gap and the growth rate of credit to the real economy across Member States

As expected, credit-to-GDP gaps increased during the crisis across most Member States

(upper panel: percentage points; lower panel: percentages)



Sources: ECB and ESRB Secretariat calculations.
Notes: The growth rate is computed as the ratio between the flow at period t and the stock at t-1. (*) For Denmark, no data for Q2 2020 were available; Q1 2020 data were used instead. HU is not displayed in the right panel given that it is an outlier (13.10% and 13.20% for credit to NFCs and HHs (one-year growth – Q2 2019 and Q2 2020, respectively).

Four countries fully or partially reduced their SyRB in response to the COVID-19 economic crisis (see Chart 3.3.D). These adjustments either represented a full (EE, FI, PL) or a partial reduction[113] (NL). The downward recalibrations applied to either all institutions (EE, FI, PL), or only to systemically important institutions (SIIs) where an institution-specific SyRB complemented an O-SII buffer (NL). The ESRB was notified of these four releases in the space of five days (between 20 and 25 March 2020), at a time when the pandemic was becoming prominent and widespread in Europe. These buffer reductions were meant to bolster banks' loss-absorbing capacity above buffer

[113] However, NL notified the ESRB of a further reduction in November, this time a full reduction.

requirements, providing banks with additional headroom and thus preventing a negative impact on their supply of credit to the real economy.

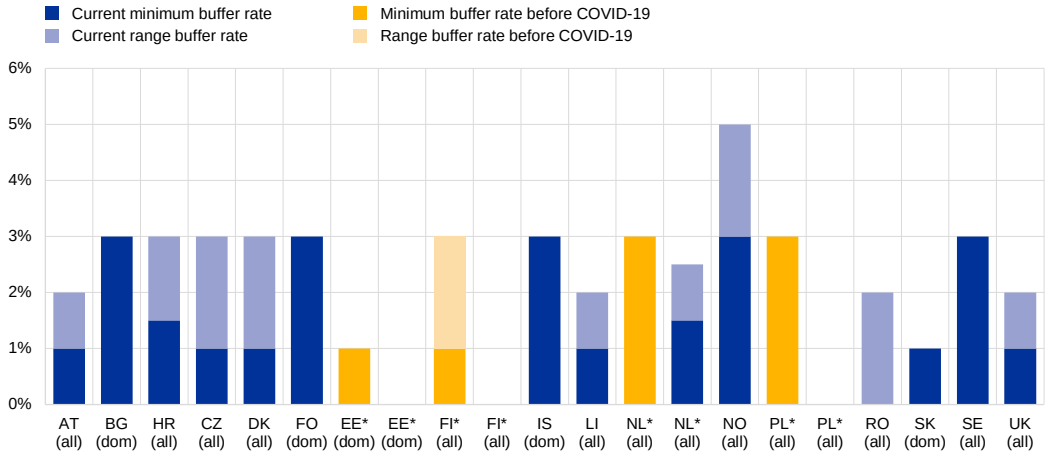
Furthermore, Hungary suspended the revision of its SyRB rates due to the expectation that it would result in an excessively high SyRB rate in the midst of the pandemic. With effect from January 2020, Hungary changed the scope of its SyRB, outlining that it should be applied to all credit institutions with problem project exposures and non-problem FX project exposures above the de minimis limit.[114] Recognising that the COVID-19 emergency would lead to an increase in the level of non-performing and restructured CRE project loans, i.e. problem exposures, the national authority concluded that the scheduled revision to its SyRB rates could result in an increase in the applicable rate for some banks. Hungary thus suspended the application of the general provisions of the SyRB and postponed its revision of the buffer rate scheduled for September 2020 (which originally envisaged entry into effect on 1 January 2021). A higher applicable rate (above zero) would have reduced the capacity of banks to lend to companies and households.

Chart 3.3.D

SyRBs in place in 2020 and reductions related to the COVID-19 emergency

Of the 16 EEA countries that had an SyRB in place before the COVID-19 outbreak, only four chose to reduce it in response to the crisis

(percentages)



Source: National notifications received by the ESRB between 2017 and 2020.
Notes: The asterisk represents countries which reduced their SyRB (partially or fully) on account of the COVID-19 pandemic. Austria (AT), the Czech Republic (CZ), Denmark (DK), Finland (FI), Liechtenstein (LI), the Netherlands (NL), Slovakia (SK) and Sweden (SE) applied the SyRB to a subset of institutions; FO stands for the Faroe Islands; "dom" stands for countries which applied the SyRB to domestic exposures, i.e. all exposures located in the Member State that set that buffer to address the macroprudential risk of that Member State; "all" stands for countries which applied the SyRB to all exposures, i.e. all exposures located in the Member State that set that buffer to address the macroprudential risk of that Member State and outside the Member State. The buffer rates represented in the chart are those in place in 2020, not those announced in 2020 to be implemented at a later date.

[114] Problem exposures are defined for the purposes of the SyRB as the gross amount of domestic commercial real estate project loans if these: (i) are non-performing for more than 90 days; (ii) are restructured, with the exception of loans restructured more than a year ago that have become performing loans since; or (iii) are other project loans that are deemed non-performing by the financial institution; and the gross amount of domestic on-balance sheet held-for-sale commercial real estate. Foreign currency exposures qualified as non-problem mean the gross value of domestic commercial real estate project loans in foreign currency and not classified under problem exposures (see **notification by the Magyar Nemzeti Bank**).

The reduction of SyRBs aimed to achieve a similar effect as the release of a CCyB, providing relief to the banking sector. None of the four Member States reducing their SyRB applied or intended to apply a positive CCyB rate before the COVID-19 outbreak, meaning that no capital could be released via the CCyB. The expectation that banks might be unwilling to dip into their buffers for fears of the supervisory response or market stigma, or to avoid distribution restrictions that automatically apply when buffers are breached, may – besides the aim of supporting credit supply – have motivated the reductions of structural buffers.

Member States' changes to buffers for SIIs were diverse both in scope and intensity. No changes in systemic importance scores – the criterion that is most frequently used by countries when setting O-SII buffer levels for their institutions – were reported. However, certain Member States recalibrated the applicable buffer rates in 2020 for some (FI, NL) or all (HU) of their SIIs in response to the pandemic (see Chart 3.3.E). This extraordinary change was motivated by the need to provide the SIIs with sufficient lending capacity. The reduction of these structural buffers without a reduction in systemic importance appears to have been aimed at a temporary easing of regulatory requirements independent of the risks stemming from systemic importance.

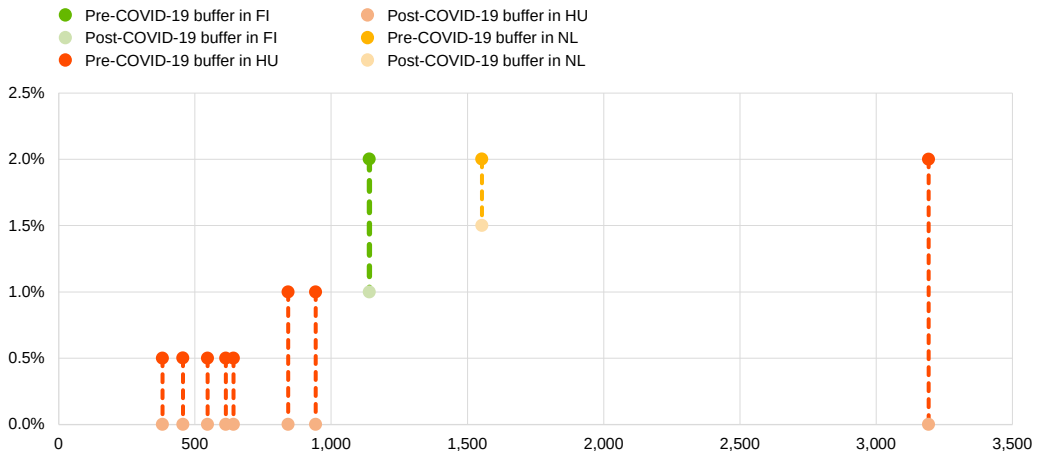
Several countries postponed the planned phasing-in of their O-SII buffers. In all cases, the phasing-in period was prolonged by one year and was applied by Member States to all (CY, GR, PT) or selected institutions (LT, MT). Following the reduction to zero of the O-SII buffer for eight institutions, Hungary has already expressed its intention to rebuild its buffers to their original levels.

Chart 3.3.E

Recalibration of the O-SII buffer levels

In order to avoid a procyclical response from banks, the O-SII buffer of ten institutions across three Member States was reduced

(y-axis: buffer in percentages; x-axis: SII score in basis points)



Source: ESRB notifications received in 2020.
Notes: The banks represented in the chart are: OP Group (FI); CIB Bank Zrt. (HU); Erste Bank Hungary Zrt. (HU); Kereskedelmi és Hitelbank Zrt. (HU); Magyar Takarékszövetkezeti Bank Zrt. (HU); MKB Bank Nyrt. (HU); OTP Bank Nyrt. (HU); Raiffeisen Bank Zrt. (HU); UniCredit Bank Hungary Zrt (HU); and ABN AMRO Bank N.V. (NL).

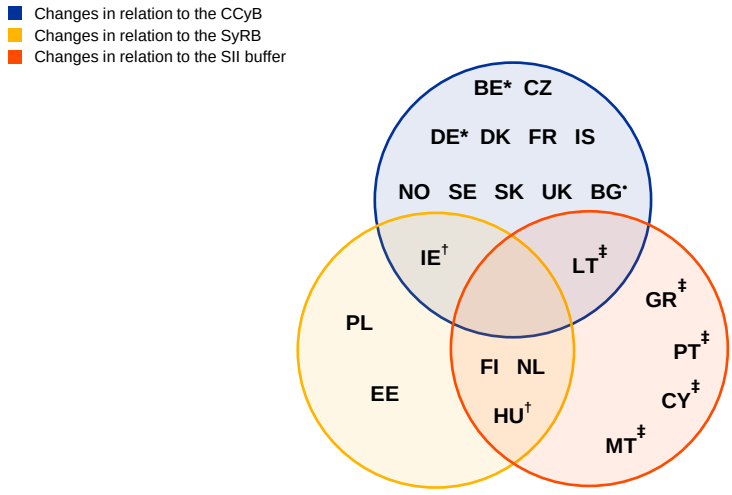
15 Member States used their structural and/or cyclical buffers to boost the lending capacity of banks (Chart 3.3.F). Finland and the Netherlands reduced an institution-specific SyRB. Finland increased its banks' lending capacity by around €52 billion through the reduction of the SyRB for all credit institutions and adjustments in buffer rates, which was achieved through a 1% decrease in the O-SII buffer applicable to one SII. The Netherlands decreased its structural buffers to support lending to businesses, while expressing the intention of gradually rebuilding its capital requirements to their original level. However, it aims to do so through the CCyB, i.e. transforming structural buffers into countercyclical buffers.

Member States without a positive CCyB rate reduced their structural buffers to ease pressure on credit supply. These countries decided to reduce either their O-SII buffers (HU), SyRB (EE, PL) or both (NL, FI). None of the tools in the EU macroprudential policy framework is explicitly meant to address exogenous shocks such as a pandemic. However, all buffers are ultimately designed to help banks absorb losses. Given its releasability, the CCyB could be considered the most intuitive macroprudential instrument to be used in the COVID-19 crisis to alleviate capital constraints for lending. The O-SII buffer and SyRB address different risks than the CCyB[115], but reducing them ultimately also eases banks' buffer requirements in the same vein. A main drawback is that the underlying structural risk did not disappear when reducing structural buffers. Moving forward, lessons will have to be drawn from the experience with the buffer framework during the COVID crisis.

Chart 3.3.F

Changes in scope, level or phasing-in of capital buffers by Member States

14 EEA countries recalibrated their capital buffers in response to COVID-19, albeit in different ways: through releases, reductions or postponements of planned increases



Source: ESRB.

Notes: (*) In BE and DE, no strictly positive CCyB was formerly in place. (•) In BG, the CCyB was not reduced, but the pending increase was cancelled. (†) In IE and HU, no strictly positive SyRB was applicable for any bank, but HU suspended its general requirements for the SyRB while IE deferred the transposition of an SyRB into Irish law, meaning that the Central Bank of

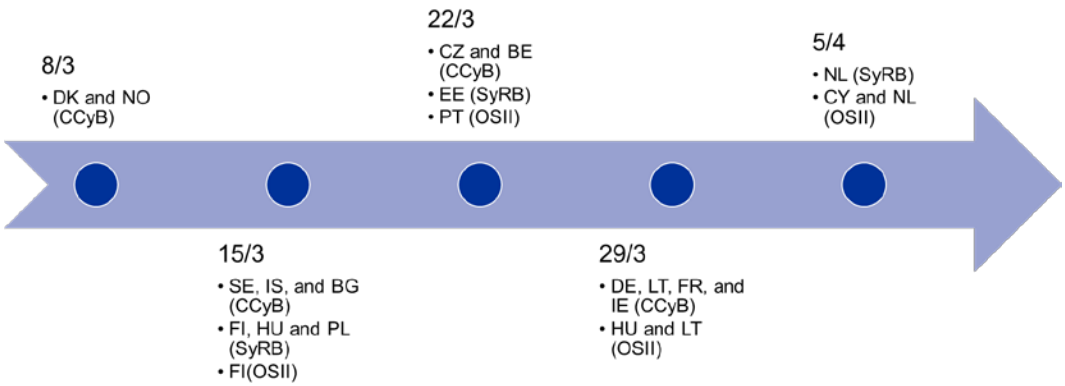
[115] According to **Recommendation ESRB/2013/1**, the systemic risk buffer targets structural risk and aims to strengthen the resilience of the banking system, while the SII capital surcharges, namely the O-SII buffer, are meant to enhance the loss-absorbing capacity of SIIs taking into account their high systemic importance.

Ireland did not have the power to set an SyRB .(‡) In CY, MT, GR, LT and PT, no SII buffers were reduced, but the phasing-in of pending increases was postponed instead.

Chart 3.3.G

Timeline of decisions to release macroprudential buffers or cancel pending increases during the COVID-19 pandemic

Within one month, 17 Member States reduced or cancelled the increase of at least one of the buffers they had in place prior to the pandemic



Source: ESRB.

Notes: The date indicates the week in which the decision was made. CZ decided to cancel its planned increase from 1.75% to 2% on 19 March 2020 and decreased its CCyB rate to 1% on 26 March 2020. SK decided to release its CCyB buffer on 28 April 2020.[116]

To support credit supply through crises, banks' capital buffers need to be usable to continue financing the economy and absorb losses, and macroprudential authorities have started discussing the lessons to be drawn from the impact of the COVID-19 crisis on the buffer framework. There is a concern that banks may start to behave procyclically if they are not able or willing to use their buffers. In practice, banks may have many reasons not to use their buffers, including fears of further credit losses, uncertainty about the timing or speed of buffer replenishment in the future, and fear of stigma from financial markets or rating agencies, leading to higher funding costs or possible restrictions on distributions. Banks may also be unable to use their capital buffers or management buffers because of overlapping requirements, for example with respect to binding leverage ratio or minimum requirements for own funds and eligible liabilities. With this in mind and due to the ongoing uncertainty over how the COVID-19 crisis will affect banks' balance sheets, macroprudential authorities have started discussing solutions to removing disincentives to use buffers, as well as more medium-term changes to the regulatory framework.

Macroprudential authorities and regulators may consider removing disincentives in banks' willingness to use capital buffers if they are significant and harmful to the real economy. The willingness of banks to draw on capital freed up by regulatory buffer releases or other supervisory action is likely to be influenced by the length of time during which a lowered requirement will remain

[116] A detailed overview of the sequence of national measures can also be found in Anguren, R., Gutiérrez de Rosas, L., Palomeque, E. and Rodríguez García, C. J., "**The regulatory and supervisory response to the COVID-19 crisis**", *Financial Stability Review*, No 39 – autumn 2020, Banco de España.

in force. In the short term, supervisory authorities could achieve greater alignment of incentives through clear, forward-looking communication related to the expected duration of capital release measures, the timeframe to restore capital, potential restrictions, the economic outlook and the expected implications for banks' capital adequacy.

In the medium term, more fundamental changes to the current regulatory framework may be necessary. Given the EU Commission's forthcoming review of the macroprudential framework in 2022, starting this discussion is timely. The case for more fundamental changes to the regulatory framework arguably depends on how material the evidence for impediments to buffer usability is, as well as the extent to which such impediments to buffer usability contribute to adverse outcomes (e.g. reduction of credit supply) at the macroeconomic and/or systemic level in periods of crisis. The current crisis has not yet fully tested the current framework. However, in the event that banks are presented with incentives to avoid restrictions to the maximum distributable amount (MDA), thereby leading them not to use the buffers, potential medium-term measures could include a greater role for releasable capital buffers to avoid adverse consequences for credit supply at the system level during downturns. Further considerations relate to the composition of capital, partly with a view to reducing the complexity of the capital framework. Of particular concern is the role of AT1 instruments in regulatory going-concern capital, and whether these should be excluded from the mandatory MDA mechanism in case of buffer breaches, which would arguably require excluding AT1 instruments from going-concern regulatory capital altogether.

3.3.1.2 Systemic risk buffer

At the start of 2020, 17 countries (16 Member States plus the Faroe Islands) had an SyRB in place. Besides differences in their rates, these SyRBs differ in terms of their motivation, the range of institutions they apply to and the exposures they cover. The assortment of configurations prior to 31 March 2020 and subsequent changes are displayed in Chart 3.3.D and Chart 3.3.H. These configurations can be explained by the risks targeted by this instrument, which broadly fall into three categories[117]: (i) risks stemming from the structural characteristics of the banking sector, (ii) risks stemming from the propagation and amplification of shocks within the financial system, and (iii) risks to the banking system stemming from either the real economy or specific sectors.

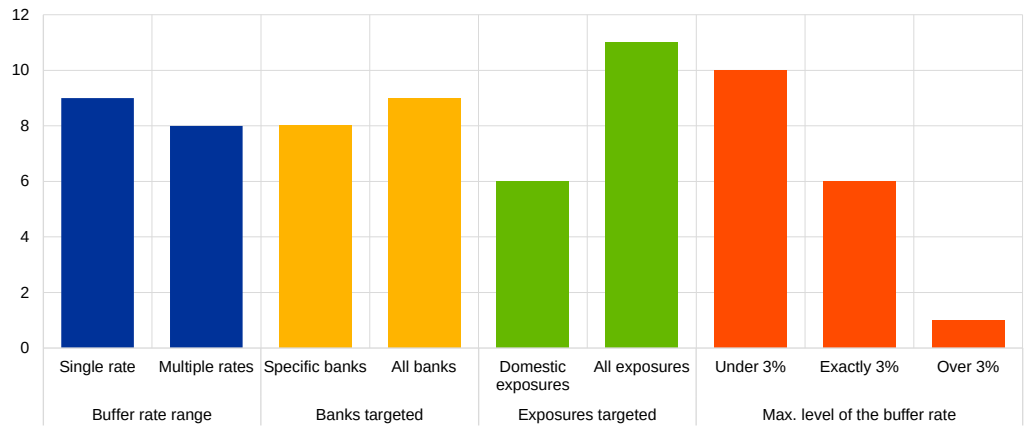
[117] See **A Review of Macroprudential policy in the EU in 2019**, ESRB, April 2020, pp. 68-70 for a detailed analysis.

Chart 3.3.H

Configurations of the SyRB

There is widespread heterogeneity in the configuration of the SyRB, driven by the differing risks that Member States target with the application of the buffer

(number of Member States)



Source: ESRB notifications received between 2017 and 2020.
Notes: These configurations refer to the SyRB in place until 31 December 2020; the configurations of the SyRB in place before 31 March 2020 for EE, FI and PL are represented in spite of the subsequent deactivation of the SyRB on account of COVID-19.

With effect from 1 January 2020, the CRD IV framework was incorporated into the EEA Agreement, which means that the relevant EU law also applies to Norway. Upon its incorporation at end-2019, a revision of the existing SyRB rules to ensure compliance with Article 133 of CRD IV was indispensable.[118] Given that the CRD IV framework was not in place before this revision, two factors forced institutions to hold more capital in order to reach a certain capital adequacy ratio: the presence of a Basel I floor and the absence of the SME supporting factor. Based on this higher minimum capitalisation prior to the incorporation of CRD IV, the remaining systemic risk to be covered by the SyRB, and hence the SyRB rate, was lower. Following the adoption of the CRD IV framework and the consequently lower minimum capitalisation, Norwegian authorities increased the SyRB level for banks applying the IRB approach in order to address the otherwise uncovered systemic risk.

Norway notified the ESRB of an intended change to the scope and level of its existing SyRB, applicable from 31 December 2020 onwards. With respect to scope, the main change lies in the exposures covered by the SyRB, which are now limited to domestic exposures. The decision was taken in view of the fact that this tool is designed to target systemic risk in Norway, and that most Norwegian credit institutions conduct all or most of their activities in Norway.[119] With respect to level, while the previous SyRB stood at 5% for SIIs and 3% for all other institutions, a single rate of 4.5%[120] is now applicable to all institutions.[121] To prevent a decrease in the capital requirements

[118] See **Recommendation ESRB/2020/14** for more information on the background to the revision of the SyRB.

[119] See **Recommendation ESRB/2020/14** for the specific configuration of the Norwegian systemic risk buffer.

[120] In accordance with Articles 133(14) and 133(15) of **CRD IV**, if a Member State wishes to set an SyRB above 3%, the ESRB and EBA (the latter optional) must provide an opinion to the Commission before the latter decides whether the proposed measure can be implemented by the Member State. In the Norwegian case, the Standing Committee of the EFTA States provided an opinion, while the Commission did not.

applicable to SIIs resulting from the 0.5% decrease in the applicable SyRB, Norway further implemented an O-SII buffer (applicable to its two SIIs[122]), cumulative with the SyRB for domestic exposures. The Norwegian authorities requested reciprocation of the SyRB measure in 2021, and the issue is currently being assessed against the complications arising from the application of CRD IV in EEA EFTA States and the application of CRD V in the neighbouring EU countries.

Following the transposition of CRD V into national law in late 2020, no countries have so far expressed their intention to use the sectoral SyRB. CRD V allows for an SyRB which may also target, besides all exposures of an institution and all exposures to a particular country, sectoral exposures, including those linked to residential and commercial real estate.[123] On 30 September 2020, in accordance with Article 133(6) of the CRD, the EBA issued its final guidelines on the appropriate subsets of sectoral exposures to which a competent or designated authority may apply an SyRB.[124] The guidelines suggest a common framework of dimensions and sub-dimensions from which the relevant authority can define a subset of exposures and include detailed definitions of elements used in each dimension and sub-dimension, along with examples of application.[125] No Member State has so far used this increased flexibility nor notified the ESRB of its intention to do so.

Member States have, however, begun adapting the combination of their SyRB and O-SII/G-SII buffers to comply with the CRD V framework. CRD IV described two different interactions between the SyRB and the O-SII or G-SII buffer.[126] The higher of the two was applicable in case the SyRB applied to all exposures, and the sum of the SyRB and O-SII or G-SII buffer was applicable if the SyRB covered only domestic exposures. By contrast, CRD V does not make distinctions based on the extension of applicability, and the SyRB is always cumulative with whatever SII buffer is applicable (the higher of the G-SII and O-SII buffers). Furthermore, in order to avoid the overlap between the risks addressed by the two measures, authorities must now outline why, in their opinion, the SyRB will not duplicate the functioning of the O-SII buffer in their notifications to the ESRB.[127] Whenever the designated or competent authorities set or reset existing buffers, they need to comply with the CRD, as amended by CRD V. In this way, buffer-setting practices will be gradually adapted to the new CRD V framework.

Only three Member States (HR, NL, SE) and the United Kingdom have announced a recalibration to the level of their buffers on account of CRD V. Croatia replaced two different SyRB rates, which depended on the nature, scope and complexity of its institutions' activities (set at 1.5% and 3%), with one single SyRB rate. This new SyRB, which will amount to 1.5% for all institutions, is cumulative with the O-SII buffer. Overall, structural capital requirements for Croatian

---

121 A transitional rule applies for all institutions that do not follow the internal ratings-based (IRB) approach – for these institutions, the rate for all exposures will be 3% until 31 December 2022. This rule is not applicable to systemically important institutions (see **Recommendation ESRB/2020/14**).

122 An O-SII buffer requirement will apply at the highest level of consolidation to two identified O-SIIs as of 31 December 2020: a 2% buffer for DNB Bank ASA and a 1% buffer for Kommunalbanken AS (see **Recommendation ESRB/2020/14**).

123 Articles 133(4) and 133(5) of **CRD IV**.

124 See **Guidelines on the appropriate subsets of sectoral exposures to which a competent or designated authority may apply a systemic risk buffer**, EBA, September 2020.

125 The **compliance table to EBA/GL/2020/13** shows that most Member States already comply or intend to comply with the guidelines when the necessary legislative or regulatory proceedings have been completed.

126 Article 133(4) and (5) of **CRD IV**; note that the SyRB always interacts with the higher of the O-SII and G-SII buffers.

127 Article 133(9)(f) of **CRD V**.

O-SIIs have increased by 0.5%[128] (see Chart 3.3.I). Similarly, Sweden has, until now, applied the higher of the two structural buffers to cover all exposures – the SyRB, which stood at 3% (versus the O-SII buffer, at 2%). However, with the O-SII buffer becoming cumulative with the SyRB, Sweden announced a decrease of the O-SII buffer applicable to the three institutions that maintain an active SyRB, from 2% to 1%. The exposures are now covered by the SyRB and the O-SII buffer, so that the combined buffer requirements increased by 1% to a total of 4% (see Chart 3.3.I). The United Kingdom will fully replace its institution-specific SyRB, activated in 2019 and amounting to between 1% and 2%, with equivalent O-SII buffer requirements.

In response to the changes introduced by CRD V, the Netherlands intends to change the composition of its capital requirements and to build up a CCyB. It is, however, important to distinguish the actions taken by NL in response to COVID-19 with those related to the transition to the new CRD V framework. In March 2020, as a response to COVID-19, the O-SII buffer rate for one Dutch institution (ABN AMRO Bank N.V.) was reduced, while the SyRB requirements for the country's three largest banks were lowered. In addition, it was decided to gradually build up a neutral CCyB of 2% once macroeconomic conditions normalised, with the intention to keep the combined buffer requirements (CBRs) stable while changing their structural and cyclical composition. As a result – still under the CRD IV framework, where the highest of the SyRB and O-SII buffer applied – a 2.5% SyRB rate was applicable for ING N.V., while for ABN AMRO Bank N.V. and Coöperatieve Rabobank U.A. both buffers stood at 1.5% and 2%, respectively. In November 2020 – following the adoption of CRD V, under which the SyRB and the O-SII buffer are treated as additive – the SyRB was abolished for all three banks and the O-SII buffer rate for ING Bank N.V was raised from 2% to 2.5%, in order to keep the structural capital requirements stable.

With the transposition of CRD V into Irish law, the SyRB is now part of the macroprudential policy toolkit available to the Central Bank of Ireland. However, the latter notes in its flagship publication[129] that, although the small and highly globalised nature of the Irish economy and financial system provides a rationale for its implementation in the future, it will not begin the phasing-in of the buffer in 2021.

[128] For one O-SII, Privredna banka, the overall structural requirement to be effectively applied increased only by 0.25% due to the cap on the subsidiaries of the EU O-SII parent (Intesa Sanpaolo) pursuant to Article 131(8) of **CRD V**.

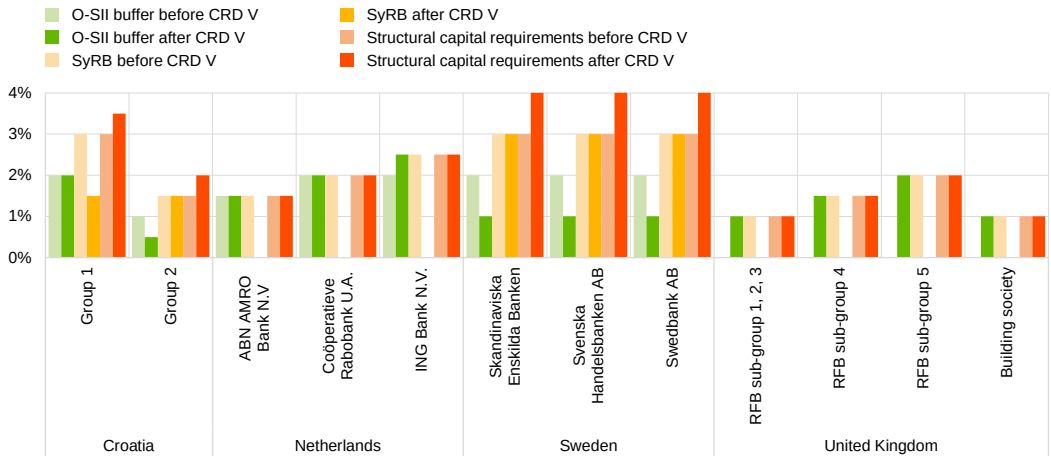
[129] **Financial Stability Review 2020: II**, Central Bank of Ireland.

Chart 3.3.I

Amendments to the structural buffer rates for O-SIIs on account of CRD V

Member States have mostly retained their structural buffer requirements, instead changing the mix between the O-SII buffer and the SyRB

(percentages)



Source: ESRB notifications received in 2020.
Notes: Group 1 in Croatia includes Zagrebačka banka d.d., Zagreb, Privredna banka Zagreb d.d., Zagreb, Erste&Steiermärkische Bank d.d. Rijeka, Raiffeisenbank Austria d.d., Zagreb, and OTP banka Hrvatska d.d., Zagreb; group 2 includes Addiko Bank d.d., and Hrvatska poštanska banka d.d., Zagreb; RFB (which stands for ring-fenced body) sub-group 1, 2, 3 in the United Kingdom includes the Barclays RFB sub-group, the HSBC RFB sub-group and the Santander UK RFB sub-group; RFB sub-group 4 in the United Kingdom stands for The Royal Bank of Scotland RFB sub-group; RFB sub-group 5 in the United Kingdom stands for Lloyds Banking Group RFB sub-group; the building society in the United Kingdom is the Nationwide Building Society; the buffer rates represented in the chart for Dutch banks as being "before CRD V" are those implemented after a COVID-19-driven reduction in buffer rates enacted in March 2020 – the structural capital requirements in relation to these buffers did not change when adapting the CBR to the CRD V framework.

3.3.1.3 Capital buffers for SIIs

In 2020, 11 institutions[130] were categorised as global systemically important institutions (G-SIIs) across six countries (five Member States plus the United Kingdom). The number of G-SIIs has not changed from the G-SII identification exercise carried out in 2019, and the buffer levels have likewise remained unchanged (see Chart 3.3.J). The phasing-in of the G-SII buffers ended in 2019. France and the United Kingdom retain the highest number of G-SIIs at four and three respectively, while Germany, Italy, Spain and the Netherlands count one G-SII each. For institutions to which any combination of O-SII buffer, G-SII buffer and SyRB applies, the CRD IV framework foresaw that the highest of the buffers was applicable (unless the SyRB was only applied to domestic exposures).[131] Banks in four Member States (DE, ES, FR, IT) are only subject

[130] G-SIIs as notified in 2020: Banco Santander S.A. (ES); Deutsche Bank AG (DE); BNP Paribas (FR); Groupe Crédit Agricole (FR); Societé Générale (FR); Groupe BPCE (FR); UniCredit Group (IT); ING N.V. (NL); HSBC Holdings Plc (UK); Barclays Plc (UK); Standard Chartered Plc (UK).

[131] Pursuant to Article 131(14) of **CRD IV**, which reads as follows: "Where a group, on a consolidated basis, is subject to the following, the higher buffer shall apply in each case: (a) a G-SII buffer and an O-SII buffer; (b) a G-SII buffer, an O-SII buffer and a systemic risk buffer in accordance with Article 133. Where an institution, on an individual or sub-consolidated basis is subject to an O-SII buffer and a systemic risk buffer in accordance with Article 133, the higher of the two shall apply."

to the O-SII and G-SII buffers (NL and UK have notified the ESRB that the same will happen in their jurisdictions from 2021 onwards on account of the CRD V framework – see below); the O-SII and G-SII buffers share the same rate in three of these countries (ES, FR, IT). In order to keep CBRs neutral after the SyRB became cumulative as established in the CRD V framework[132], NL abolished the SyRB (which stood at 2.5%) and partially replaced it with increased O-SII buffer rates from December 2020. Likewise, the United Kingdom applied an SyRB to two of its G-SIIs (Barclays Plc and HSBC Holdings PLC), but the SII buffers, being higher, prevailed. After the implementation of the CRD V framework, the G-SII buffer (or the O-SII buffer, if higher) became cumulative with the SyRB, and in December 2020, the United Kingdom therefore decided to remove the SyRB for these institutions and to instead introduce O-SII buffer requirements at the same level, keeping CBRs for its G-SIIs stable. CZ, which did not apply O-SII buffer requirements in 2020, will do so after the transposition of CRD V into national law.

The annual O-SII identification exercise in the Member States and the United Kingdom resulted in the classification of 195 institutions as O-SIIs, the same net number as the one observed in 2019. Nevertheless, three Member States (DE, FR, PL) recognised one new institution as an O-SII, while three others (LU, RO, SI) removed one institution from their list. Two of the additions relate to the transfer of parts of the concerned institutions' business from the United Kingdom to the SSM area on account of Brexit (DE, FR), while the other follows the increase in systemic importance of one institution (PL); two of the removals stem from the fact that the institutions no longer meet the applicable score threshold to be considered an O-SII (LU, RO), while the remaining one is due to a merger between two institutions flagged as O-SIIs in the 2019 identification exercise (SI). The number of O-SIIs varies significantly across countries, ranging between two in Norway and 13 in Germany for the EEA and standing at 15 in the United Kingdom (see Chart 3.3.J).

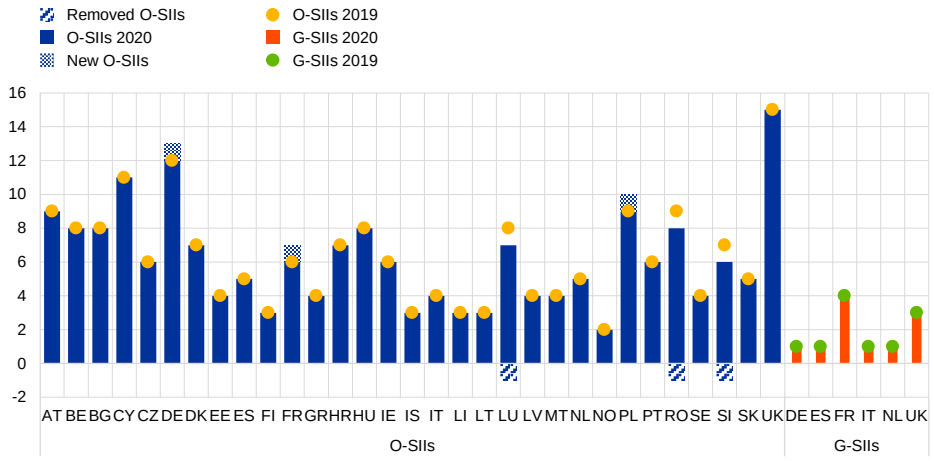
[132] Pursuant to Article 131(15) of **CRD V**, which reads as follows: "Where an institution is subject to a systemic risk buffer, set in accordance with Article 133, that buffer shall be cumulative with the O-SII buffer or the G-SII buffer that is applied in accordance with this Article. Where the sum of the systemic risk buffer rate as calculated for the purposes of paragraph 10, 11 or 12 of Article 133 and the O-SII buffer rate or the G-SII buffer rate to which the same institution is subject to would be higher than 5%, the procedure set out in paragraph 5a of this Article shall apply."

Chart 3.3.J

Number of SIIs by country in the EEA and the United Kingdom

The number of SIIs remained broadly unchanged in 2020, with two countries reporting one O-SII less than in the previous year and three countries identifying one new O-SII each

(number of institutions)



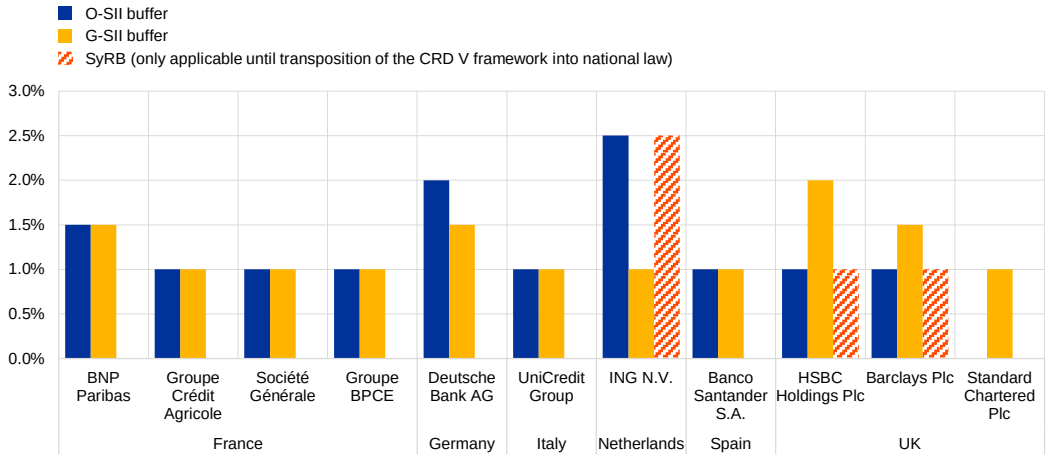
Source: ESRB notifications received in 2019 and 2020.
Notes: The SII classifications and changes are based on the notifications the ESRB received pertaining to the 2019 and 2020 identification exercises; the changes shown result from comparing the two. The G-SII/O-SII identifications are to take effect immediately or in the near future. All G-SIIs are also identified as O-SIIs.

Chart 3.3.K

Fully phased-in G-SII levels announced in 2020

In general, Member States apply the same G-SII and O-SII buffer rates; where an SyRB is in place, the higher of the latter and the G-SII buffer applies

(percentages)



Source: ESRB notifications received in 2020.
Note: Until the transposition of CRD V into Dutch national law, ING N.V. was subject to the higher of the applicable O-SII buffer rate (which stood at 2%) and SyRB rate (which stood at 2.5%). In November 2020, this 2.5% SyRB rate was replaced with a

2.5% O-SII buffer rate. Likewise, the United Kingdom replaced the 1% SyRB rate applicable to two of its G-SIIs with an equivalent O-SII buffer rate at the end of 2020.

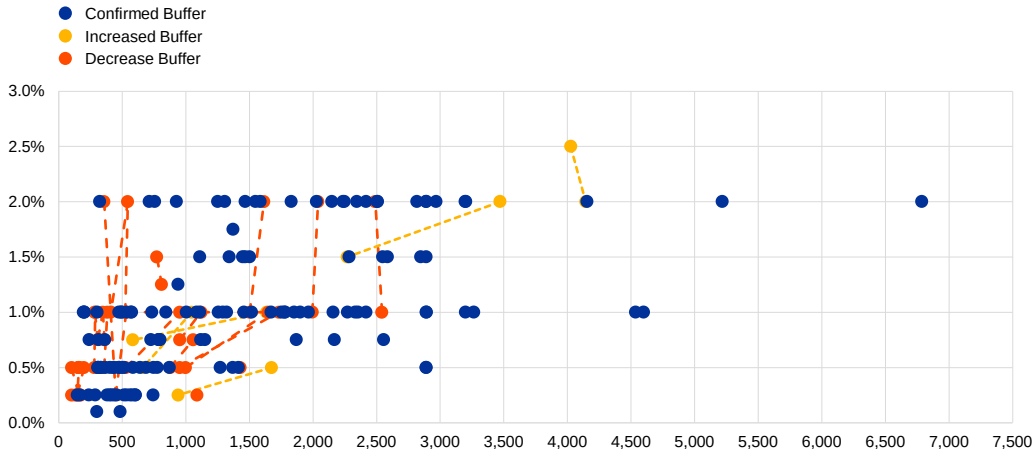
In 2020, 15 Member States amended the O-SII buffer rate applicable to their institutions, resulting in changes for 38 institutions. Of these, five institutions were assigned a more stringent O-SII buffer requirement (CY, IE, MT, NL[133], SI), while the remaining institutions saw a decrease in the level of their buffers (see Chart 3.3.L). Several factors precipitated the recalibration of the buffer levels: management of the effects of the COVID-19 pandemic (three countries); changes in the overall systemic importance scores in 2020 relative to 2019 (seven); recalibrations of the combination of the SyRB and O-SII buffer to keep structural requirements neutral after the transposition into national law of the CRD V framework (two), due to be implemented by the end of 2020[134]; recalibration following the inclusion of the CRD IV framework into the EEA Agreement (one); change in the O-SII identification methodology (one); and change in the applicable buffer to the foreign parent bank of a subsidiary (one).

Chart 3.3.L

O-SII buffer levels relative to systemic importance scores

In 2020, there was a prevalent loosening of the O-SII buffer stance, with far more rate decreases than increases even when discounting the immediate response to COVID-19

(y-axis: buffer in percentages; x-axis: SII score in basis points)



Source: ESRB notifications received in 2019 and 2020.
Note: Excludes COVID-19-related releases, represented in Chart 3.3.E; the introduction of SII buffer requirements in the United Kingdom on account of the introduction of the CRD V framework is not included in this chart, as well as the introduction of these buffer requirements for newly designated O-SIIs.

In order to capture the specificities of their banking systems when designating O-SIIs, some Member States chose not to comply with the EBA guidelines in 2020. Breaches stemmed from

[133] Note that for NL, the CBRs remained the same since the O-SII buffer rate was raised to match the SyRB rate that was applicable prior to the transposition of CRD V into national law.

[134] Member States were required to transpose the CRD V framework into national law by 28 December 2020. This framework refined the scope of the SyRB to avoid overlaps with the CCyB, G-SII and O-SII buffers. Since the buffers must address different risks, the SyRB will now be cumulative with the O-SII or G-SII buffer. This sum is capped at 5%, from which point onward the Member States require approval from the European Commission following opinions from the EBA and ESRB; see Article 131(15) of **CRD V**.

various factors and were justified by Member States based on the peculiarities of their institutions: not including all the mandatory indicators in the identification exercise (CY for investment firms; LT); excluding, when exercising supervisory judgement, O-SIIs that had been identified as such in Title II (LV); reshuffling the weights set by the EBA for each indicator (EE). In addition, the breach of the EBA guidelines was also related to the identification threshold (SI, see below).

In spite of the disparity in minimum scores to identify O-SIIs, the majority of Member States complied with EBA thresholds for the systemic risk score in 2020. In 2014, the EBA established the criteria prescribed to Member States to identify O-SIIs among their institutions.[135] These guidelines provide Member States with four criteria to consider in their quantitative assessment (size, importance, complexity, interconnectedness) and a set of mandatory indicators, from which a systemic risk score is to be derived. The threshold for this score is set at the discretion of countries between 275 and 425 basis points, but 350 points is recommended by the EBA. Institutions whose score is above the predefined threshold are automatically identified as O-SIIs. In 2020, six countries had a threshold below the EBA's recommendation, whereas five countries had a threshold above it, despite staying within the EBA's defined range. SI, however, uses a threshold of 500 –outside the range defined by the EBA and therefore not compliant with the guidelines. Since in a second step Member States can use supervisory discretion to classify institutions which scored below the threshold as O-SIIs, the existing scores for O-SIIs in the EU and UK in 2020 were as low as 103[136] and, in fact, for selected institutions in seven countries (AT, BE, DE, DK, FR, NL, UK), stood below 275 basis points.

Supervisory judgement[137] is still extensively used in the EU and UK to account for the specificities of countries' banking systems. According to the guidelines set by the EBA, countries can use supervisory judgement to capture systemic risk in their domestic sector or the economy of the European Union through additional indicators of systemic importance, where the floor for the systemic risk score is much lower at 4.5 basis points.[138] In 2020, most countries used supervisory judgement to complement their O-SII identification exercise, often adding optional indicators as listed by the EBA guidelines to account for domestic characteristics. While in many cases this only confirmed the conclusions derived from Title II, 31 institutions across 11 countries were categorised as O-SIIs through this process. The greatest contributions came from Germany and the United Kingdom, which together classified 17 institutions as O-SIIs through supervisory assessment, 11 of which were assigned systemic risk scores below 200 basis points.

135 See Title II – Scoring methodology for the assessment of the O-SIIs of **EBA/GL/2014/10**. The O-SII assessment as outlined by the EBA happens in two stages: the first (outlined in Title II) describes the set of mandatory indicators that should be used to derive a systemic score for each relevant entity and then designate the countries' O-SIIs; the second (described in Title III) describes the use of supervisory assessment in designating O-SIIs, i.e. the discretionary power that national authorities hold to identify institutions that have not been automatically designated in title II as O-SIIs as such, so that the latter may capture the level of systemic risk present in their domestic sector or the economy of the Union.

136 Institution designated by Germany under Title III – Supervisory assessment of O-SIIs of **EBA/GL/2014/10**.

137 Supervisory assessment (described in Title III of **EBA/GL/2014/10**) should be used when authorities wish to designate O-SIIs that have not been automatically identified in the first step of the process through the use of the mandatory indicators. In this case, authorities may wish to consider other factors specific to their banking systems or domestic indicators of systemic importance, and designate institutions that originally scored below the threshold as O-SIIs.

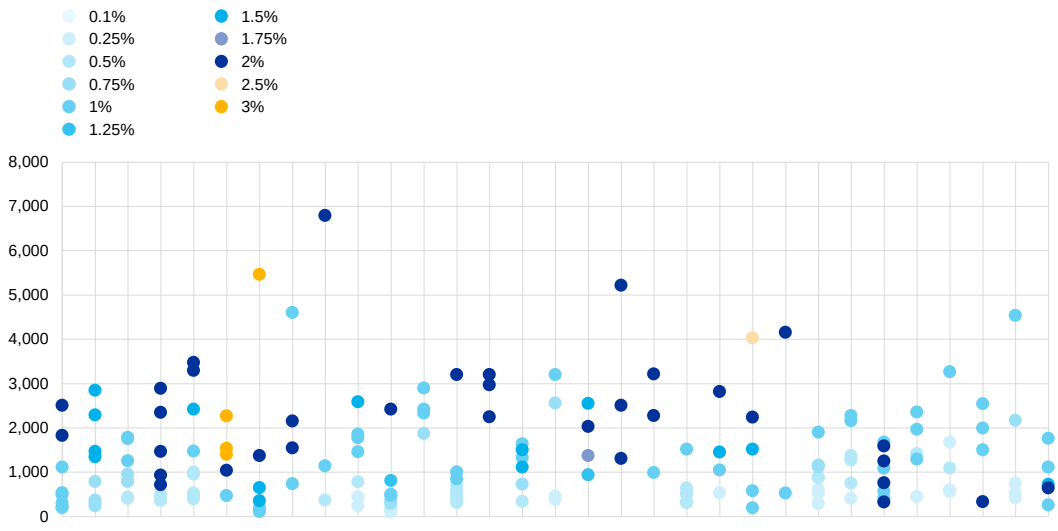
138 See Title III – Supervisory assessment of O-SIIs of **EBA/GL/2014/10**.

Chart 3.3.M

Actual SII scores and buffer levels across the EEA and UK in 2020

Banks with similar scores of domestic systemic importance face different O-SII buffer rates across EEA countries and the United Kingdom

(EBA O-SII scores in basis points)



Source: ESRB notifications received in 2020.
Note: The chart refers to fully phased-in buffer rates.

Countries are yet to take advantage of the additional buffer space offered by the CRD V framework. The amendments to the CRD concerning the O-SII buffer allow for countries to set their O-SII buffer level at 3% of the total risk exposure[139], a one percentage point increase from the previous 2% cap.[140] Of the countries that use bucketing models, only Germany has amended its categories to allow for buffer rates of up to 3%. However, it has not yet been deemed necessary to make use of the additional capital buffers and hence no buffer rate above the previous 2% legal cap has been set.

With the implementation of CRD V, Member States also have greater room to set higher O-SII buffers for subsidiaries of O-SIIs. Under CRD IV, the O-SII buffer of a subsidiary of an O-SII or G-SII was capped by the higher of (i) 1% of the total risk exposure amount, and (ii) the O-SII/G-SII buffer applicable to the parent group. CRD V instead determines that the O-SII buffer of the subsidiary should not exceed the lower of: (i) the sum of the O-SII or G-SII buffer rate applicable at the group level and 1% of the total risk exposure amount; and (ii) 3% of the total risk exposure amount.[141] This modification provides more room for discretion at the host country level to cover the systemic risk of O-SIIs and ensure a level playing field between domestic banks and subsidiaries.

[139] Subject to an authorisation by the Commission, the O-SII buffer can be set higher than 3%; see Article 131(5) of **CRD V**.

[140] See Article 131(5) of **CRD IV**.

[141] According to Article 131(8) of **CRD V**, the latter can also be capped at the rate authorised by the Commission to be applied to the group on a consolidated basis.

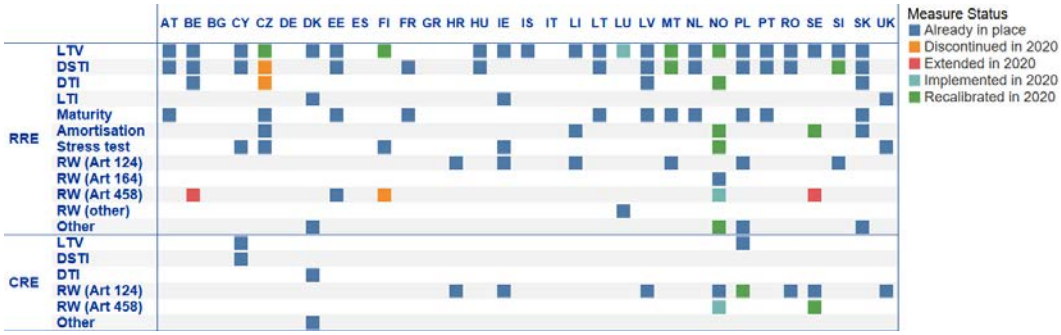
3.3.2 Real estate-related measures

The real estate sector plays an important role in financial and macroeconomic stability given its tight links with both the real economy and the financial system. Housing represents a large part of household wealth and constitutes a significant share of bank lending, so RRE risks are regularly analysed as sources of systemic risk. Previous crises have shown that the impact of a downturn in real estate markets on financial stability and the real economy can be both direct and indirect and can manifest itself through various channels (e.g. reductions in consumption, higher credit default rates, decreasing bank credit to the real economy). Thus, the ESRB – alongside national authorities and the ECB – has been closely following developments in the real estate market and mortgage lending.

Table 3.3.C

Borrower and capital-based measures applied to real estate across EEA countries and the United Kingdom

In 2020, EEA countries and the United Kingdom recalibrated macroprudential measures on account of the COVID-19 shock and also introduced new measures not related to the crisis



Source: ESRB.

Note: Article 458 of the Netherlands has not been included in the table because the measure was cancelled before its activation due to the COVID-19 pandemic.

3.3.2.1 Capital-based measures

In recent years, several macroprudential authorities have taken action to address risks building up in their real estate markets by increasing their credit institutions' risk weights. The CRR grants national authorities the power to increase risk weights based on Articles 124, 164 and 458. Pursuant to Articles 124 and 164, the competent authority may set either higher risk weights for credit institutions using the standardised approach (SA) or higher minimum loss given default (LGD) values for banks using the IRB approach for exposures secured by immovable property (see Section 3.3.4.2). Other Member States have opted to use their national flexibility powers under Article 458(2)(d)(iv) of the CRR to target asset bubbles in the residential property and commercial property sector, for which Articles 124 and 164 of the CRR were identified to be less suitable and effective in dealing with the changes in the intensity of macroprudential or systemic risks in the financial system.

Article 124 of the CRR for standardised approach (SA) credit institutions

Relevant authorities may set higher risk weights for credit institutions using the SA for exposures fully and completely secured by mortgages on immovable property pursuant to Article 124 of the CRR. This article allows for the setting of risk weights between 35% and 150% for exposures secured by mortgages on RRE and between 50% and 150% for exposures secured by mortgages on commercial immovable property. Member States have used this Article to target their RRE-related risks in the form of either (i) decreasing the threshold for the market or mortgage lending value of the property, as applicable, which is in general 80% as stated under Article 125(2)(d) for the part of the loan to which a risk weight of 35% is assigned when secured by mortgages on residential property; and/or (ii) a stricter definition of what constitutes an exposure which is "fully and completely secured by mortgages on residential property". When using this article for CRE exposures, authorities have increased the preferential risk weight to 100% (instead of the standard 50%) for the part of the loan below the maximum LTV threshold, rather than changing the LTV threshold itself.[142] These measures have been used rather frequently by some Member States in the past and stayed in place throughout 2020 (see Table 3.3.D), although no additional country has activated this article in the last few years.

Table 3.3.D

The use of Article 124 of the CRR

EEA countries frequently used Article 124 of the CRR to set higher risk weights for real estate loans in the past, and only PL changed its measure in 2020

		BG	HR	IE	LI	LV	MT	NO	PL	RO	SE	SI	UK
RRE	Max. LTV				●		●					●	
	Definition	●	●	●					●				
CRE	Risk weight		●	●		●		●	●	●	●		
	Definition	●											●

Source: ESRB macroprudential measures database.

Notes: The maximum LTV levels for a mortgage to obtain the preferential 35% risk weight in MT and SI are 70% and 60%, respectively. In LI, a two-tier approach is taken where the part of the mortgage up to an LTV of two-thirds can obtain the preferential risk weight of 35%, while the part of the mortgage in breach of that LTV (but still below 80%) carries the risk weight of 50%. Definitions refer to the use of Article 124 to implement stricter requirements in order for an exposure to be considered "fully and completely secured by mortgages" either on RRE or CRE. PL reduced its risk weight from 100% to 50% for exposures secured by specific categories of CRE, while continuing to apply the 100% risk weight for exposures secured by other CRE.

Article 164 of the CRR for IRB credit institutions

Article 164 of the CRR allows for the setting of higher exposure-weighted average LGD values for retail exposures secured by immovable property of credit institutions using the IRB approach. The risk weights for IRB banks are a function of both the LGD and the probability of default (PD) parameters. This article has not been frequently used by Member States, as it has been considered inadequate to address risks of real estate exposure for IRB banks. In particular, notifying authorities have mentioned as inconvenient of activating this article that it has implications

[142] The maximum LTV threshold to which the standard 50% risk weight can be applied, as stipulated by Article 126(2)(d) of the CRR, is 50% of the market value of the property or 60% of the mortgage lending value.

for the calculations of expected loss amounts, that it cannot remediate too low PDs and that the impact is relatively stronger for banks with higher PDs, which makes the impact less homogeneous across banks compared to Article 458. Therefore, EEA countries have tended to use the powers under Article 458 of the CRR by introducing higher risk weight floors in their national jurisdictions.

Norway is the only EEA country that has until now used Article 164 of the CRR to impose an exposure-weighted average LGD value for all retail exposures secured by residential property and not benefiting from guarantees from central governments above the predetermined 10%, as set out in Article 164(4) of the CRR. Since 2014, Norway requires its IRB institutions to have a minimum exposure-weighted LGD of 20% for its IRB institutions for the mentioned exposures.[143] However, Norwegian authorities are of the view that the measure is not sufficient, as it still enables some institutions to operate with average risk weights below 20%, which the authorities consider to be too low. Hence, after the CRR/CRD IV framework was incorporated into the EEA Agreement from 1 January 2020 in Norway, the Norwegian Ministry of Finance notified the ESRB of its intention to also use its powers under Article 458 of the CRR to target asset bubbles in the residential and commercial property sector (see next section).

National flexibility measures under Article 458 of the CRR related to real estate

National authorities may implement stricter prudential measures using Article 458 of the CRR when they identify changes in the intensity of macroprudential or systemic risk in the financial system with the potential to have serious negative consequences for the financial system and the real economy. These so-called flexibility measures can only be used when none of the existing tools as specified in the CRR/CRD framework are able to effectively address the identified risks. To avoid misuse of these measures, the legislator foresees a multi-step notification, consultation and non-objection approach and limits the original duration of such measures to two years, with the possibility of extending them by up to two additional years each time (if needed).[144]

Since 2014, a total of six countries (BE, EE, FI, FR, NO and SE) have implemented measures pursuant to Article 458 of the CRR. Five of the six measures are still active. In 2020, Belgium, France and Sweden notified the ESRB of their intention to extend the application of their existing measures, whereas Finland announced that it would discontinue its already once-extended measure after its expiration on 31 December 2020. While five measures target risks related to real estate exposures, the French measure aims to limit concentration risk, setting a large exposure requirement for highly indebted large French NFCs (see Section 3.3.3).

Since end-2019, the Netherlands and Norway have notified the ESRB of their intention to adopt stricter prudential requirements for their respective IRB institutions' risk weights:

[143] The Norwegian measure became effective as of 1 January 2014 and was implemented under the Norwegian national regime given that the CRR had not been incorporated into the EEA Agreement as of 1 January 2020.

[144] The measures under Article 458 of the CRR are notified by the national authorities to the European Parliament, the Council, the Commission, the ESRB and the EBA. The ESRB and the EBA must provide their opinions to the Council, the Commission and the notifying Member State within one month of receiving the notification.

- **Netherlands:** In October 2019, the Netherlands notified the ESRB of its intention to impose a minimum average risk weight for IRB banks' portfolios of exposures to natural persons secured by mortgages on residential property located in the Netherlands. The risk weight of each individual exposure item in scope of the measure is either (i) 12% if the LTV is less than 55%, or (ii) the weighted average of a 12% risk weight assigned to the portion of the loan not exceeding 55% of the market value of the property securing the loan, and a 45% risk weight assigned to the remaining portion of the loan. The proposed measure was scheduled to enter into force six months after its publication, which was intended to take place in March 2020. However, in March 2020, the Dutch authorities decided to defer its introduction in the light of the COVID-19 pandemic and its potential impact on the Dutch economy and the financial sector. Given the large uncertainty regarding the pandemic and its economic impact, the authorities considered that it was not the right time to subject the Dutch banking sector to a combined additional capital requirement of more than €3 billion, but to provide banks with more leeway to support lending in these extraordinary times. In October 2020, De Nederlandsche Bank provided more information on the period of the deferral and announced that the measure would come into force at the end of 2021 at the earliest.

- **Norway:** The Norwegian Ministry of Finance notified the ESRB on 5 November 2020 of its intention to implement stricter national measures regarding the risk weights for targeting asset bubbles in the residential and commercial property sector pursuant to Article 458(10) of the CRR. The intended measures comprise a floor for exposure-weighted average risk weights of 20% for Norwegian RRE and of 35% for CRE exposures. As this intended measure seeks to increase average risk weights by less than 25% for a period of two years from 31 December 2020, the "notification-only procedure" pursuant to Article 458(10) of the CRR applies, which does not require the ESRB to issue an opinion on the proposed measures.

On account of the increasing systemic risks in the RRE markets in recent years, all measures taken under Article 458 of the CRR, except the French measure, aim to enhance the resilience of credit institutions against potential negative shocks in these markets. As mentioned in Section 7, the ESRB issued recommendations and warnings to several EEA countries (BE, CZ, DE, DK, FI, FR, IS, LU, NL, NO and SE) in which the identified medium-term vulnerabilities in their RRE markets were considered to be high. To date, the ESRB has supported the introduction and/or extension of all national flexibility measures notified under Article 458 of the CRR through its opinions.

3.3.2.2 Borrower-based measures

At the end of 2019, the majority of EEA countries had some BBMs in place, though the policy mix was highly heterogeneous. 24 out of 31 EEA countries had at least one BBM in place at the end of 2019 for risks related to RRE. Of these 24 countries, 22 used LTV limits and another 19 used income-based restrictions. Among the latter measures, most common were DSTI limits (15 countries), followed by maturity limits (11 countries), stress test limits (six countries), DTI limits and amortisation requirements (four countries) and finally LTI limits (3 countries). 14 EEA countries had a combination of income-based restrictions and LTV limits. For risks related to CRE, only Cyprus, Denmark and Poland had borrower-based restrictions in place. The types and "bindingness" of

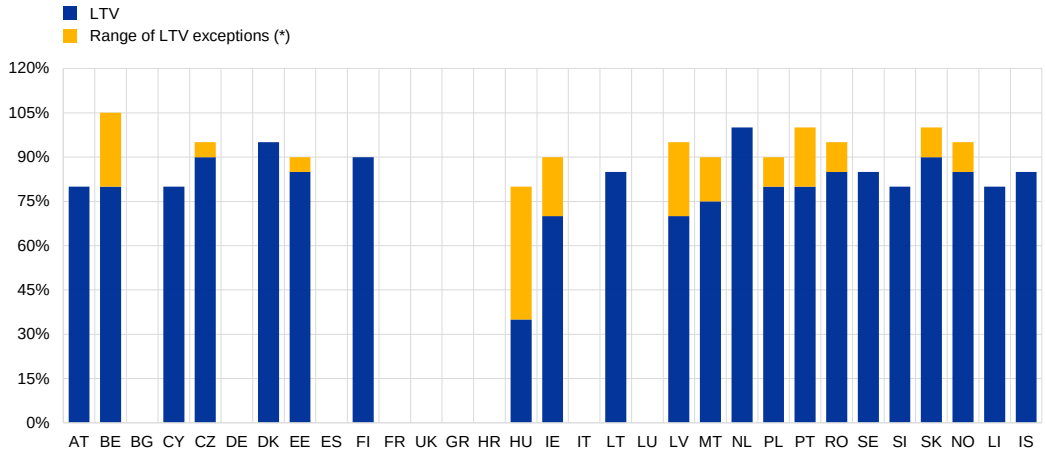
policy measures implemented by EEA countries reflected the diversity of risks in the jurisdictions, as well as different attitudes by the authorities and legal instruments at their disposal.

Seven tightening measures designed in 2019 by four Member States became active in 2020. In response to ESRB recommendations on RRE, the Banque National de Belgique (NBB) published supervisory expectations for mortgage lending that consist of LTV limits (which are differentiated for first-time buyer, other owner-occupied and buy-to-let residences) and limits for pockets of risk (i.e. the combination of high LTV and high DSTI/DTI). These NBB supervisory expectations are applicable both to all banks and all insurers which are active in loan origination in Belgium (of which 14 banks and four insurances companies with an outstanding amount of mortgage loans higher than 1 billion have to provide an annual compliance report to the NBB). France, Latvia and Slovakia also applied new measures that were not motivated by previous ESRB recommendations or warnings. The French authority Haut Conseil de Stabilité Financière (HCSF) set a maturity limit of 25 years for mortgage loans and recommended to banks a DSTI limit of 33%.[145] Towards the end of 2019, the Financial and Capital Market Commission of Latvia complemented its pre-existing LTV limits fixed at 90% in 2007 with a maximum maturity of 30 years for mortgage loans, a DTI limit of six times the annual income earned and a DSTI limit for housing loans of 40%. Finally, Národná banka Slovenska tightened the binding DSTI limit from 80% to 60% for both housing and consumer loans combined.

Chart 3.3.N

Applicable BBM measures in EEA countries in 2020

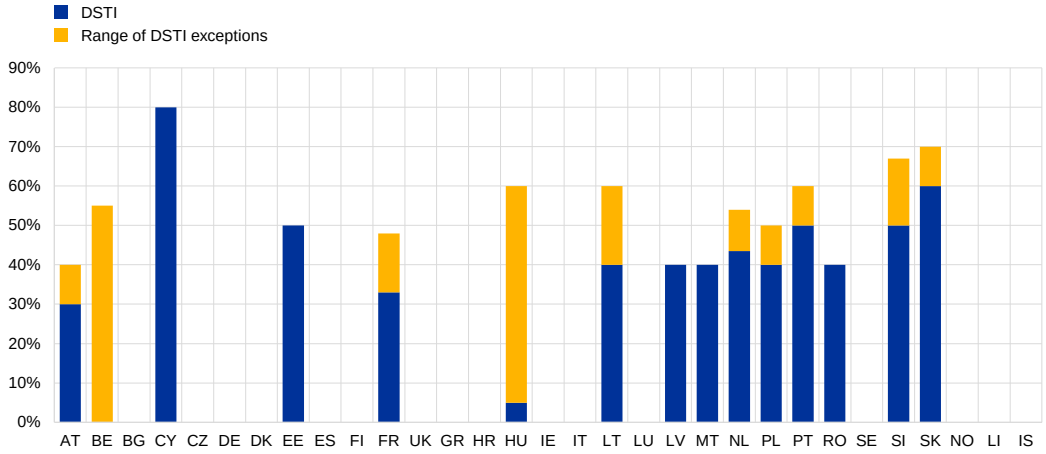
The availability and implementation of BBM measures vary significantly across EEA countries



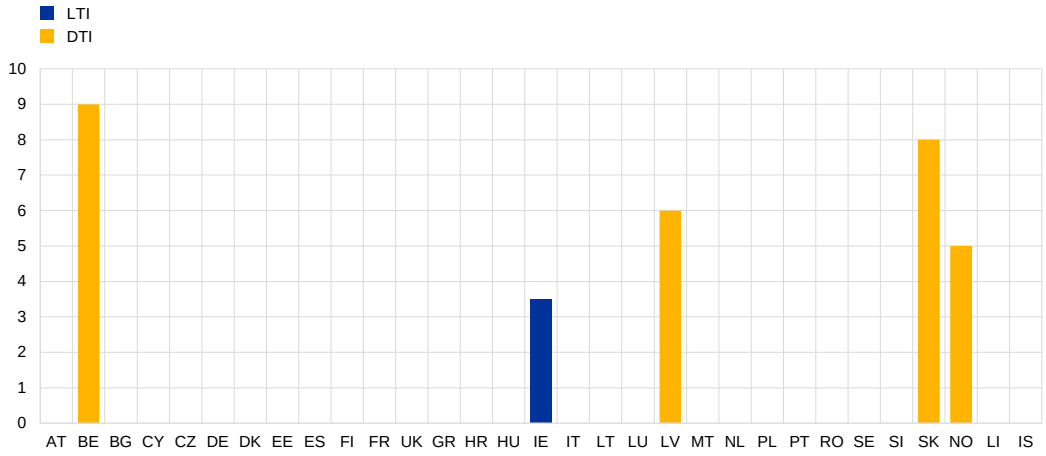
Source: ESRB calculations.

Notes: The chart covers measures applied before 2020 and still applicable in 2020, measures which became applicable in 2020 and measures applied in 2020. Ranges of exceptions comprise different categories, such as different levels of LTV limits for different types of borrowers. The most common exceptions are LTVs for first-time buyers (FTBs), LTVs for non-first-time buyers, LTVs for buy-to-let (BTL) properties and LTV for loans granted through governmental programs. A number of countries also have allowances that permit lending above the LTV limits for FTBs, second-time and subsequent buyers (SSBs) and BTL lending.

[145] Note that on 27 January 2021, the HCSF introduced a new recommendation on RRE lending. The maturity limit was confirmed at 25 years, while the DSTI was adjusted to also include insurance fees. Following this adjustment to the definition, the DSTI limit was set at 35%. For more information, see the **notification received by the ESRB**.



Source: ESRB calculations.
Notes: The chart covers measures applied before 2020 and still applicable in 2020, measures which became applicable in 2020 and measures applied in 2020. Income definition underlying DSTI limits can differ across countries given that no unique harmonised definition of income applies for DSTI limits across Member States. A cross-country comparison of DSTI limits should always take this information into account.



Source: ESRB calculations.
Notes: The chart covers measures applied before 2020 and still applicable in 2020, measures which became applicable in 2020 and measures applied in 2020. Income definition underlying LTI and DTI limits can differ across countries given that no unique harmonised definition of income applies for LTI and DTI limits across Member States. A cross-country comparison of DTI and LTI limits should always take this information into account.

Five EEA countries relaxed income-based BBMs in 2020 in response to the COVID-19 pandemic. Due to the potential income losses resulting from the COVID-19 pandemic, the macroprudential limits implemented in the expansionary phase might become overly restrictive in the downturn and unduly limit households' access to credit. Against this backdrop, macroprudential authorities in Malta, Slovenia and the Czech Republic loosened their DSTI limits, while the Swedish and Norwegian authorities instead relaxed their amortisation and speed limits, respectively. Česká národní banka increased its DSTI limit from 45% to 50% and discontinued its existing DTI limit with effect from April. In June 2020, the CNB further loosened its policy by abolishing the DSTI limit. In Malta, lenders which could prove that their failure to meet the stressed DSTI at origination (O-DSTI) limit of 40% was due to temporary reasons were allowed to exceed this limit. In Slovenia, Banka

Slovenije amended restrictions on household lending to provide temporary flexibility to lenders. In March 2020, the Ministry of Finance of Norway relaxed its speed limit, moving the quarterly quota of new mortgages allowed to breach regulatory limits (stress test, DTI and LTV limits) from 8% in Oslo and 10% outside Oslo to 20% for both categories. In June, the measure was extended until the end of September 2020. The relaxation of the speed limit is also expected to have an effect on collateral side dynamics, given that Norwegian lending regulations also entail an LTV limit. In April 2020, in order to mitigate the economic impact of the COVID-19 pandemic, Finansinspektionen (FI) decided to allow Swedish banks to grant an exemption from amortisation requirements. This measure will apply until 31 August 2021 and will not be extended further.[146]

Two Member States loosened LTV limits to support the credit cycle, Malta postponed its phasing-in, and Norway relaxed its speed limit. With effect from the beginning of April, Česká národní banka increased its LTV limit from 80% to 90%. In June 2020, the Finnish Financial Supervisory Authority increased its loan-to-collateral ratio from 85% to 90% to support household demand and promote the functioning of the housing and mortgage market. Finally, the Central Bank of Malta granted an extension to the phasing-in of its previously approved LTV limit tightening, which is applicable to Category II borrowers (i.e. borrowers purchasing additional residential property), from the current 85% to 75% in 2021.

Heterogeneity was observed as to Members States' approach to BBMs during the COVID-19 pandemic. While seven countries relaxed their BBMs to support lending and collateral dynamics, the vast majority of Member States took no action. This may underline the lack of consensus over whether BBMs are predominantly cyclical instruments whose calibration should evolve during the credit and housing market cycle, or whether these measures have primarily a structural character, safeguarding resilience by inducing prudence in lending throughout the cycle. Lending surveys confirm that in the aftermath of the COVID-19 shock, banks tightened their credit standards and raised concerns regarding potential obstacles to the flow of credit. The loosening of BBMs might support households' access to credit. Nevertheless, systemic risks stemming from the overvaluation of property prices and rising indebtedness of households amid the low interest rate environment, which were the main reasons for implementing BBMs, are still present. These risks need to be carefully considered before loosening BBMs.

Finally, Luxembourg and Norway announced new measures in 2020, which will become effective starting from 2021. After establishing a legal framework to introduce BBMs in 2019 and following a recommendation by the Comité du Risque Systémique (CdRS), the Commission de Surveillance du Secteur Financier (CSSF) activated a combination of legally binding LTV ratios in December 2020. The legally binding LTV limits entered into force on 1 January 2021 and are differentiated according to borrower categories, ranging from 80% for buy-to-let loans to 90% for borrowers acquiring their primary residence. The limits may also be extended to 100% for first-time borrowers. This ensures flexibility for banks managing the risks in their credit portfolios. The measure was introduced after a thorough assessment of the risks and vulnerabilities in the Luxembourg residential real estate market and enabled the authorities to respond to the recommendation issued by the ESRB in September 2019. In December 2020, the Ministry of Finance in Norway extended its existing lending regulation, which was set to expire at the end of 2020, until the end of December 2024. A DTI ratio of five times the annual income earned, an LTV

[146] For detailed information about the policy decision, see the corresponding **press release by Finansinspektionen**.

limit of 85%, loan amortisation requirements for residential mortgage loans with LTV ratios above 60%, stress test requirements for assessing borrowers' debt service ability and finally flexibility quotas for mortgage loan volumes remain in place.

3.3.3 Other measures

The measures reviewed in this section include all measures of a macroprudential nature that do not fall into one of the categories of the sections above. For the period covered by this review, this includes liquidity measures implemented by the Magyar Nemzeti Bank as well as a measure in France. While the liquidity measures in Hungary generally address risks related to maturity mismatch and market illiquidity, the French measure targets specific risks related to highly indebted large NFCs, tightening the exposure limits for SIIs when lending to such NFCs.

Liquidity measures are often applied to ensure more stable access to market funding and to increase banks' resilience to adverse currency movements. Crisis periods are indeed often associated with sudden and large market movements, which can severely affect liquidity conditions. Funding opportunities may become expensive and even disappear. Financial market turbulence can also involve currency adjustments and trigger capital flows that have profound effects on banks' balance sheets. Among the countries which already had liquidity measures in place at the end of 2019 (BG, SE, NO, PL, HU), only Hungary modified its liquidity measure framework during 2020. Moreover, no country without a previous liquidity measure in place decided to newly apply any such measure during 2020.

In 2020, the Magyar Nemzeti Bank renewed its liquidity policy package with the aim of managing foreign exposure and ensuring long-term funding soundness. In March, Hungary loosened for an indefinite period its mortgage funding adequacy ratio in order to reduce the costs of long-term funding for banks. At the same time, other measures were tightened, before these same measures for foreign currency exposures and funding were relaxed in September. In particular, liabilities related to derivative transactions with financial companies were exempted from the regulatory limit computation under Hungary's interbank funding ratio. By restoring foreign exchange funding adequacy ratio and foreign exchange coverage ratio regulations, the national authority once again considered all forex funds with a residual maturity over one year as 100% stable funds. Moreover, the Magyar Nemzeti Bank relaxed the currency mismatch between assets and liabilities to 15% of the balance sheet total, the level in effect before the pandemic.

Furthermore, the French authorities extended their measure under Article 458 of the CRR that tightens exposure limits for SIIs when lending to highly indebted large NFCs resident in France.[147] This measure was originally introduced in 2018 and aims at mitigating the impact of idiosyncratic corporate defaults on the most systemic institutions by limiting concentration risk. This stricter national flexibility measure was deemed necessary since the French macroprudential authority (HCSF) identified an increasing indebtedness of large French NFCs as a severe macroprudential risk for the French financial system. Specifically, French SIIs should not incur an exposure to highly indebted NFCs or groups of connected NFCs that exceeds 5% of their eligible

[147] For more detailed information on this stricter measure, see the **notification by the French Haut Conseil de stabilité financière (HCSF)** and the **corresponding opinion of the ESRB**.

capital, after credit risk mitigation and exemptions (as defined in Article 395 of the CRR). By deducting liquid assets from total debt, the indicator takes into account the accumulation of liquid assets by corporates, hence acknowledging the reduced risk posed by NFCs holding larger liquidity buffers. When setting the exposure threshold, the HCSF aimed at ensuring resilience (i.e. a sufficiently low threshold to protect the financial institutions) while keeping the preventive character of the measure (i.e. not too restrictive, to avoid an excessive reduction of bank exposures to large NFCs, triggering undesirable deleveraging).

3.3.4 EBA work on the regulatory framework

3.3.4.1 EBA work on provisions related to capital buffers

Mandated by CRD V, the EBA clarified the sectoral use of the SyRB, reported on O-SII calibration and proposed amendments to the RTSs for G-SII identification. Article 133(6) of CRD V requests the EBA to issue guidelines on the appropriate subsets of four sectoral exposures to which authorities may apply a SyRB.[148] Article 131(3) of CRD V requests the EBA to report to the Commission on the appropriate methodology for the design and calibration of O-SII buffer rates. The ESRB was formally consulted on these documents. Finally, the amendment of the RTSs for G-SII identification[149] and related guidelines on the specification and disclosure of systemic importance indicators[150] were required by the change in the BCBS methodology and by CRD V.

The guidelines on the sectoral use of the SyRB[151] provide for (sub-)dimensions along which appropriate subsets of sectoral exposures can be defined. The main objective of the guidelines is to balance the flexibility in addressing sources of systemic risk while keeping the framework simple. The guidelines provide for three dimensions (debtor, type of exposure and type of collateral) and three sub-dimensions (economic activity, risk profile and geography), each with predefined elements that allow policymakers to cover all major sources of systemic risk. Any subset to which an SyRB will be applied is characterised by combining one element from each of the dimensions and, where appropriate, one element from any of the sub-dimensions. The SyRB can be applied only to subsets that are relevant sources of systemic risk. The three principles of size, riskiness and interconnection should guide policymakers in ascertaining the systemic relevance of subsets. However, no thresholds are suggested. Authorities should also be mindful of potential overlaps between the application of the SyRB and other macroprudential instruments. Furthermore, an excessively granular application of the SyRB or an application based on non-harmonised data may disincentivise reciprocation by other Member States.

Following up on the mandate in CRD V, the EBA reported to the European Commission on the appropriate methodology for the calibration of O-SII buffer rates, after consulting the

148 The four sectoral exposures are (i) all retail exposures to natural persons which are secured by residential property, (ii) all exposures to legal persons which are secured by mortgages on commercial immovable property, (iii) all exposures to legal persons excluding those specified in point (ii), and (iv) all exposures to natural persons excluding those specified in point (i). See Article 133 5(f).

149 **EBA/RTS/2020/08** (to be formally endorsed by the Commission).

150 **EBA/GL/2020/14**.

151 **EBA/GL/2020/13** and **EBA master summary of compliance notifications**.

ESRB.[152] **The EBA advises to implement an EU-wide floor methodology, as opposed to a fully-fledged one.** There is marked heterogeneity in O-SII buffer levels across the EU, where two institutions with comparable scores may be required to hold very different buffers. These differences are not solely explained by national specificities and raise questions over a potentially uneven playing field in the European Union (see also Section 3.3.1.3). To foster harmonisation, the EBA advises in its report to the European Commission to implement an EU-wide floor methodology. In principle, this approach can be interpreted as an extension to non-euro area Member States of the current floor methodology used by the ECB for SSM countries.[153]

The EBA's proposed methodology has two fundamental characteristics: first, it is a floor methodology and second, it is based on the bucketing approach. Being a floor methodology, it advises national authorities on the minimum buffer rate deemed appropriate for a given O-SII, rather than the suggested rate. With respect to the calibration of the methodology, the bucketing approach is used. While the bucketing approach has weaker economic underpinning compared to alternatives, it also has advantages in that it is pragmatic, predictable, stable over time and aligned with the BCBS framework for global systemically important banks.[154]

However, the practical impact of such EU-wide calibration would be minimal. The EBA's proposal will have limited impact on the level of O-SII capital buffers imposed by authorities throughout the EU. Authorities in the SSM area are already compliant with the ECB floor methodology, and non-SSM authorities tend to impose higher buffers than their SSM counterparts. The vast majority of O-SIIs are already compliant with the suggested EU-wide floor. The European Commission will decide on the next steps, which could entail a higher degree of harmonisation across the EU while allowing for national specificities to be considered.

The EBA also proposed a draft RTS (EBA/RTS/2020/08) on the specification of the methodology for G-SII identification.[155] This standard takes into account the international standards of the BCBS, which were updated in 2018 and introduced a new indicator of systemic importance. It also regards the alternative methodology for G-SII calculation under Article 131(2a) of CRD V, allowing for the reallocation of a G-SII to a lower bucket on the basis of its additional overall score and accounting for the specificities of the SRM. This additional score treats cross-border exposures within the banking union as domestic for the calculation of cross-border activity indicators. Authorities using such discretion shall, however, adequately consider "the views or reservations of the BCBS".[156] Whether the alternative methodology will be used in practice and whether it will lead to a decline in buffer rates for G-SIIs remains to be seen.

---

152 **EBA/Rep/2020/38**.

153 **Macroprudential Bulletin, Issue 3**, ECB, June 2017.

154 See **Global systemically important banks: Assessment methodology and the additional loss absorbency requirement**, Bank for International Settlements, December 2020.

155 **EBA/RTS/2020/08** (to be formally endorsed by the Commission).

156 Art. 1(d) of EBA/RTS/2020/08 (to be formally endorsed by the Commission).

3.3.4.2 EBA work on Articles 124 and 164 of CRR II[157]

Articles 124 and 164 of the CRR allow the relevant authority to either set higher risk weights or higher minimum LGD values for exposures secured by immovable property. Both instruments are a part of the macroprudential toolkit to ensure financial stability in the European banking sector and affect the calculation of risk weights for exposures secured by immovable property. Article 124 of the CRR affects the calculation of risk weights for exposures fully and completely secured by mortgages on immovable property under the SA, while Article 164 of the CRR affects the LGD values for retail exposures secured by immovable property under the IRB approach.

To strengthen macroprudential policy in the European Union, CRR II introduced several changes and new features to Article 124 and Article 164. CRR II splits the mandate into two parts and shares responsibilities between the EBA and the ESRB. The mandate of the EBA is to develop an RTS – in close cooperation with the ESRB – on the factors and conditions to be considered by authorities for the assessment of the appropriateness of risk weights under the SA and of minimum LGD values under the IRB approach. At the same time, the considerations on the activation and calibration of these measures were removed. The ESRB, on the other hand, may – in close cooperation with the EBA – give guidance to authorities on the factors which could adversely affect the current or future financial stability of the Member State and on indicative benchmarks that the relevant authority can take into account when determining higher risk weights or minimum LGD values by means of a recommendation.

The EBA launched its work on preparing the draft RTS under CRR II in close cooperation with the ESRB. For this purpose, the EBA set up an expert group to draft the RTS composed of regulatory and macroprudential experts from national authorities and the ESRB Secretariat. The drafting team started its work on the RTS in spring 2020. Following a public consultation, the Board of Supervisors of the EBA will need to approve the draft RTS, after which it will be published on the EBA's website. The expected timeline for this is around summer/fall 2021.

[157] Regulation (EU) No 575/2013, as amended by Regulation (EU) 2019/876.

4 Risks faced by other financial intermediaries and financial markets and policies to mitigate them

4.1 Introduction

The "dash for cash" at the onset of the COVID-19 pandemic highlighted the interconnectedness across, and vulnerabilities in, market-based finance and the non-bank financial system. The outbreak of the COVID-19 pandemic led to an increase in investor risk aversion, which triggered a broad-based repricing of risk. This, together with the need to make payments, including on margin calls on derivative positions, led to an increased demand for safe and liquid assets, notably cash (see Section 1.5). It created an imbalance in demand and supply with, for example, some segments of financial and non-financial corporate debt markets becoming increasingly illiquid. The "dash for cash" was accentuated by the above-mentioned margin calls on derivative transactions, which had ramifications for other markets. For example, redemptions by insurers and IORPs from MMFs correlated with the incidence of margin calls on their derivative exposures.[158] The combination of investor redemptions and deteriorating market liquidity of the assets held by investment funds created liquidity management challenges for some types of MMFs and corporate bond funds. With some of these developments reinforcing each other, there was a risk that impaired market functioning would adversely affect the ability of financial and non-financial firms to raise funds. This would ultimately have further weakened the economy.[159]

Extraordinary central bank interventions to maintain the transmission of monetary policy highlight the need for a macroprudential framework beyond the banking sector. Central banks introduced extraordinary asset purchase programmes, special liquidity operations and US dollar funding facilities to restore market functioning and maintain the efficient transmission of monetary policy measures. These interventions were effective, but expectations of public intervention can create moral hazards and make the build-up of vulnerabilities more likely. A stronger macroprudential framework for non-bank financial intermediaries would increase the resilience of market-based finance and reduce the need for central bank intervention during crisis.[160] Strengthening the macroprudential framework is particularly important as the provision of credit to the real economy by the non-bank financial sector has significantly grown over the last decade and the CMU project foresees that this trend will continue.

Reflecting these developments, the initial response by the ESRB and its members included many measures focused on the non-bank financial sector. Public authorities in Europe, including the ESRB, took measures designed to address vulnerabilities in the non-bank financial

158 See **Financial Stability Review**, Box 8, ECB, November 2020.

159 For a comprehensive overview of these developments, see, for example, **Holistic Review of the March Market Turmoil**, Financial Stability Board, November 2020.

160 See, for example, Visco, I., "**Financial stability implications of the pandemic**", welcome address at the 2nd Bank of Italy and Bocconi University - BAFFI CAREFIN Conference "Financial Stability and Regulation", Rome, 22 October 2020, and ibid.

sector that were becoming apparent. These measures included action by security market regulators to improve market functioning. In the absence of a macroprudential framework beyond the banking sector, these measures by public authorities tended to be microprudential in nature and/or focused on the use of microprudential tools. Reflecting the macroprudential implications of these measures, they are nevertheless covered in this section of the review. This section also considers ongoing regulatory developments relevant for the creation of a comprehensive macroprudential framework for the non-bank financial sector that are not directly related to the COVID-19 response. They include the finalisation of a recovery and resolution framework for CCPs and the review of the regulatory framework for the insurance sector (Solvency II).

4.2 CCPs

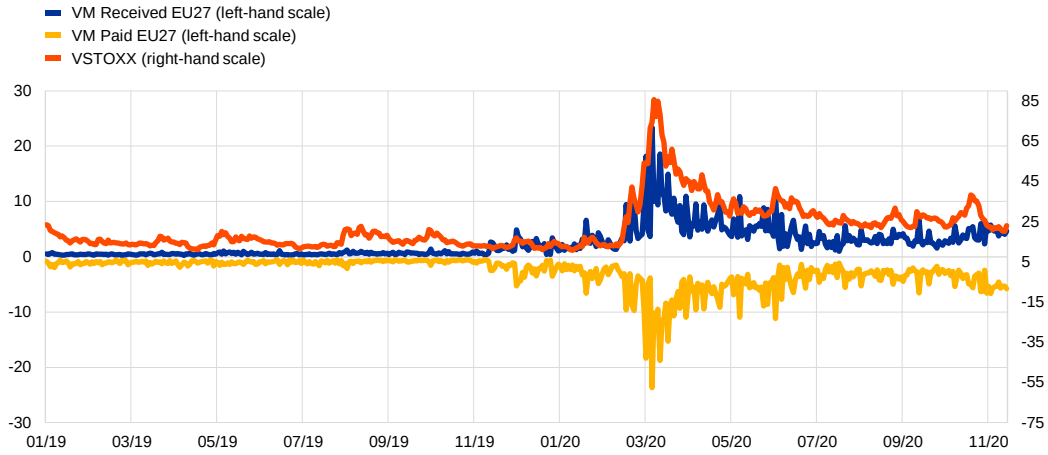
CCPs demonstrated operational resilience during the market turmoil at the onset of the COVID pandemic, processing increased volumes of transactions and margins. CCPs are systemic risk managers, and as such can be sensitive to events such as the market turmoil at the onset of the COVID-19 pandemic described in Section 1.5. CCPs across Europe had to deal with increased volumes of transactions and of margins called and posted at a time when COVID-19 restrictions created operational complexities. For example, Chart 4.2.A below shows the large increase in variation margins processed by all EU27 CCPs – both received from and paid out to clearing members – in response to the jump in market volatility. Despite these challenges, CCPs proved resilient in the absence of widespread defaults by clearing members. CCP supervisors closely monitored their performance during this time, and no material operational incidents occurred at CCPs.

Chart 4.2.A

Daily variation margins (VMs) received and paid by EU27 CCPs

CCPs proved resilient and were able to process increased volumes of margins during the market turmoil in March 2020

(EUR billions (LHS); VSTOXX index level (RHS))



Sources: ESRB trade repository data and VSTOXX public data plus ESRB Secretariat calculations.
Notes: The chart shows the daily flows of VMs in EUR billions, i.e. the amount of VMs received by CCPs from their clearing members and the amount that CCPs paid (back) to their clearing members.

Margin calls, however, added to the demand for highly liquid assets (notably cash), which put liquidity management strains on some users of clearing services, both members and clients. High volatility in asset prices resulted in large variation margin calls on centrally and bilaterally cleared derivative transactions. For example, the daily amount of variation margins called by EU27 central counterparties peaked at around €23 billion in March 2020 (Chart 4.2.A). While the regular exchange of variation margins prevented the build-up of uncollateralised exposures – a desired feature of the G20/FSB financial sector reforms following the global financial crisis – it added to the overall demand for cash. Initial margins, which are not meant to increase abruptly in response to higher volatility, also rose sharply, although the effects of market volatility and changes in portfolio composition and size are difficult to disentangle. During March 2020, for example, initial margins posted at EU CCPs increased by roughly €47 billion (see Chart 4.2.B below).[161] The impact of the market stress and the resulting margin increases was distributed unevenly across different asset classes, mirroring differences in the volatility of the underlying assets: margins on equity futures, for instance, rose more strongly than those on interest rate swaps, the largest asset class. Overall, these developments put liquidity management strains on some clearing members and their clients.

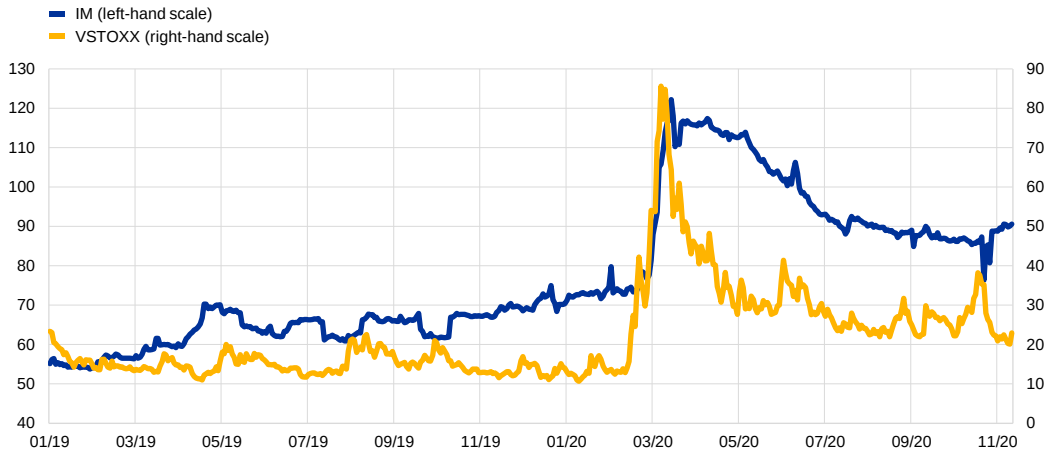
[161] See also **Liquidity risks arising from margin calls**, ECB, June 2020.

Chart 4.2.B

Initial margins (IMs) held at EU27 CCPs

IMs also increased putting strains on liquidity management

(EUR billions (LHS); VSTOXX index level (RHS))



Sources: ESRB trade repository data and VSTOXX public data plus ESRB Secretariat calculations.
Notes: The chart shows the daily amount of IMs held at EU27 CCPs in EUR billions in relation to market volatility as expressed by the VSTOXX.

Margin calls were also large in non-centrally cleared markets, although non-centrally cleared variation margin calls can also be met in non-cash collateral, which puts less pressure on liquidity. From a financial stability point of view, non-centrally cleared transactions are highly relevant since a large proportion of derivative transactions are cleared bilaterally. For example, an ECB study[162] on investment funds with around two-thirds of their portfolios non-centrally cleared indicates that euro area funds faced a fivefold increase in variation margins during the height of the COVID-19-related market stress. Some of these funds met these margin calls by engaging in repo transactions, selling assets and drawing on credit lines.

In response to these developments, the ESRB issued two recommendations pertaining to CCPs. The first recommendation is designed to increase the resilience of CCPs against non-default losses that might arise from, for example, the materialisation of operational risk. In contrast to default losses, which are mostly mutualised across clearing members, with a small contribution by the CCP itself in the form of "skin in the game", such non-default losses must in principle be met by CCPs alone from their own resources. Although CCPs demonstrated operational resilience during the market turmoil early in the year, the ESRB deemed it prudent in recognition of their systemic importance that CCPs maintain additional own resources to be better able to meet non-default losses that might arise. Reflecting this, the ESRB included CCPs in the scope of its recommendation on restriction of distributions during the COVID-19 pandemic (see Box 2 in Section 2.2). The second recommendation on liquidity risks arising from margin calls is designed to mitigate the adverse impact margin calls might have on both bank and non-bank entities (see Box 4 below). The ESRB has published two reports in recent years setting out these impacts and related

[162] See **Special Feature in the May 2020 ECB Financial Stability Review**.

policy options.[163] The unprecedented margin calls during the market turmoil at the onset of the COVID-19 pandemic provided further evidence that action in this area was needed.

CCP supervisors responded to the ESRB recommendation on distribution restrictions. To ensure compliance with its recommendations, the ESRB assesses the responses from addressees of its recommendations and compiles a compliance report. At the time of writing, the compliance report was in the process of being finalised.

CCP supervisors also responded to the ESRB recommendation on liquidity risk arising from margin calls. The ESRB is evaluating the responses received and discussing any follow-up with the respondents. It expects to submit the compliance report to the European Council, Commission and Parliament in Q2 2021.

Box 4

ESRB recommendation on liquidity risks arising from margin calls[164]

Recommendation ESRB/2020/6 addressed to the competent authorities in the area of CCPs, banks and other relevant market participants contains four sub-recommendations in total:

Recommendation A – Limiting cliff effects in relation to the demand for collateral

Subject to being compatible with the overarching objective of avoiding jeopardising the resilience of counterparties, the recommendation is designed to limit sudden and significant (hence procyclical) changes and cliff effects in initial margins (including margin add-ons) and in collateral practices: (i) by CCPs vis-à-vis members; (ii) by clearing members vis-à-vis their clients; and (iii) in the bilateral market, resulting from the mechanical use of external credit ratings in margin models and possibly procyclical internal credit scoring methodologies.

Recommendation B – Stress scenario for the assessment of future liquidity needs

The recommendation is designed to enhance the liquidity resilience of CCPs by considering risks from the systemic, macroprudential perspective related to the high degree of interconnectedness among CCPs and their liquidity service providers. To this end, it recommends including in CCPs' liquidity stress tests any two defaulting entities regardless of their role vis-à-vis the CCP, including important liquidity providers to the CCP. It also proposes to consider conducting coordinated liquidity stress tests at the EU and/or global level.

Recommendation C – Limiting liquidity constraints related to margin collection

Subject to being compatible with CCPs' operational and financial resilience, the recommendation is designed to limit unnecessary liquidity constraints for clearing members and clients related to operational processes for margin collection.

[163] ESRB reports on margins and haircuts can be found at the following links: **https://www.esrb.europa.eu/pub/pdf/reports/esrb.report_200109_mitigating_procyclicality_margins_haricuts~0f3e9f9e48.en.pdf** and **https://www.esrb.europa.eu/pub/pdf/reports/170216_macroprudential_use_of_margins_and_haircuts.en.pdf**.

[164] **Recommendation ESRB/2020/6**.

Recommendation D – Mitigation of procyclicality in the provision of client clearing services and in securities financing transactions

It is recommended that European authorities steer discussions at international level, through the participation of relevant competent authorities in international fora and standard-setting bodies, where applicable, on means to mitigate the procyclicality in margin and haircut practices when providing client clearing services. These discussions should pursue the feasibility assessment, as well as the design.

Several policy developments not directly related to the COVID-19 pandemic that were relevant for CCPs also took place. These include the completion of the legislative process for a European CCP recovery and resolution framework, the work carried out by ESMA on the scope of the clearing obligation for post-trade risk reduction services and for pension scheme arrangements, as well as policy measures by the European Commission and ESMA to mitigate the effects of Brexit.

EU co-legislators agreed a recovery and resolution framework for CCPs, which has important ramifications in terms of tail risk mitigation and the stability of the financial system.[165] Following a legislative proposal by the European Commission in 2016 on a framework for the recovery and resolution of CCPs, the EU Parliament and the Council agreed in June 2020 on the final compromise text of the CCP recovery and resolution regulation, which was published in January 2021. EMIR[166] prescribes mandatory minimum resilience standards for CCPs in the event of losses from defaulting clearing members, namely that CCPs should withstand the synchronous default of the largest two clearing members under extreme but plausible circumstances. However, EMIR does not address events that go beyond these tolerances. The recovery and resolution regulation closes this gap by setting out a legally implementable and predictable process to allocate losses beyond the regular CCP default management waterfall that preserves the CCP's critical functions. The framework also addresses the handling of non-default losses.

ESMA reports on post-trade risk reduction services and on pension scheme arrangements supporting a broad application of the clearing obligation. Regarding trades originating from post-trade risk reduction (PTRR) services ESMA concludes[167] that PTRR services, primarily compression and optimisation/rebalancing, are useful tools to manage risk in both cleared and uncleared portfolios and that there are therefore benefits of allowing certain PTRR transactions to be exempted from the clearing obligation. The report, however, notes that any such exemption should be limited and subject to certain requirements, to reduce any risk of circumvention of the clearing obligation. Regarding pension scheme arrangements (PSAs)[168], ESMA concludes that while there is insufficient time to introduce operational changes and/or regulatory adjustments to

[165] Regulation (EU) 2021/23 of the European Parliament and of the Council of 16 December 2020 on a framework for the recovery and resolution of central counterparties and amending Regulations (EU) No 1095/2010, (EU) No 648/2012, (EU) No 600/2014, (EU) No 806/2014 and (EU) 2015/2365 and Directives 2002/47/EC, 2004/25/EC, 2007/36/EC, 2014/59/EU and (EU) 2017/1132 (OJ L 22, 22.1.2021, p. 1).

[166] 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 Text with EEA relevance (OJ L 201, 27.7.2012, p. 1).

[167] **ESMA report to the European Commission: Report on post trade risk reduction services with regards to the clearing obligation (EMIR Article 85(3a))**.

[168] **ESMA report to the European Commission: Report on the Central Clearing Obligations for pension scheme arrangements**

safely remove the current exemption elapsing in June 2021, all efforts should be made to avoid a further extension of the temporary exemption beyond June 2022.

ESMA also set up the CCP Supervisory Committee, which is charged with preparing decisions for the recognition and supervision of third-country CCPs providing services in the European Union. The CCP Supervisory Committee was introduced by the so-called EMIR 2.2 regulation.[169] It is an ESMA committee charged with preparing decisions for the ESMA Board of Supervisors pertaining to the recognition and supervision of third-country CCPs providing services in the European Union. The Committee became operational in the second half of 2020 and – in the context of the United Kingdom's exit from the European Union – processed a temporary recognition and related tiering of three UK CCPs. The CCP Supervisory Committee is also engaged in the supervision of EU CCPs with a view to harmonising existing EMIR supervision. ESMA also set up a CCP Policy Committee to work on CCP policy-related issues.

4.3 Insurance

The market turmoil at the onset of the COVID-19 pandemic weakened insurers' solvency positions, both via the fall in asset prices and via lower risk-free rates. Insurers are exposed to several risks, specifically underwriting and market risks related to their investments. Market risks comprise interest rate, credit, equity, real estate, foreign exchange and concentration risks. These risks as well as operational risks are considered when calculating own fund requirements under the prudential rules for insurance (Solvency II).[170] The Solvency II framework computes insurers' solvency positions on a mark-to-market basis. This means that both assets and liabilities are recorded at market values in insurers' balance sheets. The fall in asset prices at the onset of the COVID-19 pandemic (see Section 1.5) therefore led to a deterioration in capital ratios. In addition, record-low swap rates weighed on insurers' capital positions owing to the fact that these rates were used to calculate the risk-free interest rate term structure necessary to discount liabilities and determine technical provisions. Reflecting the fall in asset prices and lower risk-free interest rates, the median solvency position had decreased to 203% by the end of Q1 2020 compared to 213% at the end of 2019 (see Chart 4.3.A).

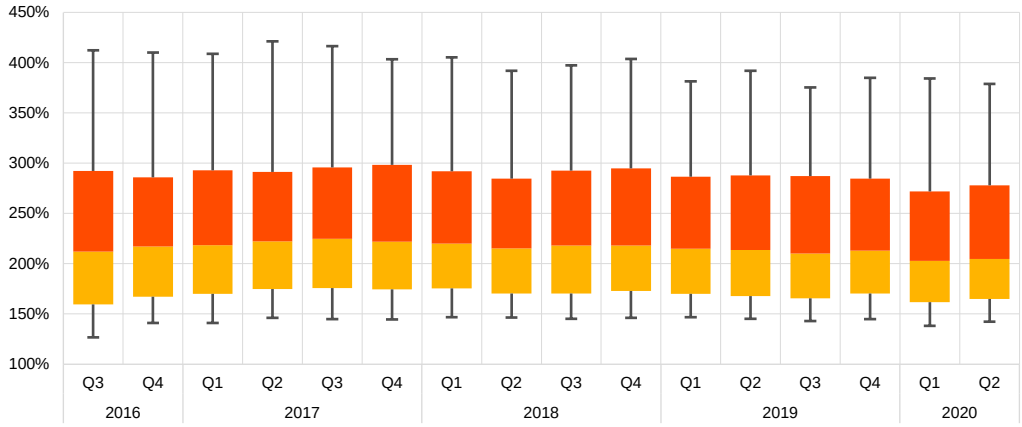
169 **Regulation (EU) 2019/2099 of the European Parliament and of the Council of 23 October 2019 amending Regulation (EU) No 648/2012 as regards the procedures and authorities involved for the authorisation of CCPs and requirements for the recognition of third-country CCPs**.

170 Directive 2009/138/EC of the European Parliament and of the Council of 25 November 2009 on the taking-up and pursuit of the business of Insurance and Reinsurance (Solvency II) (OJ L 335, 17.12.2009, p. 1) and Commission Delegated Regulation (EU) 2015/35.

Chart 4.3.A

Average distribution of SCR ratios

Reflecting the fall in asset prices and lower risk-free interest rates, the median solvency position fell to 203% by the end of Q1 2020 compared to 213% at the end of 2019



Source: EIOPA insurance statistics.
Notes: Average distribution of solo insurers' solvency capital requirement (SCR) ratios in EU27 countries. SCR ratios represent the own funds divided by the SCR. The yellow bar shows SCR ratios between the 1st quartile (lowest 25% of SCR ratios) and the median. The red bar shows SCR ratios between the median and the 3rd quartile (51% to 75% of highest SCR ratios). Outliers show the 10th and 90th percentile of SCR ratios.

Several countercyclical mechanisms built into Solvency II to dampen the effects of low interest rates and volatile capital markets had the desired effect on regulatory solvency ratios during the market turmoil in March 2020. These countercyclical LTG measures had different usages across countries, and had the largest impact on aggregated SCR ratios in Germany, Portugal and the Netherlands (see Chart 4.3.B). They include the volatility adjustment for credit spread risk[171] and the symmetric adjustment for equity risk[172]. In Austria, Belgium and the Netherlands, the impact of the volatility adjustment overshot in the crisis, as the benefit on the level of liabilities was higher than the reduction of assets. This led to the solvency position of some insurers ending up higher in Q1 2020 than in Q4 2019.[173]

[171] The volatility adjustment adds a spread to the risk-free rate used to compute the present value of insurers' liabilities. The idea is to dampen the impact of volatile credit spreads on insurers' balance sheets and hence solvency.

[172] The symmetric equity risk adjustment reduces (increases) the solvency capital requirement for equity investments by max. 10 percentage points when the aggregate equity index composed of 11 country indices (CH, DE, ES, FR, IT, JP, NL, PL, SE, UK, US) falls below (rises above) its three-year average plus 8%.

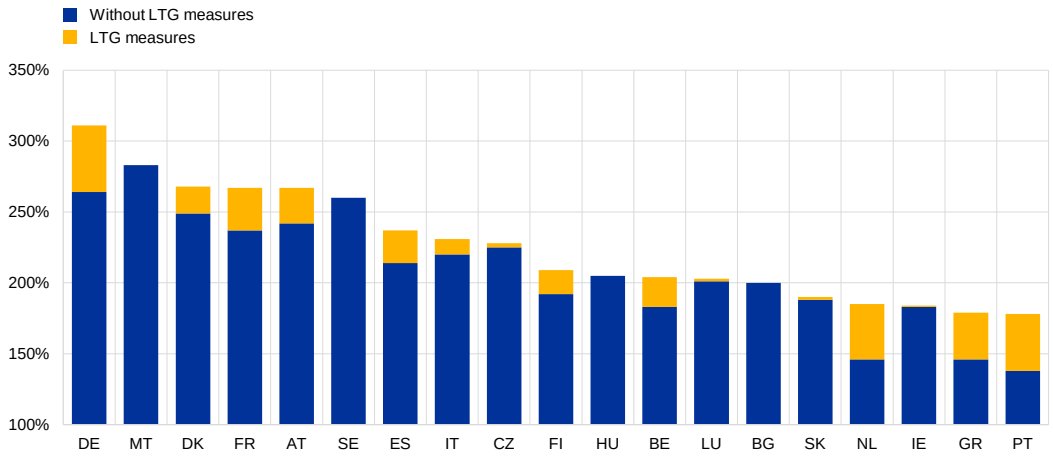
[173] The VA overshooting effect is considered in EIOPA's technical advice to the European Commission to review the VA methodology (see Chapter 4.X in **Opinion on the 2020 Review of Solvency II**, EIOPA,, 17 December 2020).

Chart 4.3.B

Average weighted SCR ratios

Countercyclical LTG measures had different usages across countries, and had the largest aggregated impact in Germany, Portugal and the Netherlands

(y-axis: SCR ratio)



Source: EIOPA report on long-term guarantee measures and measures on equity risk in 2020.
Notes: Solo insurers' average weighted SCR ratios per country as of 31 December 2019 represent the sum of all undertakings' SCR-weighted own funds divided by the SCR; the LTG measures refer to the average impact of the sum of the matching adjustment, the volatility adjustment and the transitional measures.

In addition to these countercyclical mechanisms, transitional measures[174] allowing insurers to phase in the balance sheet impact of market-based discount rates dampened the impact of the fall in swap rates on solvency ratios. In Germany and Portugal, some insurers that had not previously applied these measures requested their supervisors to authorise their use following the market turmoil in March. In Germany, three undertakings applied for transitional measures and 14 for the volatility adjustment following the onset of the COVID-19 pandemic. Five firms were granted approval with a short retrospective effect.[175] Supervisors in Portugal granted two new authorisations to use transitional measures.

The pandemic also adversely affected the liquidity positions of insurers. The traditional business model of insurers usually shields them from liquidity risks since they receive premiums before paying claims. However, liquidity tensions can still occur as a result of certain activities such as, for example, margin calls from derivatives. As households and businesses needed money to meet other expenses during the pandemic, insurers in some countries saw cancellations of policies increase, policies with short maturities not being renewed and moratoria on premiums incepted as a support measure, all leading to a reduction in inflows of premiums. This meant that when they had to pay claims, they may not always have been able to do so using the cash inflows from premiums alone. Instead, they may have had to look for other sources of liquidity, such as not rolling over maturing fixed income assets and/or selling assets, including liquid assets held for such

[174] The transitional measure phases in the difference between the (higher) value of the liabilities calculated under the market-based Solvency II regime and their value under Solvency I. This phasing-in period lasts until 31 December 2031.

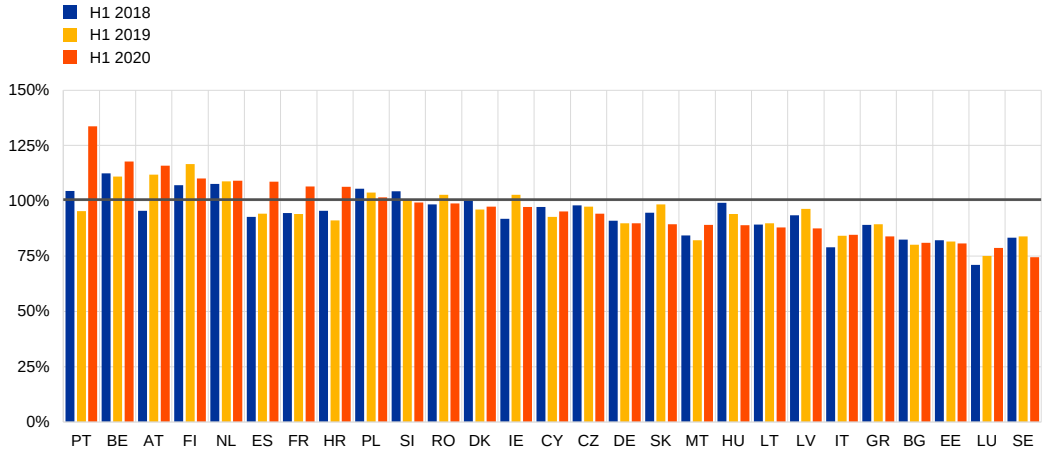
[175] See **COVID-19 situation: BaFin information on new developments and key points**, Bundesanstalt für Finanzdienstleistungsaufsicht, update on 21 September 2020.

situations. In three countries (PT, FR, ES), net cash flows excluding investment income declined by more than 10% in H1 2020 as compared to H1 2019 (see Chart 4.3.C).

Chart 4.3.C

Cash outflows vs inflows, excluding investment income

In Portugal, France and Spain, net cash flows declined by more than 10% in H1 2020 compared to H1 2019



Source: EIOPA insurance statistics.
Notes: The ratio relates aggregated net claims and total expenses to net premiums earned for solo life and non-life insurers. The ratio shows information about insurers' net cash flows excluding investment income. To account for the seasonality of premium income in Q4, H1 data are compared for the years 2018 to 2020. A ratio exceeding 100% indicates that net claims and total expenses in the period exceeded net premiums earned.

In addition, and due to market volatility, there were exceptionally large margin calls on derivative positions held by insurers and IORPs. Between 11 and 23 March 2020, euro area insurers and IORPs had to post variation margins of almost €50 billion, with 90% of this amount originating from Dutch entities.[176] The amount corresponds to approximately 2% of total assets managed by Dutch IORPs and insurers[177], but might mask larger exposures of individual entities. The ensuing need for liquidity to meet these margin calls took place at a time when market liquidity in certain asset classes, such as commercial paper and corporate bond markets, was low. The strong correlation between outflows from MMFs held by insurers and IORPs and their variation margin payments points to the intricate ways in which shocks may travel through the financial system.

In response to these developments, the ESRB included insurers in the scope of its recommendation on restriction of distributions. As the pandemic unfolded, certain insurers that provided business interruption insurance via contracts that did not explicitly exclude pandemic events faced additional losses. The ESRB also saw a risk that a common de-risking strategy, such as the sale of higher-yield corporate bonds, could create procyclical dynamics. Reflecting this, and the possibility that concerns about stigma effects might result in insurers not practising enough self-restraint, the ESRB included insurers in the scope of its recommendation on restriction of

[176] See Section 4.1 and **Financial Stability Review**, Box 8, ECB, November 2020.

[177] See **EIOPA insurance statistics** for solo insurers as of Q4 2019 and **Financial Stability Report**, EIOPA, July 2020, p. 44.

distributions during the COVID-19 pandemic (see Box 2 in Section 2.2). This recommendation echoed an earlier statement by EIOPA, which had urged insurers to temporarily suspend all discretionary dividend distributions and share buybacks.[178] However, also in view of the absence of legal powers for supervisors to enforce the distribution restrictions recommended by the ESRB, some national authorities took the view that a blanket approach was not warranted and that they would evaluate restrictions to distributions on a case-by-case basis.[179] Accordingly, several insurance groups distributed dividends. For a coordinated approach in the future, EIOPA and the ESRB suggested to the European Commission to grant supervisory authorities the power to restrict dividends in exceptional circumstances as a macroprudential tool in the 2020 review of Solvency II.[180]

The ESRB also sent a letter to EIOPA pointing to the need for better data and provisions in Solvency II pertaining to insurers' liquidity positions. The letter to EIOPA (see Box 5)[181] pointed to the lack of consistent data for assessing liquidity risks in the insurance sector and was designed to alert EIOPA and its members to the need to promptly operationalise the liquidity monitoring framework they were in the process of developing. The letter also noted that the Pillar 2 provisions for risk management in Solvency II would need to be enhanced so that insurance supervisors had a firm legal basis to require those insurers with a vulnerable liquidity profile to hold more liquid assets.[182] In a statement[183], EIOPA supported the ESRB's call on the need for enhanced monitoring and put in place a reporting framework to collect consistent information on liquidity risks at EU level. In addition, EIOPA intensified its work in the area of liquidity stress testing, and it is envisaged that the 2021 EIOPA insurance stress test will include a liquidity component.

Box 5
ESRB letter to EIOPA on liquidity risks in the insurance sector

The letter sent on 8 June 2020 highlighted the fact that certain insurance products, such as unit-linked products, allowed investors to redeem their funds at short notice, while the underlying assets could be structurally illiquid or suddenly become so. While a crystallisation of liquidity risks in the insurance sector could affect financial stability, there was a lack of consistent data for assessing the magnitude of potential liquidity risks in the insurance sector. In this context, EIOPA developed and put in place a proportionate framework to enhance the nature and consistency of the information collected on liquidity risks. This reporting framework categorises insurance obligations according to their liquidity (i.e. the probability of policyholders redeeming their funds) and compares these with

178 **EIOPA urges (re)insurers to temporarily suspend all discretionary dividend distributions and share buy backs**, EIOPA, 2 April 2020.

179 See, for example, **Corona-Virus: EIOPA äußert sich zu Dividenden** , Bundesanstalt für Finanzdienstleistungsaufsicht, 2 April 2020, and **DNB resumes assessment of insurers' dividends**, De Nederlandsche Bank, 6 July 2020.

180 See Chapter 11.2. in Opinion on the 2020 Review of Solvency II, EIOPA, 17 December 2020, and **Response letter to a consultation of the European Commission on the review of Solvency II**, ESRB, 16 October 2020.

181 **ESRB letter to EIOPA on liquidity risks in the insurance sector**, ESRB, June 2020.

182 The Solvency II framework is divided into three pillars: Pillar 1 sets out quantitative requirements for technical provisions, Pillar 2 sets out requirements for risk management and governance, and Pillar 3 sets out requirements for reporting; see also **European Commission overview**.

183 See **EIOPA supports the ESRB's call on enhanced monitoring of liquidity risks in the insurance sector**, EIOPA, 9 June 2020.

high-quality liquid assets held by insurers. In addition, it also relates inflows to outflows over short periods of time.[184]

The COVID-19 developments also informed the input of the ESRB and of EIOPA to the Solvency II review, with both institutions calling for the introduction of a macroprudential framework for insurance. In addition to the possibility of restricting or suspending dividends or other payments to shareholders, EIOPA's opinion[185] suggests introducing new discretionary tools with a macroprudential dimension in Solvency II. On liquidity, EIOPA suggests providing supervisors with the power to act if they have identified liquidity risks, which may encompass a temporary freeze of redemption rights as a last resort. Regarding capital-based tools, EIOPA proposes to introduce the power for supervisors to impose a capital surcharge for systemic risk. In addition, EIOPA advises on several amendments to the LTG package.[186] These include a new extrapolation technique to better reflect current market conditions and new specifications for the volatility adjustment to better account for the duration mismatch between assets and liabilities and the predictability of cash flows. The ESRB's response[187] to the consultation by the European Commission mirrored many of the suggestions by EIOPA and, in addition, proposed to make the volatility adjustment symmetric, so that insurers build reserves in good times when credit spreads are compressed, which can then be released when spreads reverse.

4.4 Investment funds

At the onset of the COVID-19 pandemic, some open-ended investment funds faced high investor redemptions amid the large deterioration in market liquidity described in Section 1.5. This combination of investor redemptions and deteriorating market liquidity of the assets held by investment funds primarily affected corporate bond funds and MMFs. For example, during the period of high market volatility in late February and early March, redemptions from high-yield corporate bond funds reached 10% of assets under management (AUM). Certain MMFs were subject to large redemptions, including EU-domiciled, US dollar-denominated low-volatility net asset value (LVNAV) MMFs (28% of AUM) and euro-denominated variable net asset value (VNAV) MMFs (13% of AUM).[188] The strong outflows from LVNAV and VNAV MMFs caused some funds to breach their liquid asset holding requirements, increasing the likelihood of fund managers making use of redemption fees and gates. The need to sell assets in illiquid markets to meet investor redemptions may have further deteriorated liquidity and amplified volatility in certain markets. Market conditions eased following extraordinary asset purchases by central banks, including the ECB's non-standard monetary policy measures and the US Federal Reserve's Money Market Mutual Fund Liquidity Facility.

184 See **Financial Stability Report**, EIOPA, December 2020.

185 See **Opinion on the 2020 Review of Solvency II**, EIOPA, 17 December 2020.

186 The objective of the LTG measures is to align the market-based, short-term valuations in Solvency II with the long-term guarantees of insurers. The LTG measures are the extrapolation of risk-free interest rates, the matching adjustment, the volatility adjustment, the extension of the recovery period in case of non-compliance with the Solvency Capital Requirement, the transitional measure on the risk-free interest rates and the transitional measure on technical provisions; see the corresponding **EIOPA report**.

187 **Response to a consultation of the European Commission on the review of Solvency II**, ESRB, October 2020. For more details, see also the ESRB Annual Report 2020 (forthcoming).

188 See **EU Non-bank Financial Intermediation Risk Monitor 2020**, ESRB, October 2020.

Some asset managers used liquidity management tools (LMTs) during the high levels of market volatility. These included the use of redemption gates, swing pricing and fund suspensions. In some cases, NCAs also issued statements on the use of LMTs, including on the use of swing pricing.[189] Suspensions of funds governed by the undertakings for collective investment in transferable securities (UCITS) directive[190] mainly related to bond funds exposed to corporate debt. These suspensions were widespread, covering around 200 EU and UK funds, but mostly short-lived; the total amount of net asset value (NAV) affected fell from around €22 billion in March to around €0.4 billion by end-June.[191] On the contrary, suspensions of alternative investment funds (AIFs) increased to a total NAV amount of around €40 billion by end-June. The greater persistence of suspensions in AIFs compared to UCITS largely reflects the fact that several EU27 and UK AIFs that offer short redemption notice periods to investors, while investing in illiquid real estate assets, faced difficulties in valuing these assets and therefore remained suspended. By the end of 2020, the suspensions amounted to €3.8 billion, also following the reopening of certain UK real estate funds for which the material valuation uncertainty had ended.

Some MMFs investing in private sector debt securities faced acute liquidity strains in March 2020, which led ESMA to publish a statement on external support. These liquidity strains arose when non-public debt MMFs experienced large redemptions from investors, combined with a lack of liquidity in private debt money markets. In the light of these liquidity challenges, ESMA issued a statement to clarify the meaning of Article 35 of the EU Money Market Fund Regulation in the context of the conditions under which MMFs may enter into transactions with affiliated or related parties.[192]

The ESRB also acted and issued a public statement and a recommendation pertaining to liquidity management by asset managers. The statement[193] aims at guarding against the adverse system-wide effects stemming from fire-sale dynamics across the financial system. In it, the ESRB supported and encouraged the timely use of LMTs by asset managers, while also noting that LMTs are not available to all fund managers across the EU. In particular, the ESRB underlined that the timely use of LMTs helps reduce the risk of forced sales, particularly of less liquid assets in periods of stress. The recommendation[194] was designed to enhance the preparedness of investment funds in case of future adverse shocks that could lead to a deterioration in financial market liquidity, resulting in potential adverse implications for financial stability conditions in the European Union. In it, the ESRB recommended that ESMA coordinates a supervisory exercise with its members in order to assess funds' preparedness. The analysis focused on funds with significant exposures to corporate debt and real estate assets as these assets tended to be less liquid and – in the case of real estate – were subject to valuation uncertainty. The recommendation particularly noted the risk of spillover effects on other financial institutions that have exposures to these assets

189 See **FAQ CSSF – Swing Pricing Mechanism**, Commission de Surveillance du Secteur Financier, March 2020.

190 Directive 2009/65/EC of the European Parliament and of the Council of 13 July 2009 on the coordination of laws, regulations and administrative provisions relating to undertakings for collective investment in transferable securities (UCITS) (OJ L 302, 17.11.2009, p. 32).

191 **ESMA Report on Trends, Risks and Vulnerabilities**, No 2, ESMA, September 2020.

192 See **Public Statement: Actions to mitigate the impact of COVID-19 on the EU financial markets – External support within the meaning of Article 35 of the MMF Regulation**, ESMA, 9 July 2020.

193 **Use of liquidity management tools by investment funds with exposures to less liquid assets**, ESRB, May 2020.

194 See **Recommendation ESRB 2020/4**.

– such as insurance companies, pension funds or banks – as well as possible adverse impacts on the cost and availability of market-based financing for NFCs.

In response to the ESRB's recommendation, ESMA coordinated a supervisory exercise with a focus on investment funds exposed to corporate debt and real estate assets.[195] The supervisory exercise included NCAs collecting data on investment funds exposed to these asset classes. ESMA's assessment focused on potential future redemptions and/or valuation uncertainty shocks and considered whether additional actions were needed to foster the asset manager industry's preparedness. Results showed that, in general, corporate debt and real estate funds were able to maintain their activities when faced with redemption pressure and valuation uncertainty. Funds were also broadly able to keep their portfolio structure constant. This was supported by the redemption shock lasting a short period of time and against the backdrop of unprecedented monetary and fiscal support measures.

The supervisory exercise helped ESMA identify five priority areas to enhance the preparedness of investment funds for future market stress. The supervisory exercise showed that some funds presented potential liquidity mismatches due to their liquidity setup which, in some cases, combined investments in illiquid assets with high redemption frequencies, no/short notice periods and a lack of appropriate LMTs. It also showed that only few funds had adjusted their liquidity risk management processes in the light of the liquidity issues encountered. Concerns around the valuation of portfolio assets were also evident – especially for real estate funds, where 42% of AUM were declared to be affected by material distortions in incoming cash flows such as rental income defaults. Reflecting these findings, ESMA identified five priority areas to help investment funds be better prepared to deal with market stress in future: (i) continued supervision to ensure alignment between investment funds' investment strategy, liquidity profile and redemption policy; (ii) closer supervision of investment funds' liquidity risk assessments, including liquidity stress testing; (iii) additional specifications on how liquidity profiles should be reported under the Alternative Investment Fund Managers Directive (AIFMD)[196]; (iv) the need for the availability of a common set of LMTs for fund managers in both UCITS and AIFs; and (v) further supervisory work to ensure that management companies' valuation procedures cover all market situations, including valuation approaches for stressed market conditions.

Reflecting the strains in the MMF sector, regulators at EU and international level are assessing vulnerabilities and are considering reforms to increase resilience to future crises. ESMA published updated guidelines on stress tests for MMFs, including modifications of the risk parameters, to take account of MMFs' experience during the COVID-19 crisis (see Section 2.3).[197] Authorities at global and EU level, including the ESRB, started to discuss what reforms might be needed to increase the resilience of MMFs and reduce the risk of future stress in this sector. In this context, ESMA published a consultation document in April 2021 on the potential need for the review of the MMF Regulation.[198] At international level, the FSB in its holistic review report[199] pledged to

[195] **ESMA Report on Recommendation of the European Systemic Risk Board on liquidity risk in investment funds**, ESMA, 12 November 2020.

[196] 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).

[197] See **ESMA updates guidelines on stress tests for money market funds**, ESMA, December 2020.

[198] See **Consultation on EU money market fund regulation – legislative review**, ESMA, March 2021.

[199] See **Holistic Review of the March Market Turmoil**, Financial Stability Board, November 2020.

further examine liquidity risks, core functions and aspects of the structure or regulations in non-government MMFs. The FSB started to assess policy options in early 2021. The International Organization of Securities Commissions (IOSCO) published a report[200] analysing the events that occurred in the MMF sector in March 2020 and a thematic review[201] assessing the implementation of selected IOSCO recommendations issued in 2012 to strengthen the resilience of MMFs globally. In the EU, the ESRB will form a view in 2021, also with the aim of informing the upcoming review of the MMFR.

Beyond the response to the COVID-19 pandemic, the ESRB's 2017 recommendation on liquidity and leverage risks in investment funds continues to be implemented. Specific recommendations therein were addressed to ESMA and to the European Commission. In response, ESMA published guidelines on liquidity stress testing in UCITS and AIFs in 2019[202], as well as a public consultation[203] and a report[204] in 2020 to outline guidelines on setting leverage limits under Article 25 of the AIFMD. The review of the AIFMD provides an opportunity to address parts of the 2017 recommendation that had not been acted upon by the end-2020 reporting deadline. This includes a recommendation that the Commission should propose EU legislation to ensure that a consistent set of LMTs is available to fund managers across all EU jurisdictions.

The ESRB responded to the public consultation of the AIFMD review in January 2021.[205] Some enhancements to the current framework were outlined covering (i) the suitability of the reporting framework and access to data for monitoring systemic risks, (ii) the need to operationalise existing macroprudential policy instruments, and (iii) the ongoing development of the macroprudential policy framework for investment funds. Clarification is also needed on the conditions under which certain tools can be used. For example, NCAs can suspend dealings in both UCITS and AIFs when this is deemed in the interest of unit holders or in the interest of the public. During 2020, the French supervisory authority (Autorité des Marchés Financiers) used this tool for UCITS (Article 84(2b)) for microprudential reasons and in the interest of unit holders.[206] Similar provisions are available for AIFs under Article 46(j) of the AIFMD, and to facilitate the use of this tool from a macroprudential perspective, it would help to clarify under what circumstances it can be used in the interest of the public.

---

200 See **Thematic Note: Money Market Funds during the March-April Episode**, International Organization of Securities Commissions, November 2020.

201 See **Thematic Review on consistency in implementation of Money Market Funds reforms**, International Organization of Securities Commissions, November 2020.

202 See **Guidelines on liquidity stress testing in UCITS and AIFs**, ESMA, September 2019.

203 See **Consultation on guidance to address leverage risk in the AIF sector**, ESMA, March 2020.

204 See **Final Report: Guidelines on Article 25 of Directive 2011/61/EU**, ESMA, December 2020.

205 See **ESRB response to the European Commission consultation on the review of AIFMD**, ESRB, January 2021.

206 The AMF requested the suspension of subscriptions and redemptions of units for three French-domiciled UCITS funds managed by the UK-based asset management company H2O Asset Management LLP. The asset manager extended suspensions to other French-domiciled UCITS and one AIF. See the corresponding **press release by the AMF**..

Annex 1: Material third countries

Table A1.1

Exposures of the EU banking sector to third countries

(percentage of respective total exposures of the EU banking sector)

Third country	Original exposures				Risk-weighted exposures				Exposures in default				Materiality
	Q4 2019	Q3 2019	Last 8Q	Last 12Q	Q4 2019	Q3 2019	Last 8Q	Last 12Q	Q4 2019	Q3 2019	Last 8Q	Last 12Q	
US	7.40%	7.74%	7.54%	7.62%	6.84%	7.26%	7.04%	7.08%	2.31%	2.12%	1.91%	1.91%	Confirmed
HK	2.69%	2.75%	2.60%	2.54%	1.90%	1.93%	1.87%	1.81%	0.24%	0.24%	0.28%	0.27%	Confirmed
SG	1.01%	1.02%	0.97%	0.96%	0.78%	0.80%	0.76%	0.75%	0.38%	0.42%	0.37%	0.34%	Retained
CH	1.01%	1.00%	0.99%	0.99%	0.65%	0.68%	0.64%	0.65%	0.39%	0.37%	0.38%	0.35%	Retained*
CN	0.90%	0.89%	0.87%	0.86%	1.33%	1.33%	1.34%	1.36%	0.12%	0.11%	0.11%	0.12%	Confirmed
MX	0.85%	0.86%	0.84%	0.84%	1.21%	1.14%	1.12%	1.12%	0.55%	0.50%	0.45%	0.43%	Confirmed
BR	0.77%	0.74%	0.74%	0.77%	1.11%	1.06%	1.05%	1.12%	1.41%	1.27%	1.21%	1.19%	Confirmed
TR	0.63%	0.68%	0.72%	0.79%	1.08%	1.12%	1.18%	1.29%	1.12%	1.17%	0.88%	0.79%	Confirmed
KY	0.60%	0.63%	0.61%	0.63%	1.06%	1.05%	1.06%	1.06%	0.18%	0.19%	0.21%	0.21%	Not identified*
RU	0.46%	0.45%	0.43%	0.43%	0.59%	0.58%	0.54%	0.56%	0.37%	0.40%	0.41%	0.43%	Retained*

Sources: EBA, ESRB calculations.

Notes: The table shows the original credit exposures of the EU banking sector vis-à-vis the real economy of the third countries to which the EU banking sector has the largest exposures as a percentage of respective total original credit exposures of the EU banking sector vis-à-vis the real economy. Third countries are ranked according to original credit exposures to the real economy in Q4 2017. Numbers above the 1% threshold for identification established by Decision ESRB/2015/3 are highlighted in orange. Numbers below the 1% threshold for deletion established by Decision ESRB/2015/3 are highlighted in green. Materiality assessments marked with an asterisk (*) indicate the use of discretion to retain (RU, CH) or not add (KY) a country on/to the list of material third countries even though the criteria for deletion/inclusion were fulfilled.

Table A.1.2

Methodologies used by EEA countries[207] to identify material third countries

EEA country	ESRB methodology			Latest data	Comments
	Calculation	Threshold	Data		
AT	●	●	●	Q4 2019	Decision not to cover the entire banking sector exposures. Statistical approach overlaid with expert judgement
BE	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement. Decision not to include Row 100 “Exposures in default” of Template C 09.01
BG	●	●	●	Q4 2019	Use of COREP data items providing larger coverage: total amount of the exposures to individual countries, including intragroup exposures, is used
CY	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
CZ	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
DE	●	●	●	Q4 2019	Combination with external position data using a 3% threshold
DK	●	●	●	Q4 2019	Use of 2% threshold; statistical approach overlaid with expert judgement
EE	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
ES	●	●	●	Q4 2019	Use of additional COREP data items providing a larger coverage
FI	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
FR	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
GR	●	●	●	Q4 2019	Combination of ESRB metrics with additional proxies accounting for the foreign presence of significant Greek banks
HR	●	●	●	Q4 2019	Combination with analysis of unconsolidated risk-weighted exposures for the private sector
HU	●	●	●	Q1 2020	Use of additional COREP templates C 09.04 providing a larger sample of Hungarian banks; alternative proxy to ESRB metrics used, i.e. own funds requirements; statistical approach overlaid with expert judgement
IE	●	●	●	Q4 2019	Use of additional COREP templates including C 07.00 and C 08.01. Statistical approach overlaid with expert judgement
IT	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
LI	●	●	●	Q4 2019	Use of 2% threshold; statistical approach overlaid with expert judgement
LT	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
LU	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement

[207] The AMF requested the suspension of subscriptions and redemptions of units for three French-domiciled UCITS funds managed by the UK-based asset management company H2O Asset Management LLP. The asset manager extended suspensions to other French-domiciled UCITS and one AIF. See the corresponding **press release by the AMF**..

EEA country	ESRB methodology			Latest data	Comments
	Calculation	Threshold	Data		
LV	●	●	●	Q1 2020	Use of 2% threshold; decision not to use defaulted exposures. Decision not to include Column 020 of Template C 09.01 and Column 030 of Template C 09.02
MT	●	●	●	Q4 2019	Additional exposures to government, institutions and public sector entities are taken into account
NL	●	●	●	Q1 2020	Statistical approach overlaid with expert judgement
PL	●	●	●	Q4 2018	Statistical approach overlaid with expert judgement
PT	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement
RO	●	●	●	Q4 2019	Additional use of monetary statistics and further indicators
SE	●	●	●	Q1 2020	Statistical approach overlaid with expert judgement
SI	●	●	●	Q4 2019	Use of 5% threshold; decision not to use defaulted exposures
SK	●	●	●	Q1 2020	Decision not to use defaulted exposures
ECB	●	●	●	Q4 2019	Use of additional COREP data items providing a larger sample
NO	●	●	●	Q4 2019	Statistical approach overlaid with expert judgement

Source: ESRB.
Notes: "ESRB methodology" refers to the methodology laid down in Decision ESRB/2015/3 on the assessment of materiality of third countries for the EU banking system in relation to the recognition and setting of countercyclical buffer rates and binds the ESRB when identifying material third countries for the EU. Member States are not obliged to apply the ESRB methodology when identifying material third countries for themselves. "Calculation" refers to the use of moving averages and the last two quarters of the three risk metrics as laid down in Articles 4(1) and 3(2) of Decision ESRB/2015/3. "Threshold" refers to the 1% threshold for any of the three metrics as laid down in Article 4(1) of Decision ESRB/2015/3. "Data" refer to the use of the COREP data series as laid down in Article 3(2) of Decision ESRB/2015/3. Green dots indicate that the methodology used is equivalent to the methodology described in Decision ESRB/2015/3. Orange dots indicate that the methodology is based on the ESRB methodology, but that differing metrics, criteria or thresholds are used, which are explained in the column "Comments". Grey dots indicate that a different methodology is used.

Annex 2: Active residential real estate instruments in Europe

Table A.2.1

Collateral stretch instruments

EEA country	Limit	Scope	Basis for measure
Austria	LTV: 80% (a down payment lower than a benchmark of 20% of total financing needs is considered to be a cause for concern)	N/A	Recommendation
Belgium	LTV: 80% (buy-to-let); 90% (owner-occupied). The tolerance margins are 10%, with 0%-90% (buy-to-let) and 35% (owner-occupied properties max. 5%-100% for first-time buyers) or 20% (not first-time buyers, 0%-100%). There are some limits for pockets of risk: if DSTI>50% and/or DTI>9, then LTV>90% (5% tolerance)	All mortgage lenders	Recommendation
Cyprus	LTV: 80% in cases where the credit facility is granted for financing the primary permanent residence of the borrower; 70% for all other property financing cases	Credit institutions authorised and operating in Cyprus	Binding regulation
Czech Republic	LTV: 90%; the share of loans with a higher LTV is limited to 5% per quarter, 90% for buy-to-let	All credit providers	Recommendation
Denmark	LTV: 95%; for mortgage credit institutions, stricter LTV requirement of 90% (75%) if debt surpasses four (five) times the annual income	Banks and mortgage credit institutions	Recommendation
Estonia	LTV: 85%; 90% in the case of a KredEx guarantee; up to 15% of the amount of new housing loans in a quarter is allowed to breach the limit	All credit institutions operating in Estonia, including the branches of foreign credit institutions	Binding regulation
Finland	LTV: 90%; 95% for first-time buyers (a wide range of other collateral is taken into account in calculating the LTV in addition to the value of the purchased dwelling)	All credit institutions operating in Finland, including the branches of foreign credit institutions	Binding regulation
Hungary	LTV: between 35% and 80% (depending on the currency denomination of the loan). In 2019, LTV recalibration: only 25% of the child support loans used for the purchase of the same house at most 90 days before taking a housing loan will be considered loan exposure for calculating the LTV	All lenders (both bank and non-bank, including branches)	Binding regulation
Iceland	LTV: 85% for second-time and subsequent buyers; 90% for first-time buyers	All regulated financial services providers in Iceland	Binding regulation
Ireland	LTV: 80% for second-time and subsequent buyers (of which 20% of the SSB new lending is allowed above the limit); 90% for first-time buyers (of which 5% of the new FTB lending is allowed above the limit); 70% for buy-to-let lending (10% of new lending for buy-to-let allowed above the limit)	All regulated financial services providers. The regulations apply to housing loans secured on residential property in Ireland	Binding regulation

EEA country	Limit	Scope	Basis for measure
Latvia	90%; 95% for loans covered by a state guarantee under the Law on Assistance in Resolution of Dwelling Issues. 70% for buy-to-let loans and borrowers whose actions relating to real estate exceed 20% of their total income	All lenders (both bank and non-bank, including branches)	Binding regulation
Liechtenstein	LTV: 80% Amortisation: according to the regulation on requirements for mortgage loans applicable to home loans and loans on income property, the mortgage has to be amortised so that the LTV ratio falls below two-thirds within 20 years	Credit institutions that issue mortgages in Liechtenstein	Binding regulation
Lithuania	LTV: 85%	All housing credit providers as long as credit is provided to consumers	Binding regulation
Luxembourg	Differentiated LTV limits, with three categories of borrowers considered and the following calibration: -LTV limit of 100% for first-time buyers acquiring their primary residence; -LTV limit of 90% for other buyers (i.e. not first-time buyers) acquiring their primary residence. This limit is implemented in a proportional way via a portfolio allowance. Specifically, lenders may issue 15% of the portfolio of new mortgages granted to these borrowers with an LTV above 90% but below the maximum LTV of 100%; -LTV limit of 80% for other mortgage loans (including the buy-to-let segment)	All relevant lenders in Luxembourg	Binding regulation
Malta	LTV: (a) For Category I borrowers (for loans with a collateral market value exceeding €175,000), the following caps apply: an LTV-O cap of 90%, with a speed limit of 10% on the volume of loans. (b) For Category II borrowers: an LTV-O cap of 85% in the first year, with a speed limit of 20% on the volume of loans, and an LTV-O cap of 75% from the second year, with a speed limit of 20% on the volume of loans. Extension of one year in the applicable LTV-O ratio, which currently stands at 85%, up until 30 June 2021; and 75% from 1 July 2021	All lenders granting domestic RRE loans	National directive
Netherlands	LTV: 100%	All credit institutions and non-bank financial companies operating in the Netherlands	Binding regulation
Norway	LTV: 85%; 60% for secondary homes in Oslo. Amortisation requirements if LTV>60%. Per quarter, 10% of the volume of new mortgages is permitted to exceed one or more of the stress test, DTI, LTV and amortisation requirements; this limit is 8% for mortgages in Oslo	Mortgage lenders	Binding regulation

EEA country	Limit	Scope	Basis for measure
Poland	LTV: 80% as of 2017, having fallen from 90% (2015); potential of attaining 90% if this additional part (above 80%) is insured or collateralised with funds from a bank account, government or Narodowy Bank Polski securities	Banks	Recommendation
Portugal	LTV: 90% for credit for own and permanent residence; 80% for credit for purposes other than own and permanent residence. 100% for purchasing immovable property held by the credit institutions themselves and for property financial leasing agreements. Collateral is the minimum of the purchasing price and appraisal value	All credit institutions and financial companies that have head offices or branches in the Portuguese territory	Recommendation
Romania	LTV: 85% for local currency-denominated loans, 80% for FX loans granted to hedged borrowers, 75% for EUR-denominated loans granted to unhedged borrowers, and 60% for other FX loans granted to unhedged borrowers; loans granted through the governmental program “Noua Casă” are 95% irrespective of the currency	Bank and non-bank financial institutions	Binding regulation
Slovakia	LTV: 90% and the share of loans with LTV>80% to reach 30% by the end of 2018 and 20% by the end of 2019. In 2019 the tightening has been applied accordingly	N/A	Binding regulation
	Amortisation: loans with (partial) deferred payment of interest or principal should not be granted. Specified exceptions are allowed. All loans must be amortised at least by annuity repayments	N/A	Binding regulation
Slovenia	LTV: 80%	Banks and savings banks, including branches of foreign banks	Recommendation
Sweden	LTV: 85%	All credit institutions operating in Sweden, including the branches of foreign credit institutions	Binding regulation
	Amortisation: 1% if LTV>50% and 2% if LTV>70% ; 1% extra if LTI>450	All credit institutions operating in Sweden, including the branches of foreign credit institutions	Binding regulation

Source: ESRB.
Notes: Table A.2.1 refers to all the residential real estate instruments that were active or at least decided before the end of 2020.This includes three sub-groups of measures: those decided and/or implemented before 2020, decided and implemented in 2020 and decided in 2020 but to be implemented in the following years.

Table A.2.2

Household/income stretch instruments

EEA country	Limit	Scope	Basis for measure
Austria	DSTI between 30% and 40%	All credit providers	Recommendation
	Maturity: loans with maturities of more than 35 years should be granted only in exceptional cases. Loan terms should not be excessively long and should take into account the income situation over the course of the borrower's life	All credit providers	Recommendation
Cyprus	DSTI: limit of 80% of the borrower's net disposable income should not be exceeded (65% for foreign currency loans)	Credit institutions authorised and operating in Cyprus	Binding regulation
	Stress test: credit institutions should carry out scenario analysis in order to assess the impact on debt servicing in case of increases in the loan instalment due to increases in the interest rate or any other cause	Credit institutions authorised and operating in Cyprus	Binding regulation
Czech Republic	Maturity: 30 years for mortgage loans Stress test: prudent credit standards, including assessment of client to service loans and withstand increased stress	All credit providers	Recommendation
	Amortisation requirement: providers should not provide retail loans secured by residential property with a non-standard repayment schedule leading to a shift of the client's credit commitments to a later period	All credit providers	Recommendation
Denmark	Other: in areas with significant price increases (Copenhagen and Aarhus), if the DTI>4, households should have positive net wealth in the event of a 10% decline in the value of the property (25% decline if DTI>5)	Banks and mortgage credit institutions	Recommendation
	LTI: a) If LTI is between 4 and 5, households should have sufficient wealth (including properties but excluding pension schemes) so that net wealth is still positive in case of a decline in the value of the property by 10%; b) If LTI is above 5, households should have sufficient wealth (including properties but excluding pension schemes) so that net wealth is still positive in case of a decline in the value of the property by 25%	Banks and mortgage credit institutions	Recommendation
	Other: Supervisory Diamond that limits a) interest-only lending to households with LTV above 60% (less for holiday houses); b) variable rate lending (interest rate fixation<2 years) to households with LTV above 60% (less for holiday houses); c) lending growth (cap of 15%) that is applicable to each of the segments: private residential (owner-occupied), agriculture, other corporate; d) short funding; e) large exposures; f) liquidity risk; g) funding risk; h) lending growth (20% cap for commercial banks)	Mortgage and commercial banks	Recommendation

EEA country	Limit	Scope	Basis for measure
Estonia	DSTI: 50%; up to 15% of the amount of new housing loans in a quarter is allowed to breach the limit; a borrower's debt servicing ability is tested with the interest rate in the loan contract (base rate plus margin) plus 2 percentage points, or an annual rate of 6%, whichever is higher	All credit institutions operating in Estonia, including the branches of foreign credit institutions	Binding regulation
	Maturity: maximum of 30 years for housing loans; up to 15% of the amount of new housing loans in a quarter is allowed to breach the limit	All credit institutions operating in Estonia, including the branches of foreign credit institutions	Binding regulation
Finland	Stress test: tests the borrower's ability to service the debt if the mortgage rate were 6% and had a maturity of 25 years; also takes into account housing company loans	Banks	Recommendation
France	DSTI: limit of 33% with a 15% exemption for new loans (3/4 for owner-occupied including first-time buyers) as long as DTI<7	Banks	Recommendation
	Maturity: limit of 25 years	Banks	Recommendation
Hungary	DSTI: for loans with a maturity over five years, there are different levels for loans with a floating interest rate or an interest rate fixed for less than 5 years (25%-30%), loans with an interest rate fixed for at least five years but less than ten years (35%-40%) and loans with an interest rate fixed for at least ten years (50%-60%). For loans in EUR (30%) or other foreign currency (10%) stricter rules are set, also differentiated by the interest rate fixation period. Since July 2019, the lower of the two values is for borrowers with a monthly net income below HUF 500,000, the other value is for those earning more	All credit institutions and non-bank financial companies operating in Hungary	Binding regulation
Ireland	LTI: new housing loans to second and subsequent buyers with an LTI >3.5 should be ≤10% of aggregate new mortgage lending to these borrowers. New housing loans to first-time buyers with an LTI >3.5 should be ≤20% of aggregate new mortgage lending to first-time buyers	All regulated financial services providers. The regulations apply to housing loans secured on residential property in Ireland	Binding regulation
	Stress test: lenders must assess whether borrowers can still afford their mortgage loans on the basis of a minimum 2% interest rate increase above the offered rate	Financial services providers authorised in Ireland or another EU Member State or EEA country	Binding regulation
Lithuania	DSTI: 40% of net income; stressed DSTI of 50% under the scenario of an interest rate of 5%; up to 5% of the total value of new housing loans during a calendar year is allowed to breach the DSTI limit of 40% (but capped at 60% limit)	All housing credit providers as long as credit is provided to consumers	Binding regulation
	Maturity: maximum of 30 years for new housing loans	All housing credit providers as long as credit is provided to consumers	Binding regulation

EEA country	Limit	Scope	Basis for measure
Latvia	DSTI: 40% in the creditworthiness assessment income from the real estate shall not account for more than 70% of the borrower's total income	All entities supervised by the FCMC	Binding regulation
	DTI: not more than six times the net income	All entities supervised by the FCMC	Binding regulation
	Maturity: 30 years for housing loans and seven years for consumer loans	All entities supervised by the FCMC	Binding regulation
Malta	DSTI: for Category I borrowers (for loans with a collateral market value exceeding €175,000), the following caps shall apply: 40% stressed DSTI-O with a shock to interest rates of 150 bps. For Category II borrowers, the following limits shall apply: 40% stressed DSTI-O with a shock to interest rates of 150 bps Temporary easing in the treatment of the stressed DSTI-O for both Category I and Category II borrowers. If a lender as defined in paragraph 6(r) of Directive 16 could ascertain on the basis of concrete proof that the failure to adhere to the stressed DSTI-O test is temporary, the 40% limit set in the said directive could be exceeded. The temporary easing applied for a period of six months from June 2020 until December 2020	All lenders granting domestic RRE loans	National directive
	Maturity: for Category I borrowers (for loans with a collateral market value exceeding €175,000), the following caps shall apply: 40-year maturity cap or the official retirement age, whichever occurs first. For Category II borrowers: 25-year maturity cap or the official retirement age, whichever occurs first	All lenders granting domestic RRE loans	National directive
Netherlands	DSTI: 10.5%-29.5% with a yearly recalibration, dependent on the borrower's income and the interest rate. For mortgages with a fixed interest rate of less than ten years, the DSTI is calculated using a fixed rate (currently 5%)	All credit institutions and non-bank financial companies operating in the Netherlands	Binding regulation
	Maturity: mortgage loans that are amortised after 30 years are not tax-deductible	Maturity: mortgage loans that are amortised after 30 years are not tax-deductible	
Norway	DTI: total debt may not exceed five times gross annual income. 10% of the mortgage volume per quarter is allowed not to meet the regulatory requirements; the limit is 8% for mortgages in Oslo	Mortgage lenders	Binding regulation
	Stress test: an interest rate stress test/sensitivity test is conducted when assessing the borrower's repayment capacity, making an allowance for an interest rate increase of 5 percentage points. Per quarter, 10% of the volume of new mortgage is permitted not to meet one or more of the stress tests, LTI, LTV and amortisation requirements; the limit is 8% for mortgages in Oslo	Mortgage lenders	Binding regulation

EEA country	Limit	Scope	Basis for measure
Poland	DSTI: bank-internal limits for all loans to households; banks should pay particular attention to loans with DSTI> 40% (for borrowers with incomes below the average salary in the region) and DSTI>50% (for other borrowers)	Banks	Recommendation
	Maturity: banks should recommend to their clients loans of maturity not longer than 25 years. If clients ask for loans of a longer maturity, banks are recommended to grant loans of a maximum maturity of 35 years and assess the borrower's creditworthiness assuming a maturity of 25 years. If maturity is longer than 30 years, banks should assume exposure maturity of 30 years	Banks	Recommendation
Portugal	Maturity: maximum of 40 years for new credit relating to residential immovable property or credit secured by a mortgage or equivalence guarantee; ten years for new consumer credit agreements. Average maturity of new credit agreements should gradually converge to 30 years until the end of 2022	All credit institutions and financial companies that have head offices or branches in the Portuguese territory	Recommendation
	DSTI: limit of 50%; up to 20% of total credit granted by each institution in each year may be granted to borrowers with a DSTI of up to 60%; up to 5% of total credit granted by each institution in each year may exceed all such limits	All credit institutions and financial companies that have head offices or branches in the Portuguese territory	Recommendation
	DSTI: maximum level for consumer loans depending on foreign currency, interest rate and income risk; debt includes mortgage loans	Bank and non-bank financial institutions	Binding regulation
Romania	DSTI: a limit of 20% (for FX loans) or 40% (for national currency loans); exception for the first RE loan for which the limits are 25% (for FX loans) and 45% (for national currency loans). Exception: a maximum of 15% of new loans will be exempted from the regulation	Bank and non-bank financial institutions	Binding regulation
Slovakia	DSTI: the limit has been tightened from 80% to 60%. 5% of new loans can be granted with DSTI up to 70 %; for floating-rate loans, an interest rate increase of 2 percentage points is assumed. Exception: for clients with debt-to-income (including the new loan) not exceeding 1 (or 1.5 for leasing), the above-mentioned limit is 100%	All regulated financial services providers in Slovakia	Binding regulation
	DTI: total borrower indebtedness (including both new and existing loans) cannot exceed eight times the yearly net disposable income (phasing-in applies). From 1 July 2019, the share of new loans with a DTI>8 can exceed 5% (up to 10%) only for loans granted to clients aged 35 or younger and with an income below 130% of the national average, DTI<9 then applies	All regulated financial services providers in Slovakia	Binding regulation
	Maturity: a) loans secured by RRE: 30 years with possible exemption of 10% of new loans (measure transferred from existing recommendation); (b) loans not secured by RRE granted by building societies: i) maximum maturity: 30 years; ii) maximum share of new loans over 25 years: 10%; iii) maximum share of new loans over 20 years: 20%; c) other loans not secured by RRE: eight years (measure transferred from existing recommendation)	N/A	Binding regulation

EEA country	Limit	Scope	Basis for measure
Slovenia	DSTI: limit of 50% for monthly income up to two times the gross minimum wage and 67% limit for monthly income above this; the limitations on the attachment of a debtor's financial assets set out in the Enforcement and Securing of Claims Act and the Tax Procedure Act, i.e. earnings that are exempt from attachment and limitations on the attachment of a debtor's financial earnings should be mutatis mutandis taken into account in the loan approval process Due to COVID-19, some individuals might have experienced temporary declines in their income, which do not necessarily reflect a change in their long-term creditworthiness. Therefore, the macroprudential restrictions on household lending were amended to provide some temporary flexibility when calculating income	Banks and savings banks, including branches of foreign banks	Binding regulation
United Kingdom	LTI: new residential mortgage loans with LTI≥4.5 should be <15% of aggregate volume of new loans on a four-quarter rolling average basis; de minimis exception for lenders with mortgage lending up to GBP 100 million per annum or extending fewer than 300 mortgages	Mortgage lenders	Binding regulation
	Stress test: assess the ability of the borrower to pay back the loan in the case their mortgage rate were 3 percentage points higher than any contractual reversion rate that the borrower might face over the first five years of the mortgage contract	Mortgage lenders	Recommendation

Source: ESRB.
Notes: Table A.2.2 refers to all the residential real estate instruments that were active or at least decided before the end of 2020.This includes three sub-groups of measures: those decided and/or implemented before 2020, decided and implemented in 2020 and decided in 2020 but to be implemented in the following years.

Table A.2.3

Lender stretch instruments

EEA country	Limit	Scope	Basis for measure
Belgium	Risk weights (Article 458): 5 percentage point add-on to the IRB banks' risk weights on retail exposures secured by residential immovable property in Belgium and an additional risk-sensitive add-on of 33% of the risk weight of the IRB bank's (residential) mortgage portfolio In 2020, Nationale Bank van België/Banque Nationale de Belgique decided to extend Article 458 for an additional year	Banks using the IRB approach	Binding regulation
	CCyB: 0% (lowered in March 2020 in response to the COVID-19 pandemic)	Banks	Binding regulation
Croatia	Risk weights (Article 124): stricter definition of residential property for preferential risk weighting	Banks using the standardised approach	Binding regulation
Czech Republic	CCyB: cancelled the planned increase from 1.75% to 2% and then decreased from 1.75% to 1% in March 2020; decreased from 1% to 0.5% in June 2020	Banks	Binding regulation
Estonia	Risk weights (Article 458): a credit institution-specific minimum level of 15% for the exposure-weighted average of the risk weights applied to the portfolio of retail exposures secured by mortgages on immovable property to obligors residing in Estonia	Banks using the IRB approach	Binding regulation
Finland	Risk weights (Article 458): minimum level of 15% for the average risk weight on housing loans In September 2020, FIN-FSA decided to not extend the measure after December 2020	Banks using the IRB approach	Binding regulation
	Full release of SyRB in response to the COVID-19 pandemic	Banks	Binding regulation
France	CCyB: decreased to 0% in April in response to the COVID-19 pandemic	Banks	Binding regulation
Germany	CCyB: decreased to 0% in March in response to the COVID-19 pandemic	Banks	Binding regulation
Iceland	CCyB: lowered to 0% in March 2020 in response to the COVID-19 pandemic	Banks	Binding regulation
	SyRB: 2.5%-3% (only domestic exposures)	Banks	Binding regulation
Ireland	Risk weights (Article124): stricter criteria for preferential weighting of residential mortgage loans: LTV<75% for preferential risk weighting and property must be owner-occupied	Banks using the standardised approach	Binding regulation
	CCyB: lowered to 0% in response to the COVID-19 pandemic	Banks	Binding regulation

EEA country	Limit	Scope	Basis for measure
Liechtenstein	Risk weights (Article124): 35% for residential properties with an LTV up to 66.6%; 50% for residential properties with an LTV between 66.6% and 80%	Credit institutions that issue mortgages in Liechtenstein	Binding regulation
	SyRB: 1%-2%	Banks	Binding regulation
Lithuania	CCyB: lowered to 0% in March 2020 in response to the COVID-19 pandemic	Banks, central credit unions and central credit union groups	Binding regulation
Luxembourg[208]	Risk weights (other): average minimum risk weight of 15% for retail residential mortgage loans	Institutions using the IRB approach for credit risk	Binding regulation
	Risk weights (other): stricter stress test for mortgage books and requiring banks to have appropriate internal governance and policies	Institutions using the IRB approach for credit risk	Binding regulation
	CCyB: 0.25% (as of 2020), 0.5% (as of 2021)	Banks	Binding regulation
Malta	Risk weights (Article 124): LTV<70% for exposures secured by mortgages on residential property when applying the 35% risk weight, otherwise 100%	Credit institutions licensed in Malta	Binding regulation
Norway	Risk weights (Article 164): the minimum LGD value was increased from 10% to 20%, as applied to the exposure-weighted average of retail exposures secured by residential property	Institutions using the IRB approach for credit risk	Binding regulation
	CCyB: lowered to 1% in March in response to the COVID-19 pandemic	Banks	Binding regulation
Poland	Risk weights (Article 124): 150% for exposures fully secured by mortgages on residential real estate where the principal or interest instalments depend on changes in the exchange rate of one or more foreign currencies that differ to the borrower's income currency	Banks	Binding regulation for banks using SA, Pillar 2 requirement for IRB banks
Slovakia	SyRB: 1% (only domestic exposures)	Banks	Binding regulation
	Other: maintain a prudent approach to lending through intermediaries (mortgage brokers). Ensure that the share of these loans does not create pressure to loosen lending standards. Maintain a diverse pool of intermediaries	N/A	Binding regulation
Slovenia	Risk weights (Article 124): 35% for exposures secured by mortgages on residential property if LTV≤60%	Banks and savings banks, including branches of foreign banks from EEA	Binding regulation

[208] Luxembourg also issued a risk-weight measure in 2013 targeting mortgage portfolios under the standardised approach. The legal basis was the CSSF Circular of 11 December 2012 (Circular 12/552). However, this measure remained applicable only for half a year since it was overwritten by the implementation of the CRR, which is stricter.

EEA country	Limit	Scope	Basis for measure
Sweden[209]	Risk weights (Article 458): floor of 25% for exposures secured by RRE property. In 2020	All credit institutions operating in Sweden, including the branches of foreign credit institutions (all banks using the IRB approach)	Binding regulation (Pillar 1)
	CCyB: lowered to 0% in March in response to the COVID-19 pandemic	Banks	Binding regulation
United Kingdom	CCyB: 2% (decided in 2019, applicable as of 2020)		
	Risk weights (other): a 150% risk weight should apply to speculative property development transactions in residential real estate	Banks using the standardised approach	Binding regulation
	Risk weights (other): risk weights can vary between 50% and 250% depending on the rating and maturity of the exposures	Banks using the IRB approach	Binding regulation

Source: ESRB.
Notes: Table A.2.3 refers to all the residential real estate instruments that were active or at least decided before the end of 2020.This includes three sub-groups of measures: those decided and/or implemented before 2020, decided and implemented in 2020 and decided in 2020 but to be implemented in the following years.

[209] Sweden also activated an SyRB (3%); however, since it does not specifically target the RE sector, it was not considered an RE measure.

Annex 3: Active commercial real estate instruments in Europe

Table A.3.1

All instruments

EEA country	Limit	Scope	Basis for measure
Croatia	Risk weights (Article 124): 100% for exposures secured by mortgages on commercial immovable property, up from 50%	Banks using the standardised approach	Binding regulation
Cyprus	LTV: 70% for loans for property that is not the borrower's primary residence	Credit institutions authorised and operating in Cyprus	Binding regulation
	DSTI: 80% for loans for all property that is not the borrower's primary residence; 65% for FX loans	Credit institutions authorised and operating in Cyprus	Binding regulation
Denmark	DSTI: 100% with a denominator defined as EBITDA (i.e. excluding value gains), whereas the nominator also requires the loan to be amortised over a maximum of 30 years	Banks	Binding regulation
	Other: 25% limit on lending to construction companies and real estate companies as a share of total lending (Supervisory Diamond)	Banks	Binding regulation
	Other: 15% lending growth cap (Supervisory Diamond)	Mortgage credit companies in lending segments	Binding regulation
Hungary	SyRB: institution-specific SyRB rates are set in the range of 0% to 2%. The size of the SyRB rate has, up until the current revision, depended on the contribution of institutions to the systemic risk stemming from FX and problem commercial real estate exposures. The measure is temporarily suspended because of the COVID-19 pandemic	All credit institutions operating in Hungary, according to predetermined thresholds	Binding regulation
Ireland	Risk weight (Article 124): minimum of 100% for exposures secured by mortgages on commercial immovable property	Banks using the standardised approach	Binding regulation
Latvia	Risk weights (Article 124): 100% for exposures secured by mortgages on commercial immovable property	Banks using the standardised approach	Binding regulation
Norway	Risk weights (Article 124): 100% for exposures secured by mortgages on commercial immovable property	Banks using the standardised approach for credit risk	Binding regulation
	CCyB: 1%	Banks	Binding regulation

EEA country	Limit	Scope	Basis for measure
Poland	LTV: 75%, or 80% if the part above 75% is insured or collateralised with funds from a bank account, government or Narodowy Bank Polski securities	Banks	Recommendation
	Risk weights (Article 124): 100%; exposures secured by mortgages on commercial immovable property of the borrower and that do not generate income from rent or sale of the property became exempt from the increased risk weight (October 2020)	Banks using the standardised approach	Binding regulation
Romania	Risk weights (Article 124): 100% for exposures secured by mortgages on commercial immovable property	Banks using the standardised approach	Binding regulation
Sweden	Risk weights (Article 124): 100% for exposures secured by mortgages on commercial immovable property	Banks using the standardised approach	Binding regulation
	Risk weights (Article 458): increase in risk weights of corporate exposures through higher Pillar 1 requirements if the bank's model meets the FSA's requirements; higher Pillar 2 requirements if not (approximately 30%). Estimation of the probability of default should anticipate a larger proportion of economic downturns with higher default rates	Banks using the IRB approach	Binding regulation
United Kingdom	Risk weights (Article 124): 100% for exposures fully secured by mortgages on commercial immovable property. Dependent on annual average loss rates for commercial mortgage lending in the United Kingdom. Stricter criteria for exposures to be treated as completely secured by mortgages of commercial immovable property that is located in a non-EEA country	Banks using the standardised approach	Binding regulation
	Risk weights (other): a 150% risk weight should apply to speculative property development transactions in commercial real estate	Banks using the standardised approach	Binding regulation
	Risk weights (other): risk weights can vary between 50% and 250% depending on the rating and maturity of the exposures	Banks using the IRB approach	Binding regulation

Source: ESRB.
Notes: Table A.3.1 refers to all the commercial real estate instruments that were active or at least decided before the end of 2020.This includes three sub-groups of measures: those decided and/or implemented before 2020, decided and implemented in 2020 and decided in 2020 but to be implemented in the following years.

Annex 4: Systemically important institutions in the EU and the United Kingdom

Table A.4.1

Cross-border corporate structures of SIIs

Parent country	Parent group	Subsidiaries	Subsidiary country
Austria	Erste Group Bank	Česká spořitelna a.s.	CZ
		Erste&Steiermärkische Bank d.d.	HR
		Erste Bank Hungary Zrt.	HU
		Banca Comerciala Romana SA	RO
		Slovenska Sporitelna, a.s.	SK
	Raiffeisen Bank International	Raiffeisenbank (Bulgaria) EAD	BG
		Raiffeisenbank a.s.	CZ
		Raiffeisenbank Austria d.d.	HR
		Raiffeisen Bank Zrt.	HU
		Raiffeisen Bank SA	RO
		Tatra banka, a.s.	SK
Belgium	KBC Group	United Bulgarian Bank AD	BG
		Československá obchodní banka	CZ
		K&H Bank	HU
		Československá obchodná banka	SK
Czech Republic	J&T Finance Group	Poštová banka, a.s.	SK
Finland	Nordea Bank Abp	Nordea Kredit Realkkredit A/S	DK
		Nordea Hypotek AB	SE
France	BNP Paribas	BNP Paribas Fortis SA	BE
		BGL BNP Paribas SA	LU
		BNP Paribas Bank Polska SA	PL
	Société Générale	Komerční banka, a.s.	CZ
		Société Générale Bank & Trust	LU
		BRD-Groupe Société Générale SA	RO
		SKB banka d.d., Ljubljana	SI
Germany	Commerzbank	mBank SA	PL
	Deutsche Bank	Deutsche Bank Luxembourg SA	LU
Greece	Alpha Bank	Alpha Bank Cyprus Ltd	CY
		Alpha Bank Romania SA	RO
	Eurobank Ergasias	Eurobank Bulgaria AD	BG
		Eurobank Cyprus Ltd	CY

Parent country	Parent group	Subsidiaries	Subsidiary country
Hungary	OTP Bank	DSK Bank EAD	BG
		OTP banka Hrvatska d.d.	HR
		OTP Bank SA	RO
Italy	Intesa Sanpaolo	Privredna Banka Zagreb d.d.	HR
		CIB Bank Zrt.	HU
		Všeobecná úverová banka, a.s.	SK
	UniCredit	UniCredit Bank Austria AG	AT
		UniCredit Bulbank AD	BG
		UniCredit Bank Czech Republic and Slovakia	CZ
		UniCredit Bank AG	DE
		Zagrebačka banka d.d.	HR
		UniCredit Bank Hungary Zrt.	HU
		UniCredit Bank SA	RO
		UniCredit Banka Slovenija d.d.	SI
Netherlands	ING Bank	ING België NV	BE
		ING DiBa AG	DE
		ING Bank Śląski SA	PL
Spain	BBVA	Garanti Bank SA	RO
	Banco Santander	Santander Bank Polska SA	PL
		Banco Santander Totta SA	PT
		Santander UK Plc	UK
	CaixaBank	Banco BPI, SA	PT
Sweden	Skandinaviska Enskilda Banken	SEB Pank AS	EE
		AB SEB bankas	LT
		AS SEB banka	LV
	Swedbank	Swedbank AS	EE
		Swedbank, AB	LT
		Swedbank AS	LV
United Kingdom	Barclays Bank	Barclays Bank Ireland plc	IE
	HSBC	HSBC Bank Malta Plc	MT
	Royal Bank of Scotland	Ulster Bank Ireland DAC	IE

Sources: Standard and Poor's Global Market Intelligence (formerly SNL) and ESRB.
Notes: Listed are the EU SII banking groups with at least one O-SII subsidiary located in another Member State. If the parent is not a designated SII at home, then it is included provided the parent has SII subsidiaries in at least two different Member States.

Table A.4.2

Buffer rates for SIIs

Parent country	Bank name	LEI	Buffer rate
Austria	Bawag P.S.K.	529900ICA8XQYGIKR372	1%
	Erste Bank der oesterreichischen Sparkassen AG	549300HUKIA1IZQHFZ83	1%
	Erste Group Bank AG	PQOH26KWDF7CG10L6792	2%
	Raiffeisen Bank International AG	9ZHRYM6F437SQJ6OUG95	2%
	Raiffeisenlandesbank Niederösterreich-Wien AG	529900GPOO9ISPD1EE83	1%
	Raiffeisen-Holding Nieder österreich-Wien reg. Genossenschaft m.b.H.	529900SXEWPJ1MRRX537	1%
	Raiffeisenlandesbank Oberösterreich Aktiengesellschaft	I6SS27Q1Q3385V753S50	1%
	UniCredit Bank Austria AG	D1HEB8VEU6D9M8ZUXG17	1%[210]
	Volksbank Wien AG	529900D4CD6DIB3CI904	1%
Belgium	Argenta Bank- en Verzekeringsgroep NV/SA	5493009ML6YX83YHC820	0.75%
	Axa Bank Belgium SA	LSGM84136ACA92XCN876	0.75%
	Belfius Banque SA/NV	A5GWLFH3KM7YV2SFQL84	1.5%
	BNP Paribas Fortis SA/NV	KGCEPHLVVKVRZYO1T647	1.5%
	Euroclear SA/NV	549300CBNW05DILT6870	0.75%
	ING België NV	JLS56RAMYQZECFUF2G44	1.5%
	KBC Groep	213800X3Q9LSAKRUWY91	1.5%
	The Bank of New York Mellon SA/NV	MMYX0N4ZEZ13Z4XCG897	0.75%
Bulgaria	Bulgarian Development Bank AD	549300615CPXQO52J309	0.5%
	Central Cooperative Bank AD	5299002142DS5ONT5540	0.5%
	DSK Bank EAD	529900GEH0DAUTAXUA94	1%
	Eurobank Bulgaria AD	549300IRGNL8Q3O8Y413	0.75%
	First Investment Bank AD	549300UY81ESCZJ0GR95	1%
	Raiffeisenbank (Bulgaria) EAD	5299009KAL4KO7584196	0.75%
	UniCredit Bulbank AD	549300Z7V2WOFIMUEK50	1%
	United Bulgarian Bank AD	5299000PCY1EP8QJFV48	0.75%

[210] The buffer applied to UniCredit Bank Austria AG is 1% due to the cap set at the parent level. The O-SII framework in Austria would otherwise require the institution to hold a 2% buffer.

Parent country	Bank name	LEI	Buffer rate
Croatia	Addiko Bank d.d.	RG3IZJKPYQ4H6IQPIC08	0.5%
	Erste&Steiermärkische Bank d.d.	549300A2F46GR0UOM390	2%
	Hrvatska poštanska banka d.d.	529900D5G4V6THXC5P79	0.5%
	OTP banka Hrvatska d.d.	5299005UJX6K7BQKV086	2%
	Privredna banka Zagreb d.d.[211]	549300ZHFZ4CSK7VS460	2%
	Raiffeisenbank Austria d.d.	529900I1UZV70CZRAU55	2%
	Zagrebačka banka d.d.	PRNXTNXHBI0TSY1V8P17	2%
Cyprus	Hellenic Bank Public Company Ltd	CXUHEGU3MADZ2CEV7C11	1.5%
	RCB Bank Ltd	253400EBCBBVB9TUHN50	0.5%
	Alpha Bank Cyprus Ltd	529900VS0F7BA91P4I60	0.5%
	Astrobank Ltd	549300VB6UM9TUOCYW67	0.5%
	Bank of Cyprus Public Company Ltd	PQ0RAP85KK9Z75ONZW93	2%
	Eurobank Cyprus Ltd	5493004KSNEM4U7L8714	1%
	Alfa Capital Holdings Ltd	549300XTCMOUXC51WZ58	0.5%
	Renaissance Securities Ltd	IK9CLH4U15AXJVV22968	2%
	SIB Ltd	F68F5WN6OGTEHIP5ZT82	0.5%
	BrokerCreditService Ltd	5493008C22FNI0QEEF10	1%
	Etoro (Europe) Ltd	213800GIFQMSV7HROS23	0.5%
Czech Republic	Česká spořitelna, a.s.	9KOGW2C2FCIOJQ7FF485	3%
	Československá obchodní banka, a.s.	Q5BP2UEQ48R75BOTCB92	3%
	Komerční banka, a.s.	IYKCAVNFR8QGF00HV840	3%
	PPF banka a.s.	31570010000000036567	0%
	Raiffeisenbank, a.s.	31570010000000004460	1%
	UniCredit Bank CZ and SK, a.s.	KR6LSKV3BTSJRD41IF75	2%
Denmark	Danske Bank A/S	MAES062Z21O4RZ2U7M96	3%
	DLR Kredit A/S	529900PR2ELW8QI1B775	1%
	Jyske Bank A/S	3M5E1GQGKL17HI6CPN30	1.5%
	Nordea Kredit Realkreditaktieselskab	52990080NNXXLC14OC65	1.5%
	Nykredit Realkredit A/S	LIU16F6VZJSD6UKHD557	2%
	Sydbank A/S	GP5DT10VX1QRQUKVBK64	1%
	Spar Nord Bank A/S	549300DHT635Q5P8J715	1%

[211] The buffer to which Privredna banka Zagreb is assigned to within the OSII buffer rate calibration is 2%; however, in practice, the bank is obliged to maintain 1.75% due to the cap on the subsidiary buffer rate.

Parent country	Bank name	LEI	Buffer rate
Estonia	AS LHV Pank	529900GJOSVHI055QR67	1%
	Luminor Bank AS	213800JD2L89GGG7LF07	2%
	AS SEB Pank	549300ND1MQ8SNNYMJ22	2%
	Swedbank AS	549300PHQZ4HL15HH975	2%
Finland	Municipality Finance Plc	529900HEKOENJHPNN480	0.5%
	Nordea Bank Abp	529900ODI3047E2LIV03	2%
	OP Group	7437003B5WFBOIEFY714	1%
France	BNP Paribas	R0MUWSFPU8MPRO8K5P83	1.5%
	Groupe BPCE	FR9695005MSX1OYEMGDF	1%
	Groupe Credit Agricole	FR969500TJ5KRTCJQWXH	1%
	Groupe Credit Mutuel	9695000CG7B84NLR5984	0.5%
	La Banque Postale	96950066U5XAAIRCPA78	0.25%
	Société Générale	O2RNE8IBXP4R0TD8PU41	1%
	HSBC-France	F0HUI1NY1AZMJMD8P67	0.25%
Germany	Bayerische Landesbank	VDYMYTQGZZ6DU0912C88	0.5%
	Commerzbank AG	851WYGNLUQLFZBSYGB56	1.25%
	DekaBank Deutsche Girozentrale	0W2PZJM8XOY22M4GG883	0.25%
	Deutsche Bank AG	7LTWFZYICNSX8D621K86	2%
	DZ Bank AG, Zentral-Genossenschaftsbank	529900HNOAA1KXQJUQ27	1%
	ING DiBa AG	3KXUNHVVQFIJN6RHLO76	0.25%
	Landesbank Baden-Württemberg	B81CK4ESI35472RHJ606	0.75%
	Landesbank Hessen-Thüringen Girozentrale	DIZES5CFO5K3I5R58746	0.75%
	Landwirtschaftliche Rentenbank	529900Z3J0N6S0F7CT25	0.25%
	Norddeutsche Landesbank Girozentrale	DSNHHQ2B9X5N6OUJ1236	0.25%
	NRW Bank	52990002O5KK6XOGJ020	0.25%
	Unicredit Bank AG	2ZCNRR8UK83OBTEK2170	1%
	J.P. Morgan AG	549300ZK53CNGEEI6A29	0.25%
Greece	Alpha Bank S.A.	5299009N55YRQC69CN08	1%
	Eurobank Ergasias Bank S.A.	JEUVK5RWVJEN8W0C9M24	1%
	National Bank of Greece S.A.	5UMCZOEYKCVFAW8ZLO05	1%
	Piraeus Bank S.A.	M6AD1Y1KW32H8THQ6F76	0.75%

Parent country	Bank name	LEI	Buffer rate
Hungary	CIB Bank Zrt.	549300MSY5NIVC0BME80	0.5%
	Erste Bank Hungary Zrt.	549300XWJHRKLHU2PS28	0.5%
	Kereskedelmi és Hitelbank Zrt.	KFUXYFTU2LHQFQZDQG45	1%
	MTB Magyar Takarékszövetkezeti Bank Zrt.	2594004MC7VOKSK7Z633	0.5%
	MKB Bank Zrt.	3H0Q3U74FVFED2SHZT16	0.5%
	OTP Bank Nyrt.	529900W3MOO00A18X956	2%
	Raiffeisen Bank Zrt.	5493001U1K6M7JOL5W45	0.5%
	UniCredit Bank Hungary Zrt.	Y28RT6GGYJ696PMW8T44	1%
Iceland	Arion banki hf.	RIL4VBPDB0M7Z3KXSF19	2%
	Íslandsbanki hf.	549300PZMFIQR79Q0T97	2%
	Landsbankinn hf.	549300TLZPT6JELDWM92	2%
Ireland	AIB Group plc	635400AKJBGNS5WNQL34	1.5%
	Bank of Ireland Group plc	635400C8EK6DRI12LJ39	1.5%
	Citibank Holdings Ireland Ltd	549300K7L8YW8M215U46	1%
	Ulster Bank Ireland DAC	635400KQIMALJ4XLAD78	0.5%
	Bank of America Europe DAC	EQYXK86SF381Q21S3020	0.75%
	Barclays Bank Ireland plc	2G5BKIC2CB69PRJH1W31	1%
Italy	Gruppo Banco BPM	815600E4E6DCD2D25E30	0.25%
	Intesa Sanpaolo S.p.A.	2W8N8UU78PMDQKZENC08	0.75%
	UniCredit S.p.a.	549300TRUWO2CD2G5692	1%
	Gruppo Monte dei Paschi di Siena	J4CP7MHCXR8DAQMKIL78	0.25%
Latvia	Akciju sabiedrība Citadele banka	2138009Y59EAR7H1UO97	1.5%
	Akciju sabiedrība Rietumu Banka	2138007F5HA5FFJROB80	1.25%
	AS SEB banka	549300YW95G1VBBGGV07	1.75%
	Swedbank AS	549300FXBIWWGK7T0Y98	2%
Liechtenstein	LGT Bank AG	5493009EIBTCB1X12G89	2%
	Liechtensteinische Landesbank AG	529900OE1FOAM50XLP72	2%
	VP Bank AG	MI3TLH1I0D58ORE24Q14	2%
Lithuania	AB SEB bankas	549300SBPFE9JX7N8J82	2%
	AB Šiaulių bankas	549300TK038P6EV4YU51	1%
	Swedbank AB	549300GH3DFCXVNBHE59	2%

Parent country	Bank name	LEI	Buffer rate
Luxembourg	Banque et Caisse d'Epargne de l'Etat Luxembourg	R7CQUF1DQM73HUTV1078	0.5%
	Banque Internationale à Luxembourg S.A.	9CZ7TVMR36CYD5TZBS50	0.5%
	BGL BNP Paribas	UAIAINAJ28P30E5GWE37	0.5%
	Clearstream Banking S.A.	549300OL514RA0SXJJ44	0.5%
	J.P. Morgan Bank Luxembourg S.A.	7W1GMC6J4KGLBBUSYP52	0.5%
	RBC Investor Services Bank S.A.	549300IVXKQHV6O7PY61	0.5%
	Société Générale S.A.	TPS0Q8GFSZF45ZZFL873	1%[212]
Malta	Bank of Valletta Group	529900RWC8ZYB066JF16	2%
	HSBC Bank Malta Plc	549300X34UUBDEUL1Z91	1.5%
	MDB Group Ltd	213800TC9PZRBHMJW403	1%
	APS Bank plc.	213800A1O379I6DMCU10	0.25%
Netherlands	ABN AMRO Bank N.V.	BFXS5XCH7N0Y05NIXW11	1.5%
	BNG Bank N.V.	529900GGYMNGRQTDOO93	1%
	Coöperatieve Rabobank U.A.	DG3RU1DBUFHT4ZF9WN62	2%
	De Volksbank N.V.	724500A1FNICHSDF2I11	1%
	ING Groep NV	3TK20IVIUJ8J3ZU0QE75	2.5%
Norway	DNB ASA	549300GKFG0RYRRQ1414	2%
	Kommunalbanken AS	549300GKFG0RYRRQ1414	1%
Poland	BNP Paribas Bank Polska SA	NMH2KF074RKAGTH4CM63	0.25%
	Bank Handlowy w Warszawie SA	XLEZHWWOI4HFQDGL4793	0.25%
	Bank Polska Kasa Opieki SA	5493000LKS7B3UTF7H35	0.75%
	Bank Polskiej Spółdzielczości SA	BB3BGO3LCED63R8R9R41	0.1%
	Santander Bank Polska SA	259400LGXW3K0GDAG361	0.75%
	ING Bank Śląski SA	259400YLRTOBISHBVX41	0.5%
	mBank SA	259400DZXF7UJKK2AY35	0.5%
	Powszechna Kasa Oszczędności Bank Polski SA	P4GTT6GF1W40CVIMFR43	1%
	SGB-Bank SA	259400P9KF07OP2K5P83	0.1%
	Bank Millennium SA	259400OFDZ9KPZEO8K78	0.25%

[212] The buffer applied to Société Générale S.A. is 1% due to the cap set at the parent level. The O-SII framework in Luxembourg would otherwise require the institution to hold a 2% buffer.

Parent country	Bank name	LEI	Buffer rate
Portugal	Banco BPI	3DM5DPGI3W6OU6GJ4N92	0.5%
	Banco Comercial Português	JU1U6S0DG9YLT7N8ZV32	1%
	Caixa Económica Montepio Geral	2138004FIUXU3B2MR537	0.25%
	Caixa Geral de Depósitos	TO822O0VT80V06K0FH57	1%
	LSF Nani Investments S.à.r.l.	222100K6QL2V4MLHWQ08	0.5%
	Santander Totta SGPS	5493005RLLC1P7VSVC58	0.5%
Romania	Alpha Bank România S.A.	529900TKT32Z5LP7XF90	1%
	Banca Comercială Română S.A.	549300ORLU6LN5YD8X90	2%
	Banca Transilvania S.A.	549300RG3H390KEL8896	2%
	BRD - Groupe Société Générale S.A.	5493008QRHH0XCLJ4238	1%
	CEC Bank S.A.	2138008AVF4W7FMW8W87	2%
	OTP Bank Romania S.A.	5299003TM0P7W8DNUF61	1%
	Raiffeisen Bank S.A.	549300RFKNCOX56F8591	2%
	UniCredit Bank S.A.	5493003BDYD5VPGUQS04	1%
Slovakia	Československá obchodná banka a.s.	52990096Q5LMCH1WU462	1%
	Poštová banka a.s.	315700PLTAXHBHZP5J02	0.25%
	Slovenská sporiteľňa a.s.	549300S2T3FWVVXWJI89	2%
	Tatra banka a.s.	3157002JBFAI478MD587	1.5%
	Všeobecná úverová banka a.s.	549300JB1P61FUTPEZ75	2%
Slovenia	NKBM - Nova Kreditna Banka Maribor	549300J0GSZ83GTKBZ89	0.5%
	NLB - Nova Ljubljanska Banka d.d.	5493001BABFV7P27OW30	1%
	SID - Slovenska izvozna in razvojna banka d.d.	549300BZ3GKOJ13V6F87	0.25%
	SKB Banka d.d.	549300H7CCQ6BSQBGG72	0.25%
	Unicredit Banka Slovenija d.d.	549300O2UN9JLME31F08	0.25%
	Intesa Sanpaolo	549300ECJDDLOVWWL932	0.25%
Spain	Banco Bilbao Vizcaya Argentaria, S.A.	K8MS7FD7N5Z2WQ51AZ71	0.75%
	Banco de Sabadell, S.A.	SI5RG2M0WQQLZCXKRM20	0.25%
	Banco Santander, S.A.	5493006QMFDDMYWIAM13	1%
	BFA Tenedora de Acciones, S.A.U. (Bankia, S.A.)	549300GT0XFTFHGOIS94	0.25%
	Caixabank, S.A.	7CUNS533WID6K7DGFI87	0.25%
Sweden	Nordea Hypotek AB	5493000K2HPWIF6MFO29	0%
	Skandinaviska Enskilda Banken AB	F3JS33DEI6XQ4ZBPTN86	4%
	Svenska Handelsbanken AB	M312WZV08Y7LYUC71685	4%
	Swedbank AB	NHBDILHZTYCNBV5UYZ31	4%

Parent country	Bank name	LEI	Buffer rate
United Kingdom	Barclays Plc	213800LBQA1Y9L22JB70	1%
	Citigroup Global Markets Limited	XKZZ2JZF41MRHTR1V493	0%
	Credit Suisse International	E58DKGMJYYYJLN8C3868	0%
	Credit Suisse Investments (UK)	549300FK5LWVMQ9QY386	0%
	Goldman Sachs Group UK Limited	549300RQT6K4WXZL3083	0%
	HSBC Holdings Plc	MLU0ZO3ML4LN2LL2TL39	1%
	J.P. Morgan Capital Holdings Limited	549300Z1UDXFNOBBUI23	0%
	Lloyds Banking Group Plc	549300NYKK9MWM7GGW15	2%
	Merrill Lynch International	GGDZP1UYGU9STUHRDP48	0%
	Morgan Stanley International Limited	LSMWH68Y2RHEDP8W5261	0%
	Nationwide Building Society	549300XFX12G42QIKN82	1%
	Nomura Europe Holdings Plc	549300IU15NXFPV2FC82	0%
	Santander UK Group Holdings Plc	549300F5XIFGNNW4CF72	1%
	Standard Chartered Plc	U4LOSYZ7YG4W3S5F2G91	0%
	The Royal Bank of Scotland Group Plc	2138005O9XJIJN4JPN90	1.5%

Source: ESRB.
Note: The table above displays fully phased-in buffers.

Table A.4.3

Changes in the SII lists and/or SII buffer levels notified in 2020 compared with the 2019 lists and buffer levels

EEA country	Changes
Bulgaria	Decrease of the fully phased-in buffer for one institution
Cyprus	Decrease of the fully phased-in buffers for three institutions
Croatia	Decrease of the fully phased-in buffer for one institution
Finland	Decrease of the fully phased-in buffer for one institution
France	Addition of one institution to the O-SII list
Germany	Addition of one institution to the O-SII list Decrease of the fully phased-in buffers for eight institutions
Ireland	Increase of the fully phased-in buffer for one institution
Luxembourg	Removal of one institution from the O-SII list
Malta	Increase of the fully phased-in buffer for one institution
Netherlands	Decrease of the fully phased-in buffers for three institutions
Norway	Decrease of the fully phased-in buffer for one institution
Poland	Addition of one institution to the O-SII list Decrease of the fully phased-in buffer for one institution
Romania	Removal of one institution from the O-SII list Decrease of the fully phased-in buffer for one institution
Slovakia	Decrease of the fully phased-in buffer for one institution
Sweden	Decrease of the fully phased-in buffers for three institutions
United Kingdom	Decrease of the fully phased-in buffers for three institutions Increase of the fully phased-in buffers for four institutions

Source: ESRB.

Notes: Changes in buffer levels resulting from phasing-in arrangements are not included. The SII classification is based on the notifications the ESRB received pertaining to the 2019 and 2020 identification exercises. The changes shown result from comparing the two regardless of the date of application. The G-SII/O-SII identifications are to take effect immediately or in the near future. In the case of Cyprus, two sets of O-SIIs have been identified, depending on whether they are classified as credit institutions or investment firms. The buffer targeting SII-specific risks includes the O-SII buffer, the G-SII buffer, the SyRB and Pillar 2 measures only if the national designated authority publicly stated that such measures are used to target these risks. The O-SII/G-SII buffer is cumulated with the SyRB according to the CRD IV framework.

Table A.4.4

Identification methodology

EEA country	Compliance with EBA guidelines	Small institutions included	Non-banks excluded	Thres-hold	Optional indicators/ Deviation from EBA scoring methodology	Additional institutions identified
Austria	Yes	Yes	Yes	275	Deposit guaranteed with threshold of 350 bps	2
Belgium	Yes	Yes	Yes	350	Domestic private sector deposits, domestic private sector loans	2
Bulgaria	Yes	Yes	Yes	275	N/A	N/A
Czech Republic	Yes	Yes	Yes	425	Share in private sector deposits, private sector loans and former O-SII status	0
Croatia	Yes	Yes	Yes	275	Number of retail deposit accounts and former O-SII status	0
Cyprus	Yes	Yes	No	350	N/A	N/A
Denmark	Yes	Yes	Yes	350	Meeting one criteria is enough: total assets as a percentage of domestic GDP > 6.5%; loans as a percentage of total lending by the domestic sector > 5%; deposits as a percentage of total domestic sector deposits > 3%	3
Estonia	No	Yes	Yes	350	Private sector domestic deposits and private sector domestic loans	0
Finland	Yes	Yes	Yes	275	N/A	N/A
France	Yes	N/A	N/A	350	Share of private domestic deposits, share of private domestic loans	1
Germany	Yes	Yes	Yes	350	Computation of an adjusted EBA score, threshold 100 of bps	8
Greece	Yes	Yes	Yes	350	N/A	N/A
Hungary	Yes	Yes	Yes	275	Off-balance sheet items, share in clearing and settlement system, assets under custody, interbank claims and/or liabilities, market transaction volumes or values	0
Iceland	Yes	Yes	No	350	FX market turnover	0
Ireland	Yes	Yes	No	350	Optional indicators are used only for the identification of investment firms, and no investment firms were identified as O-SIIs in 2020	1
Italy	Yes	Yes	Yes	350	N/A	N/A
Latvia	No	Yes	Yes	425	Discretionary exclusion of one institution for extraordinary changes in domestic banking landscape	-1

EEA country	Compliance with EBA guidelines	Small institutions included	Non-banks excluded	Thres-hold	Optional indicators/ Deviation from EBA scoring methodology	Additional institutions identified
Liechtenstein	Yes	Yes	Yes	350	Banks' assets relative to GDP	0
Lithuania	No	Yes	No	350	N/A	N/A
Luxembourg	Yes	Yes	Yes	325	Indicator of centrality developed by the BCL and assets under custody from investment funds	3
Malta	No	Yes	Yes	425	Inclusion of "private sector deposits from Maltese residents" and "private sector loans to Maltese residents" under a single step	N/A
Netherlands	Yes	Yes	N/A	350	Total exposure-at-default, type of customers, number of deposit accounts – retail, deposits guaranteed under deposit guarantee system, potential reputational contagion, potential contagion through shareholders, potential contagion through entities in conglomerates	1
Norway	Yes	N/A	N/A	350	Total as percentage of GDP, share of domestic lending market	N/A
Poland	Yes	Yes	Yes	350	Importance for an institutional protection scheme	2
Portugal	Yes	Yes	N/A	350	Geographical breakdown of banks' activities (deposits and loans)	0
Romania	Yes	Yes	N/A	275	Private sector loans; retail deposits, corporate deposits; interbank claims and/or liabilities; payment services provided to market participants or others; potential contagion through entities in conglomerate/shareholders	0
Slovakia	Yes	Yes	Yes	425	Total RWA, retail loans and retail deposits	0
Slovenia	No	Yes	Yes	500	Threshold of 500 bps	N/A
Spain	Yes	Yes	Yes	350	N/A	N/A
Sweden	Yes	Yes	No	350	N/A	1
United Kingdom	Yes	No	No	350	Computation of an adjusted EBA score, threshold of 100 bps	9

Source: ESRB.
Notes: The table is based on the notifications the ESRB received pertaining to the 2020 identification exercise. Columns 2,3,4,5 and 6 refer to questions 4.2.a, 4.2.g, 4.2.i, 4.2.b and 4.2.d of the relevant notification template for O-SIIs.

Table A.4.5

Calibration methodology

EEA country	Calibration method	Information used for calibration	Number of buckets	Thresholds for bucketing
Austria	Bucketing	Systemic importance scores	3	≥1,000 (2%) 637-999 (1.5%) 275-636 (1%)
Belgium	Bucketing, Equal expected impact (EEI)	Systemic importance scores Historical losses in the banking sector Stress test results Level playing field and single market considerations	2	Bucket 1: 1.5% Bucket 2: 0.75%
Bulgaria	Bucketing	Systemic importance scores Findings from the supervisory asset quality review and the stress test	3	Bucket 1: 1% Bucket 2: 0.75% Bucket 3: 0.5%
Croatia	EEI	Systemic importance scores Expert judgement	N/A	-
Cyprus	Bucketing	Systemic importance scores Level playing field	4	>2,500 (2%) 2,500-1,751 (1.5%) 1,750-1,001 (1%) 1,000-350 (0.5%)
Czech Republic	N/A	N/A	N/A	N/A
Denmark	Bucketing	Systemic importance scores (adjusted): - Balance as percentage of GDP - Loans as percentage of sector loans - Deposits as percentage of sector deposits	5	≥35 (3%) (SRB) 25-35 (2.5%) 15-25 (2%) 5-15 (1.5%) 0-5 (1%)
Estonia	Bucketing EEI	Systemic importance scores Linearly from 350 bps to 1,200 bps with buffers of 50 bps to 200 bps (rounded to 50 bps) Peer review	4	≥1,200 (2%) 850-1,200 (1.5%) 510-850 (1%) 350-510 (0.5%)
Finland	Bucketing	Recalibrated in response to COVID-19; buffers were then benchmarked against the ECB floor methodology and found to be higher than the minimum level reflected in the floor methodology	N/A	N/A
France	Bucketing	Systemic importance scores Expert judgement	5	≥3,000 (2%) 2,000-3,000 (1.5%) 1,000-2,000 (1%) 500-1,000 (0.5%)

EEA country	Calibration method	Information used for calibration	Number of buckets	Thresholds for bucketing
Germany	Bucketing; equal expected impact (EEI)	Systemic importance scores (adjusted)	12	≥4,840 (3%) 4,090- 4,839 (2.75%) 3,340-4,089 (2.5%) 2,590-3,339 (2.25%) 1,840-2,589 (2%) 1,280-1,839 (1.75%) 890-1,279 (1.5%) 620-889 (1.25%) 430-619 (1%) 300-429 (0.75%) 210-299 (0.5%) 100-209 (0.25%)
Greece	Bucketing; equal expected impact (EEI)	Systemic importance scores	5	-
Hungary	EEI	Systemic importance scores Peer review Cluster analysis Equal expected impact Expert judgement	3	-
Iceland	Expert judgement	As all institutions identified as O-SII are well above the 350-point threshold, the maximum 2% buffer has been applied to all O-SII banks	1	-
Ireland	EEI	Systemic importance scores Historical losses (PD) Range of buffer rates Peer review	6	-
Italy	Bucketing	Systemic importance scores Cluster analysis (k-means with 2, 3, 4 and 5 clusters)	5	≥4,000 (1.25%) 3,000-4,000 (1%) 2,000-3,000 (0.75%) 1,000-2,000 (0.25%) 350-1000 (0.25%)
Latvia	EEI	Systemic importance scores (adjusted) Return on risk-weighted assets	4	-
Liechtenstein	Bucketing	Systemic importance scores	3	≥1,000 (2%) 675-1,000 (1.5%) 350-675 (1%)
Lithuania	EEI, expected losses (average)	Return on risk-weighted assets Historical losses	-	-

EEA country	Calibration method	Information used for calibration	Number of buckets	Thresholds for bucketing
Luxembourg	Bucketing (linear regression)	Linear regression Scaling Consistency of G-SII/O-SII buffer	4	≥1,300 (2%) 975-1,300 (1.5%) 650- 975 (1%) 325-650 (0.5%)
Malta	Bucketing	Systemic importance scores	5	≥1,700 (2%) 1,200=1,699 (1.5%) 830-1,199 (1%) 580-829 (0.5 %) 425-579 (0.25%)
Netherlands	Bucketing	Recalibration due to COVID-19 and CRD V	4	-
Norway	Bucketing	Systemic importance scores	2	-
Poland	Bucketing	Systemic importance scores	5	≥1,575 (2%) 1,225-1,575 (1%) 875-1,225 (0.75%) 525-875 (0.5%) 350-525 (0.25%)
Portugal	Bucketing	Systemic importance scores Cluster analysis	5	≥2,800 (2%) 2,100-2,800 (1%) 1,400-2,100 (0.75%) 700-1,400 (0.5%) 350-700 (0.25%)
Romania	Bucketing	Systemic importance scores Legal constraint for subsidiaries (1%) Sustainable development of the lending activity Most banks are subsidiaries of EU groups (6/8)	-	-
Slovakia	Bucketing	Systemic importance scores Expert judgement	3	-
Slovenia	Bucketing	Systemic importance scores Peer review State of the credit cycle	8	≥5,400 (2%) 4,700-5,399 (1.75%) 4,000-4,699 (1.5%) 3,300-3,999 (1.25%) 2,600-3,299 (1%) 1,900-2,599 (0.75%) 1,200-1,899 (0.50%) 500-1,199 (0.25%)
Spain	Bucketing	Systemic importance scores	4	≥2,901 (1%) 1,951- 2,900 (0.75%) 901-1,950 (0.5%) 350-900 (0.25%)

EEA country	Calibration method	Information used for calibration	Number of buckets	Thresholds for bucketing
Sweden	Supervisory judgement	Systemic importance scores	-	-
United Kingdom	Bucketing	Institutions with total assets greater than GBP 175 billion are subject to a positive O-SII buffer rate	3	-

Source: ESRB.
Note: The table is based on the notifications the ESRB received pertaining to the 2020 identification exercise.

Annex 5: Main features of the systemic risk buffer in the EU and UK

Table A.5.1

Main features of the SyRB in Europe

EEA country	Level	Banks	Exposures	Main motivation
Austria	0.5%, 1% or 2%	11 banks[213]	All exposures	Size, profitability, capitalisation and ownership structure of the banking sector, exposure to emerging markets
Bulgaria	3%	All banks	Domestic exposures	Small and open economy with high trade openness, high level of indebtedness and cross-border interconnectedness of the private sector
Croatia	1.5%	All banks	All exposures	High external, public and private debt, low activity rate and small open economy
Czech Republic	1%,2% or 3%	Five banks identified as O-SIIs[214]	All exposures	Size and concentration of banking sector, common exposures, openness of the economy
Denmark	1%,1.5%, 2% or 3%	Seven banks identified as O-SIIs[215]	All exposures	Importance of O-SIIs to the economy
Denmark (Faroe Islands)	3%	All banks	Domestic exposures	Small and open economy, heavily dependent on few export goods
Estonia	0%	All banks	N/A	The buffer was deactivated due to the widespread negative impact of COVID-19
Finland	0%	All banks	N/A	The buffer was deactivated due to the widespread negative impact of COVID-19
Hungary	0%	All banks	Domestic exposures	The buffer was deactivated due to the widespread negative impact of COVID-19
Iceland	3%	All banks	Domestic exposures	Structural vulnerabilities of a small open economy
Liechtenstein	1% or 2%	Three of the banks identified as O-SIIs and three other banks	All exposures	Structural vulnerabilities of a small open economy, amplified by the importance and concentration of the banking sector
Netherlands	0%	Three largest banks[216]	N/A	The banks are no longer subject to an SyRB following the transposition of CRD V into Dutch national legislation
Norway	3%[217] or 4.5%	All banks	Domestic exposures	High level of indebtedness, size of the banking sector, level of capitalisation

213 Erste Group Bank, Raiffeisen Bank International, Unicredit Bank Austria, Raiffeisenlandesbank Oberösterreich Aktiengesellschaft, Raiffeisen-Holding Niederösterreich-Wien, BAWAG P.S.K., HYPO NOE Gruppe Bank, Vorarlberger Landes-und Hypothenbank, Hypo Tirol Bank, Oberösterreichische Landesbank, Volksbanken Verbund.

214 Česká spořitelna, Československá obchodní banka (ČSOB), Komerční banka, Unicredit Bank Czech Republic and Slovakia, Raiffeisenbank.

215 Danske Bank, DLR Kredit, Jyske Bank, Nordea Kredit, Nykredit Realkredit, Sydbank, Spar Nord Bank.

216 ABN Amro Bank, ING Bank, Rabobank.

217 For institutions not using the Advanced IRB Approach, the buffer rate for all exposures will be 3% until 31 December 2022, after which they will have to comply with the single 4.5% buffer rate.

EEA country	Level	Banks	Exposures	Main motivation
Poland	0%	All banks	N/A	The buffer was deactivated due to the widespread negative impact of COVID-19
Romania	0%, 1% or 2%	24 banks identified based on the level of the NPL ratio and the coverage ratio	All exposures	Potential increase in NPL ratios following a rise in interest rates and a slowdown in the balance sheet clean-up process. Tensions surrounding macroeconomic equilibria
Slovakia	1%	Three of the banks identified as O-SIIs	Domestic exposures	Size and concentration of the banking sector, structural vulnerabilities of a small open economy
Sweden	3%	Three largest banks[218]	All exposures	Systemic risk resulting from SIIs: features of the banking sector: similarity of business models, high common exposures, high interconnectedness, high concentration
United Kingdom	0%	Five RFB sub-groups and one building society	N/A	The banks are no longer subject to an SyRB following the entry into force of CRD V

Source: ESRB notifications.

[218] Handelsbanken, SEB, Swedbank.

Annex 6: Phasing-in of O-SII buffer and SyRB requirements

Chart A.6.1

Phasing-in of O-SII buffer requirements

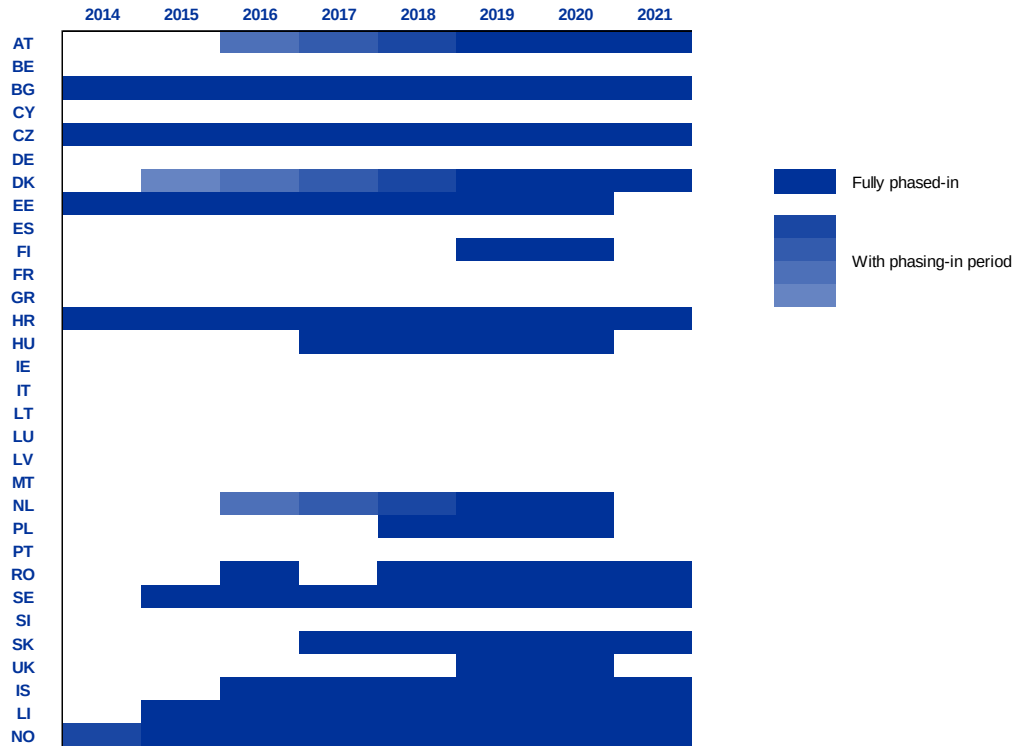
Source: ESRB.

Notes: The Czech Republic and Denmark apply an SyRB to their O-SIIs rather than an O-SII buffer. For Cyprus, the phasing-in period illustrated is for credit institutions identified as O-SIIs. If the buffer of only one bank was not fully phased-in, this is not reflected in the chart. Cyprus, Hungary, Greece and Portugal reviewed their phasing-in schedule in the light of COVID-19. Lithuania adjusted the phasing-in schedule for one institution[219], which will now only meet the highest requirement on 31 December 2021, but all other institutions are already phased-in.

[219] AB Šiaulių bankas.

Chart A.6.2

Phasing-in of the SyRB in Europe



Source: ESRB.

Notes: In Romania, a 1% SyRB was applied in March 2016 to all banks with a parent bank based in a non-investment-grade country in order to avoid contagion risk resulting from ownership structure. The instrument was suspended in June 2016 and deactivated from March 2017 onwards. Slovakia initially had a phasing-in period spanning 2017 and 2018, but later revised the 2018 levels to equal those of 2017. In Denmark, a general SyRB for the Faroe Islands will be phased in to a level of 3% in 2020 (4.5% and 5% for the O-SIIs in the Faeroes depending on their systemic importance). If the buffer of only one bank was not fully phased-in, this is not reflected in the chart. In 2020, EE, FI, HU, NL, PL and the United Kingdom ceased to apply an SyRB to their institutions.

Annex 7: Macroprudential authorities

Table A.7.1

EEA countries where the role of macroprudential authority and the role of designated authority are undertaken by different institutions

EEA country	Macroprudential authority[220]	Designated authority[221]
Austria	Finanzmarktstabilitätsgremium (Financial Market Stability Board)	Finanzmarktaufsichtsbehörde (Financial Market Authority)
Croatia	Vijeće za financijsku stabilnost (Financial Stability Council)	Hrvatska narodna banka
Denmark	Det Systemiske Risikoråd (Systemic Risk Council)	Erhvervsministeren (Ministry for Industry, Business and Financial Affairs)
Germany	Ausschuss für Finanzstabilität (Financial Stability Committee)	Bundesanstalt für Finanzdienstleistungsaufsicht (Financial Supervisory Authority)
Italy	*	Banca d'Italia
Latvia	Latvijas Banka	Finanšu un kapitāla tirgus komisija (Financial and Capital Market Commission)
Liechtenstein	Ausschuss für Finanzmarktstabilität (Financial Stability Council)	Ministerium für Präsidiales und Finanzen (Ministry for General Government Affairs and Finance), and Finanzmarktaufsicht Liechtenstein (Financial Market Authority)
Luxembourg	Comité du Risque Systémique (Systemic Risk Committee)	Commission de Surveillance du Secteur Financier (Financial Supervisory Commission)
Poland	Komitet Stabilności Finansowej (Financial Stability Committee)	Minister Finansów (Ministry of Finance)
Netherlands	Financieel Stabiliteitscomité (Financial Stability Committee)	De Nederlandsche Bank
Slovenia	Odbor za finančno stabilnost (Financial Stability Board)	Banka Slovenije Security Markets Agency (ATVP) Insurance Supervision Agency (AZN)
Spain	Autoridad Macroprudencial Consejo de Estabilidad Financiera (Macroprudential Authority Financial Stability Council)	Banco de España Comisión Nacional del Mercado de Valores (National Securities Market Commission)

Note: (*) In Italy, a legislative decree delegated the government to establish an Italian macroprudential policies board, but the delegated powers were exercised before the deadline. In Spain, the designated authority for credit institutions is the Banco de España whereas for investment firms it is the CNMV.

[220] Macroprudential authority established in accordance with **Recommendation ESRB/2011/3**.

[221] Designated authority established in accordance with Article 136 of **CRD IV**.

Table A.7.2

EEA countries where the role of macroprudential authority and the role of designated authority are undertaken by the same institution(s)

EEA country	Macroprudential authority[222]/designated authority[223]
Belgium	Nationale Bank van België/Banque Nationale de Belgique
Bulgaria	Българска народна банка (Bulgarian National Bank) and Комисия за Финансов Надзор (Financial Supervision Commission)
Cyprus	Κεντρική Τράπεζα της Κύπρου (Central Bank of Cyprus)
Czech Republic	Česká národní banka
Estonia	Eesti Pank
Finland	Finanssivalvonta (Finnish Financial Supervisory Authority)
France	Haut Conseil de Stabilité Financière (High Council for Financial Stability)
Greece	Τράπεζα της Ελλάδος (Bank of Greece)
Hungary	Magyar Nemzeti Bank[224]
Iceland	Seðlabanki Íslands (Central Bank of Iceland)
Ireland	Banc Ceannais na hÉireann/Central Bank of Ireland
Lithuania	Lietuvos bankas
Malta	Bank Ċentrali ta' Malta/Central Bank of Malta
Norway	Finansdepartementet (Ministry of Finance)
Portugal	Banco de Portugal
Romania	Comitetul Național pentru Supravegherea Macroprudențială (National Committee for Macroprudential Oversight)
Slovakia	Národná banka Slovenska
Sweden	Finansinspektionen (Financial Supervisory Authority)
United Kingdom	Bank of England - Financial Policy Committee

222 Macroprudential authority established in accordance with **Recommendation ESRB/2011/3**.

223 Designated authority established in accordance with Article 136 of **CRD IV**.

224 The substructure of the Magyar Nemzeti Bank responsible for macroprudential policy is the Pénzügyi Stabilitási Tanács (Financial Stability Council).

Countries and abbreviations

Countries

AT	Austria
BE	Belgium
BG	Bulgaria
CY	Cyprus
CZ	Czech Republic
DE	Germany
DK	Denmark
EE	Estonia
ES	Spain
FI	Finland
FR	France
GR	Greece
HR	Croatia
HU	Hungary
IE	Ireland
IT	Italy
LT	Lithuania
LU	Luxembourg
LV	Latvia
MT	Malta
NL	Netherlands
PL	Poland
PT	Portugal
RO	Romania
SE	Sweden
SI	Slovenia
SK	Slovakia
UK	United Kingdom
IS	Iceland
LI	Liechtenstein
NO	Norway
BR	Brazil
CH	Switzerland
CN	China
HK	Hong Kong
KY	Cayman Islands
MX	Mexico
RU	Russia
SG	Singapore
TR	Turkey
US	United States of America

Other

AIF	alternative investment fund
BBM	borrower-based measure
BCBS	Basel Committee on Banking Supervision
BIS	Bank for International Settlements
BLS	Banking Lending Survey
BRRD	Bank Recovery and Resolution Directive
CCoB	capital conservation buffer
CCP	central counterparty
CCyB	countercyclical capital buffer
CEE	central and eastern European
CPMI	Committee on Payments and Market Infrastructures
CRD	Capital Requirements Directive
CRE	commercial real estate
CRR	Capital Requirements Regulation
CSD	centralised securities depository
DB	defined benefit
DC	defined contribution
DSTI	debt service-to-income
DTI	debt-to-income
EA	euro area
EBA	European Banking Authority
ECA	European Court of Auditors
ECB	European Central Bank
EEA	European Economic Area
EFTA	European Free Trade Association
EIOPA	European Insurance and Occupational Pensions Authority
EMIR	European Market Infrastructure Regulation
ESA	European Supervisory Authority
ESG	environmental, social and governance
ESMA	European Securities and Markets Authority
EU	European Union
FFAR	foreign exchange funding adequacy ratio

FMI	financial market infrastructure
FRANDT	fair, reasonable, non-discriminatory and transparent
GAAP	generally accepted accounting principles
GDP	gross domestic product
G-SII	global systemically important institution
IFR	interbank funding ratio
IORP	institution for occupational retirement provision
IOSCO	International Organization of Securities Commissions
IRB	internal ratings-based
LCR	liquidity coverage ratio
LGD	loss given default
LTG	long-term guarantee
LTI	loan-to-income
LTV	loan-to-value
MFAR	mortgage funding adequacy ratio
MFI	monetary financial institutions
MiFID	Markets in Financial Instruments Directive
MREL	minimum requirements for own funds and eligible liabilities
NCA	national competent authority
NFC	non-financial corporation
NGFS	Network for Greening the Financial System
NPL	non-performing loan
NSFR	net stable funding ratio
OECD	Organisation for Economic Co-operation and Development
OFI	other financial institution
O-SII	other systemically important institution
PAYG	pay-as-you-go
PD	probability of default
PFMI	Principles for financial market infrastructures
PSA	pension scheme arrangement
RRE	residential real estate
RW	risk weight
SA	standardised approach
SCR	Solvency Capital Requirement
SII	systemically important institution
SMEs	small and medium-sized enterprises
SRB	Single Resolution Board
SSM	Single Supervisory Mechanism
SyRB	systemic risk buffer
TLAC	total loss-absorbing capacity
TLTRO	targeted longer-term refinancing operations
TRIM	Targeted Review of Internal Models
UCITS	undertakings for collective investment in transferable securities

Imprint and acknowledgements

Editors	
Agne Dirmeikiene	Stéphanie Stolz

Assistant editors	Language editors
Ana Glória Nathan Huber	Jonathan Drake

Authors	
Ilias Aarab	Nathan Huber
Barbara Jeanne Attinger	Giuseppe Insalaco
Ludivine Berret	Frederik Ledoux
Enrico Calabresi	Alexandra Morão
Edoardo Colombari	Aurelio Nocera
Jarn Denijs	Tuomas Peltonen
Alessandro Di Spirito	Federico Pistelli
Zsofia Döme	Antonio Sanchez
Michal Dvořák	Eric Schaanning
Constanze Fay	Eiko Sievert
Christoph Fricke	Frauke Skudelny
Ana Glória	Stéphanie Stolz
Camille Graciani	Olaf Weeken
Jakub Gruszczynski	Mieke Wennekes
Kristian Horn	Andreas Westphal

Postal address 60640 Frankfurt am Main, Germany
Telephone +49 69 1344 0
Website **www.esrb.europa.eu**

The cut-off date for the data included in this report was 31 December 2020.

For specific terminology please refer to the **ESRB glossary** (available in English only).

PDF ISBN 978-92-899-4796-1, doi:10.2866/77568, QB-02-21-874-EN-N