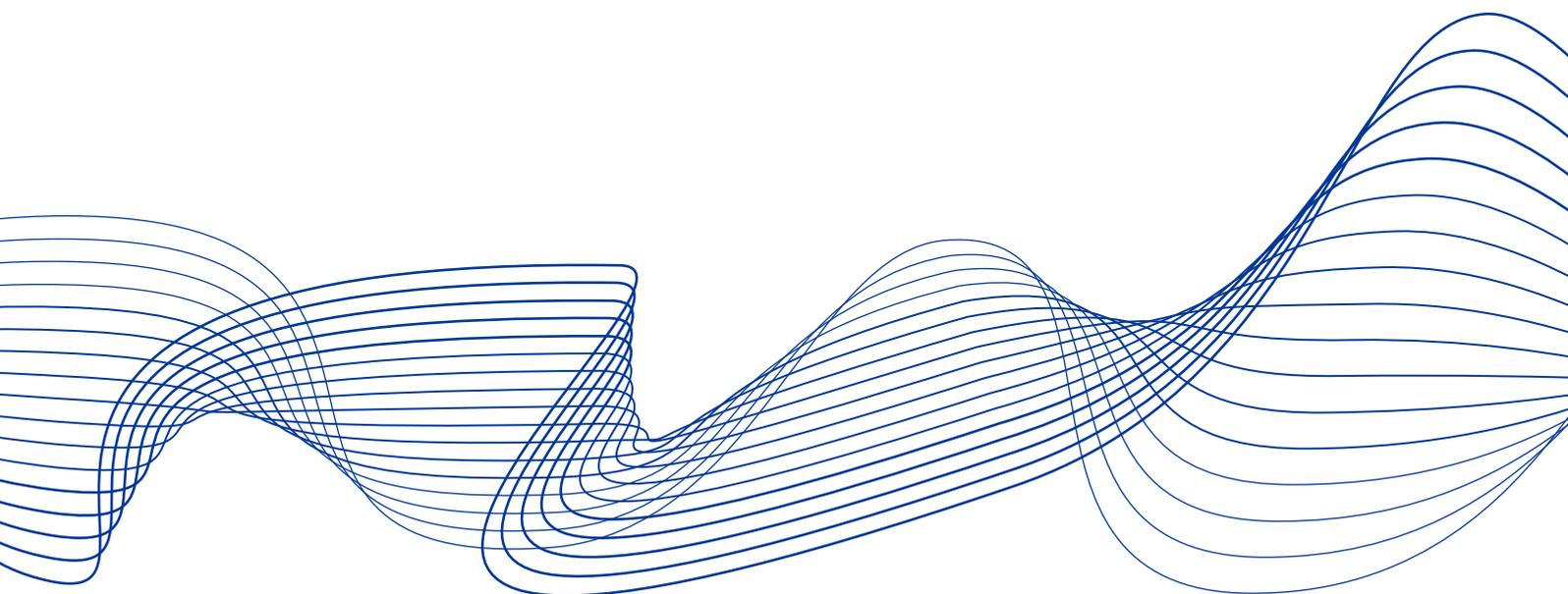


# Annual Report

2018



**ESRB**  
European Systemic Risk Board  
European System of Financial Supervision

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## Foreword



*Mario Draghi, Chair of the European Systemic Risk Board*

The eighth Annual Report of the European Systemic Risk Board (ESRB) covers the period between 1 April 2018 and 31 March 2019. As usual, the ESRB closely monitored the sources of systemic risk in the European financial system and in the economy. The four main risks identified are the same as last year, with the repricing of risk premia in global financial markets being the most prominent one, followed by persistent weaknesses in balance sheets of EU banks, insurers and pension schemes, debt sustainability challenges in EU sovereign, corporate and household sectors and, finally, vulnerabilities in the investment fund sector and risks from shadow banking activities. This is particularly relevant against a backdrop of policy uncertainties and faster-than-expected moderation of economic growth.

Further increases in residential and commercial real estate prices point to signs of overvaluation in some markets. In this context, the ESRB published a report on commercial real estate, while continuing to do follow-up work on the warnings on residential real estate it issued to eight Member States at the end of 2016.

The ESRB continued to advance the development of macroprudential policy. With regard to policy for the banking sector, the ESRB continued its assessment of and published two reports on the financial stability implications of IFRS 9. Following a request from the EU Council, the ESRB identified the main triggers, vulnerabilities and amplifiers that can drive system-wide increases in non-performing loans. With regard to policy beyond the banking sector, the ESRB identified options to further strengthen the macroprudential framework for (re)insurance and reviewed the financial stability implications of central counterparty interoperability arrangements.

In addition, the ESRB organised several events to foster discussion on macroprudential policy. The third ESRB Annual Conference took place in September 2018. It focussed on topics such as the threats to financial stability from climate change, the increasing role of non-bank finance in the real economy and the need to close data gaps that impede effective risk monitoring. Leveraging on a workshop organised together with the ECB and the IMF, the ESRB also made a first step towards developing a common framework for a macroprudential stance.

I would like to warmly thank Erkki Liikanen, former Governor of the Bank of Finland, in his capacity as a member of the General Board of the ESRB, Professor Marco Pagano, as a member of the General Board and Vice-Chair of the Advisory Scientific Committee (ASC), and Ignazio Angeloni, in his capacity as a member of the Supervisory Board of the ECB and as an observer of the General Board, for their support of the work of the ESRB. We look forward to continuing to benefit from the insights of Andrea Enria in his new role as Chair of the Supervisory Board of the ECB and as a member of the General Board.



Finally, it was with great sadness that I learned of the passing of Alberto Giovannini. He provided immeasurable contributions in his capacity as a member of the ASC and as a co-Chair of the ESRB Joint Expert Group on Interconnectedness and I would like to express my sincere condolences to his family.



Mario Draghi  
Chair of the ESRB



## Executive summary

The period under review was characterised by a high level of policy uncertainty and by faster than expected moderation of economic growth. Economic sentiment indicators decreased in most EU Member States and public and private sector forecasters revised their projections of output growth. Against this backdrop, the ESRB identified four main risks to EU financial stability which are interlinked: (i) repricing of risk premia in global financial markets; (ii) weaknesses in financial institutions' balance sheets; (iii) debt sustainability challenges in the public and private sectors; and (iv) vulnerabilities in the investment fund sector and risks from shadow banking activities. Compared with 2017 the ranking of these threats remained unchanged during 2018. Specifically, the repricing of risk premia in global financial markets is assigned to the high-risk category; weaknesses in financial institutions' balance sheets and debt sustainability challenges are assigned to the medium-risk category; and vulnerabilities in the investment fund sector and risks from shadow banking activities (formally termed the "shadow banking" sector) are assigned to the low-risk category. Besides these four main risks to financial stability, the ESRB also continued to work on the financial stability implications of climate change and technological developments, including systemic cyber risk.

The main risks to financial stability identified by the ESRB formed the basis for the design of adverse macro-financial scenarios for the EU-wide stress tests of the European Supervisory Authorities (ESAs). Over the review period, the ESRB delivered adverse scenarios to the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA). Specifically, it delivered a single adverse scenario for both the 2019 EIOPA pension fund stress test and the 2019 ESMA money market fund stress testing guidelines. The ESRB also provided the adverse scenario for ESMA's stress test of central counterparties.

The ESRB applied its reciprocity framework to contribute to the coordination of macroprudential policy in the Union. In particular, it recommended reciprocation of (i) national flexibility measures for residential real estate exposures in Belgium and Sweden, (ii) national flexibility measures for large exposures to non-financial corporations (NFCs) in France, and (iii) a materiality threshold for the systemic risk buffer in Estonia. Other Member States should reciprocate these measures, ideally with the same instrument, within a set period of time. Member States have the option of exempting individual financial service providers that have non-material exposures. The ESRB recommended a maximum institution-specific materiality threshold for this purpose.

The ESRB contributed to the development of the macroprudential policy framework by setting out initial considerations on a framework for the macroprudential stance in order to support policymakers in preparing decisions. Such a framework could be useful in improving the communication of policy decisions, in anchoring expectations about financial sector stability and future policy actions and in mitigating potential inaction bias in the face of increasing financial stability risks.

With regard to policy for the banking sector, the ESRB continued its assessment of the financial stability implications of the introduction of a new financial reporting standard and of non-performing loans (NPLs). Regarding International Financial Reporting Standard (IFRS) 9, the ESRB focused on two aspects. First, the ESRB concluded that, inter alia, the differences between the expected credit loss (ECL) approach in IFRS 9 and the US equivalent may potentially affect the provision of



lending through the cycle and the global market for lending to large corporations. Second, the ESRB analysed the potential cyclical behaviour of the ECL model in IFRS 9 and suggested the development of best practices or enhanced guidelines to ensure that the financial stability benefits of IFRS 9 are reaped. Regarding NPLs, following a request from the EU Council, the ESRB identified the main triggers, vulnerabilities and amplifiers that can drive system-wide increases in NPLs. While no fundamental changes to the existing macroprudential toolkit seem to be required at this stage, some refinements should be considered, in particular in areas such as the use of sectoral capital buffers and the development of borrower-based measures for both households and NFCs.

Looking beyond the banking sector, the ESRB considered how to further strengthen the macroprudential framework for (re)insurance and reviewed the financial stability implications of central counterparty (CCP) interoperability arrangements. Regarding the insurance sector, the options considered the most promising include a harmonised EU-wide recovery and resolution framework; power for authorities to impose entity-based and/or activity/behaviour-based market-wide capital increases and dividend restrictions; symmetric capital requirements for cyclical risks; liquidity requirements for (re)insurers with a vulnerable liquidity profile; a discretionary power for authorities to intervene in cases of mass lapses; and instruments to target bank-like activities to ensure cross-sector consistency of macroprudential policy. Regarding CCPs, the ESRB made two suggestions: first, that the regulatory framework should explicitly address how recovery and resolution tools should be applied to interoperable CCPs; second, to clarify in legislation whether interoperable arrangements for derivatives could be approved and implemented and, if so, for which product types and under what conditions.

The ESRB continued to monitor macroprudential measures adopted in the Union and to facilitate an exchange of views among its members on such measures. Compared with 2017, there was a significant increase in the number of macroprudential measures adopted: more than half of the countries in the European Economic Area (EEA) took some macroprudential policy action in 2018, and most actions were of a tightening nature to address cyclical risks. Apart from the activation of the countercyclical capital buffer (CCyB) and the increase in the CCyB rate in several EEA countries, nine EU countries introduced a systemic risk buffer (SyRB) or recalibrated the SyRB rate. After that, the most frequently introduced measure in 2018 concerned caps on debt service-to-income (DSTI) ratios. Countries also made changes to the methodology they used to identify systemically important institutions and set their buffers. An increase in reciprocation measures can also be observed following the ESRB's recommendations to reciprocate Finland's and Belgium's measures taken under Article 458 of the Capital Requirements Regulation (CRR) to increase the risk weight add-ons for residential real estate exposures of banks using the internal ratings-based approach. These measures are described in more detail in the ESRB's Review of Macroprudential Policy in the EU.<sup>1</sup>

The ESRB undertook three compliance assessments of its recommendations. Concerning the recommendation aimed at reducing systemic risks arising from money market funds, the ESRB found the European Commission's proposal for a regulation to be largely compliant. Concerning the recommendation providing guidance on setting countercyclical buffer rates, with the aim of establishing a common approach in the EU, the ESRB deemed that designated authorities had by-

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<sup>1</sup> See [A Review of Macroprudential Policy in the EU in 2018](#), ESRB, April 2019.



and-large accomplished a timely and comprehensive operationalisation of the countercyclical buffer. At the end of the review period, the assessment of the recommendation aimed at promoting a coordinated policy approach across borders within the EU and preventing financial service providers from circumventing national macroprudential measures is ongoing.

The ESRB continued to organise a number of events to engage stakeholders in discussions on macroprudential policy. In particular, the third ESRB Annual Conference took place in September 2018. Participants discussed potential threats that climate change could pose to financial stability, the increasing importance of non-bank finance for the funding of economic activity and the importance of closing data gaps that impede effective risk monitoring. In conjunction with the ECB and the International Monetary Fund (IMF), the ESRB also held a workshop entitled “Towards a framework for macroprudential stance”. A key takeaway from the workshop was the high degree of complexity involved in macroprudential policymaking, which means that a challenge for future work on the macroprudential stance will be to find better ways to explain the rationale of policy decisions to the public.



# 1 Systemic risks in the financial system of the European Union

## 1.1 Overview of the main systemic risks

**Risks to EU financial stability remained at elevated levels against the backdrop of a faster than expected moderation of economic growth and the persistently high level of policy uncertainty.** Economic growth moderated faster than expected both globally and in European economies, and this was reflected in downward revisions of GDP projections by major international institutions (see Charts 1 and 2). Economic sentiment indicators also decreased across most EU countries and sectors, including the financial sector (see Charts 3 and 4). Against the background of recent broader policy and macro-financial developments, the risks to EU financial stability were assessed to have remained at elevated levels during the review period and included: (1) the risk of a repricing in financial markets, (2) weaknesses in financial institutions' balance sheets, (3) debt sustainability challenges in the public and private sectors, and (4) vulnerabilities in the investment fund sector and risks from shadow banking activities (see Table 1).

**The main systemic risks are interlinked and affected by the prevailing policy uncertainties and the economic outlook.** The risk of a repricing in global markets remained high due to significant (geo)political and policy uncertainties both globally (e.g. trade tensions, weaknesses in emerging market economies – EMEs) and within Europe (e.g. Brexit). Downward revisions of medium-term growth and the interest rate outlook could negatively affect the balance sheets of EU financial institutions, not least in view of prevailing vulnerabilities, including, in the banking sector, the burden of non-performing loans (NPLs) in some banking systems, low cost-efficiency and overcapacity. Moreover, such balance sheet weakening could pose challenges to bank funding, including in foreign currencies, in an environment of increasing financial market risk aversion. Funding needs will arise due to refinancing and the need to meet minimum requirements for own funds and eligible liabilities (MREL).<sup>2</sup> Slowing growth momentum is also likely to further challenge debt sustainability in the public and private sectors. Financial market repricing could be amplified, given the interconnectedness with and vulnerabilities in the investment fund and other financial institution (OFI) sectors.

<sup>2</sup> The EU banking system could face a shortfall in MREL-eligible instruments of between €206.8 billion and €284.6 billion, which is close to the overall issuance registered in 2018; see [Quantitative update of the EBA MREL Report](#), European Banking Authority (EBA), 20 December 2017. With respect to the imbalances in funding positions in foreign currencies, see [EBA report on liquidity measures under Article 509\(1\) of the CRR](#), EBA, 4 October 2018.



Table 1

**Overview of the main risks to financial stability in the EU**

1	<p><b>Repricing of risk premia in global financial markets</b></p> <p><b>Vulnerabilities:</b> mispricing of risks and excessive risk-taking amid low funding costs and search for yield.</p> <p><b>Potential triggers:</b> escalation of uncertainties related to the international framework of economic relations and corresponding adjustments to the economic outlook, shocks to risk premia, e.g. due to (geo)political events globally or within Europe (e.g. hard Brexit, policy uncertainties in Italy), materialisation of risks in key EMEs.</p>
2	<p><b>Persistent weaknesses in balance sheets of EU banks, insurers and pension funds</b></p> <p><b>Vulnerabilities (banks):</b> challenges to sustainable sources of profits in the low interest rate environment, with structural changes like digitalisation and fintech challenging banks' business models, still significant asset quality issues as well as low cost efficiency and excess capacity in certain countries.</p> <p><b>Vulnerabilities (life insurers and pension funds):</b> low-yield environment increasing the liabilities of life insurers and pension funds and creating return challenges for long-term investments, particularly affecting guaranteed-return life insurers and defined-benefit pension schemes.</p> <p><b>Potential triggers:</b> significant prolonged profitability pressures (banks), revaluation of liabilities at low interest rates (life insurers), weak returns on financial investments, systemic cyber attacks.</p>
3	<p><b>Debt sustainability challenges in EU sovereign, corporate and household sectors</b></p> <p><b>Vulnerabilities:</b> high indebtedness in public and private sectors, with a limited capacity to absorb shocks.</p> <p><b>Potential triggers:</b> shocks to the medium-term growth outlook (e.g. due to an escalation of uncertainties related to the international framework of economic relations or slow implementation of structural reforms), materialisation of policy risks potentially having an impact on the fiscal space, re-pricing in financial markets.</p>
4	<p><b>Vulnerabilities in the investment fund sector and risks from shadow banking activities</b></p> <p><b>Vulnerabilities:</b> further increasing size and complexity of the investment fund and other financial institution sectors, liquidity and leverage in certain types of investment funds, lack of transparency and comprehensive risk monitoring, interconnectedness and potential for contagion to other parts of the financial system, e.g. via cross-border linkages or step-in risk.</p> <p><b>Potential triggers:</b> re-pricing in global financial markets with a potential for fire sales and liquidity squeezes.</p>

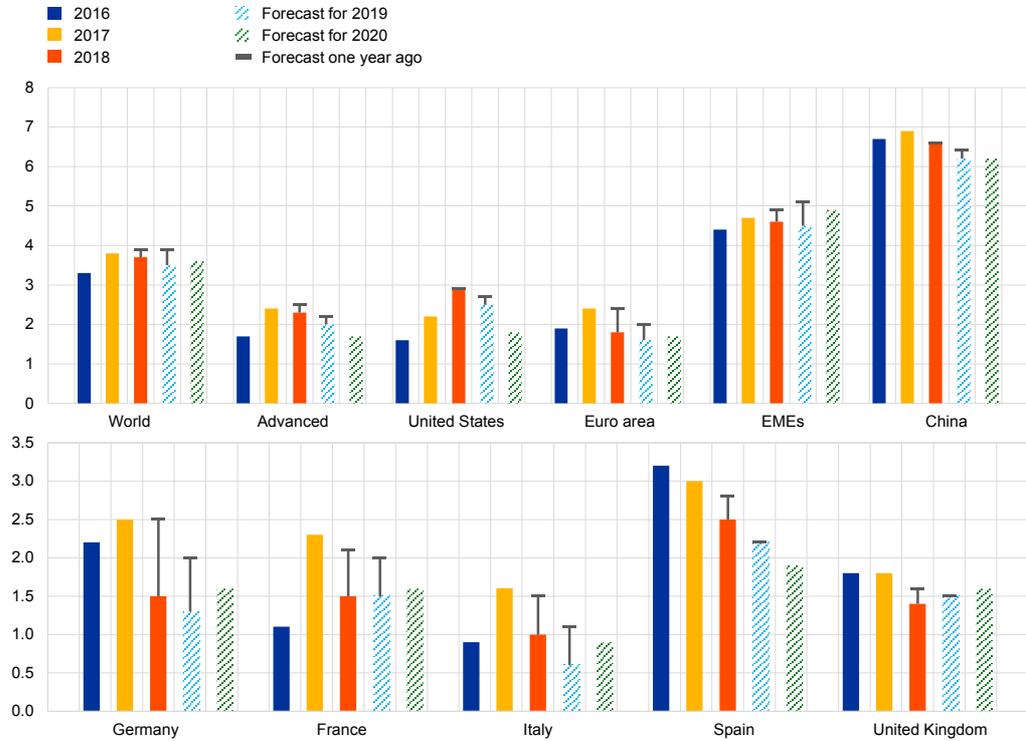
Source: ESRB.

Notes: Key financial stability risks identified over a three-year horizon. Yellow denotes risk, orange denotes medium risk and red denotes high risk.



## Chart 1 Global growth dynamics

(percentages; 2016-2018: observed; 2019-2020: January 2019 forecast)



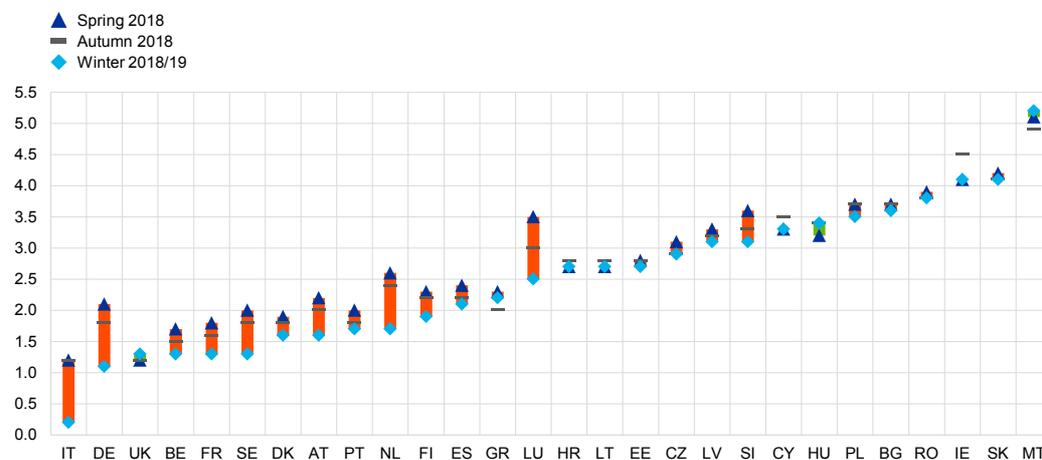
Sources: IMF World Economic Outlook (April 2018 and January 2019) and ESRB Secretariat calculations.

Notes: The chart shows GDP growth for 2016-18 and GDP growth forecasts for 2019-20, as published by the International Monetary Fund (IMF). EMEs are emerging and developing economies as categorised by the IMF.



Chart 2  
GDP growth forecasts for 2019

(percentages)

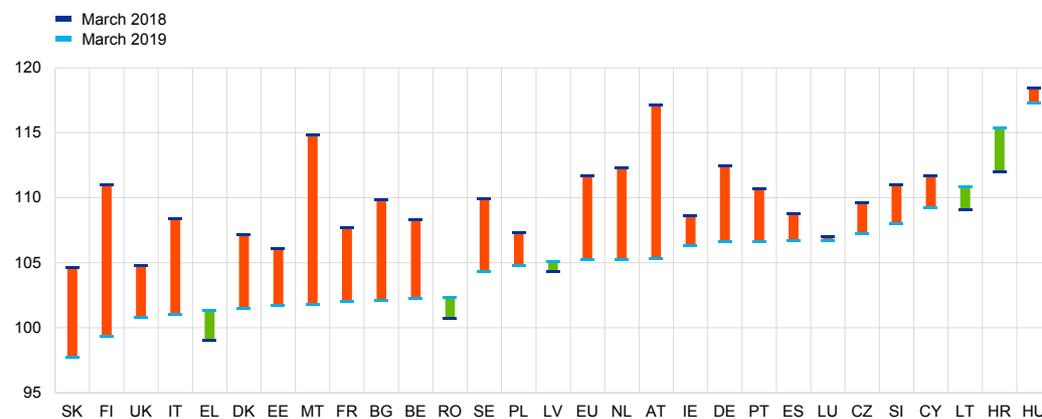


Sources: European Commission European Economic Forecast (February 2019, labelled "Winter 2018/19", November 2018, labelled "Autumn 2018", and May 2018, labelled "Spring 2018").

Notes: The chart shows GDP growth forecasts for 2019 for EU countries. Red (green) bars denote a downward (upward) revision since May 2018.

Chart 3  
Economic sentiment indicator

(index: average since 1990 = 100)



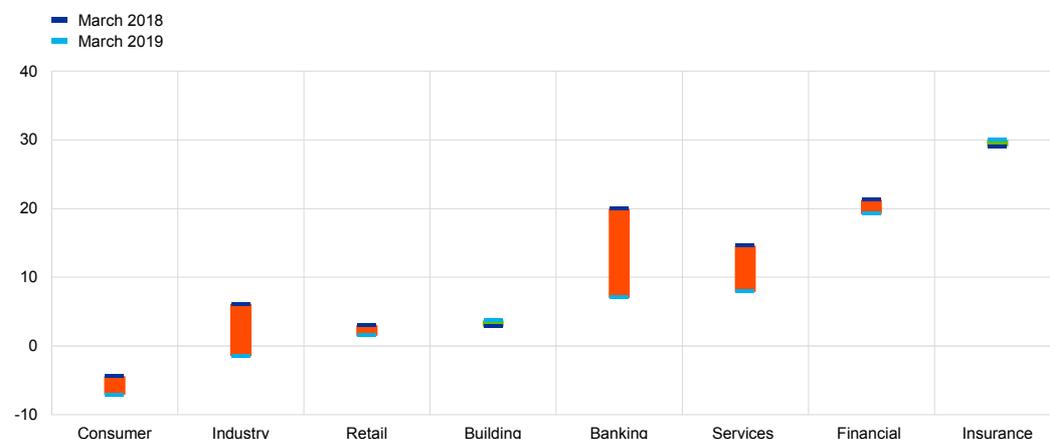
Sources: European Commission business and consumer surveys.

Notes: The chart shows the EU economic confidence indicator, calculated as an average since 1990 of the seasonally adjusted balances of answers to selected questions. The sector weights are as follows: 40% for industry, 30% for services, 20% for consumers, and 5% for both construction and the retail trade. About 140,000 firms and 41,000 consumers across the EU are surveyed every month. The nominal sample of the industry survey includes more than 40,000 units surveyed every month. Red (green) bars indicate a decrease (increase) in the indicator over a 12-month horizon. The latest observations are for March 2019 (published on 28 March 2019).



Chart 4  
**Sectoral economic sentiment indicator at the EU level**

(balance of positive vs. negative answers as a percentage of all answers)



Sources: European Commission business and consumer surveys.

Notes: The chart shows estimates of economic confidence at the EU level by sector. The balances are computed as the difference between the number of positive answers and the number of negative answers as a percentage of total answers. The banking and insurance sectors are sub-sectors of the financial sector. Red (green) bars indicate a decrease (increase) in the indicator over a 12-month horizon. The latest observations are for March 2019 (published on 28 March 2019).

## 1.2 Risk of a repricing in financial markets

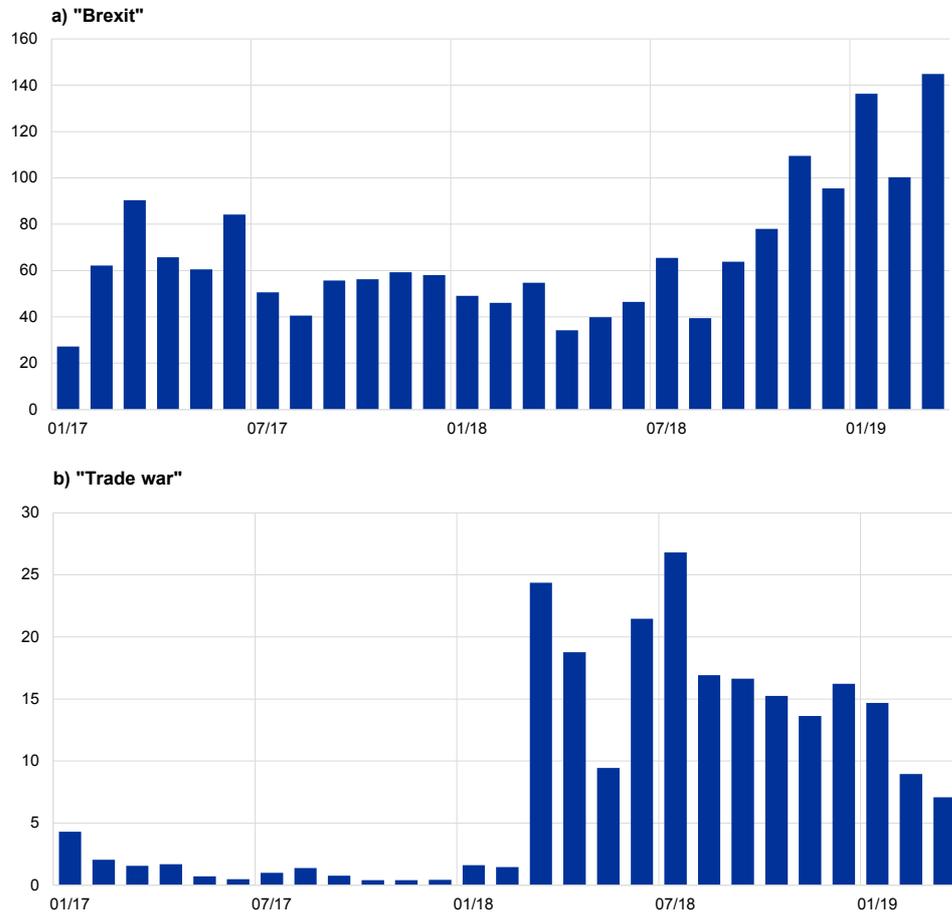
**In view of weakening economic growth, economic policy uncertainty, geopolitical tensions and prevailing vulnerabilities in Europe, the risk of a repricing in financial markets continued to be high in 2018.** Economic policy uncertainty soared, reflecting (geo)political and policy developments both globally (e.g. trade tensions and US policy uncertainty) and within Europe (e.g. Brexit) (see Charts 5 and 6), as well as related concerns about the growth outlook. Financial market uncertainty also increased, as reflected in price declines and rising implied volatility across market segments in some advanced economies and EMEs (see Chart 6). Looking ahead, asset classes which have experienced a compression of risk premia due to the search for yield during recent years (e.g. corporate bonds, leveraged loans, real estate segments in some countries and certain stock markets) are particularly at risk of price adjustments as the economic outlook moderates and market sentiment deteriorates.



Chart 5

**Media focus on Brexit and trade-related risks**

(number of articles, thousands)



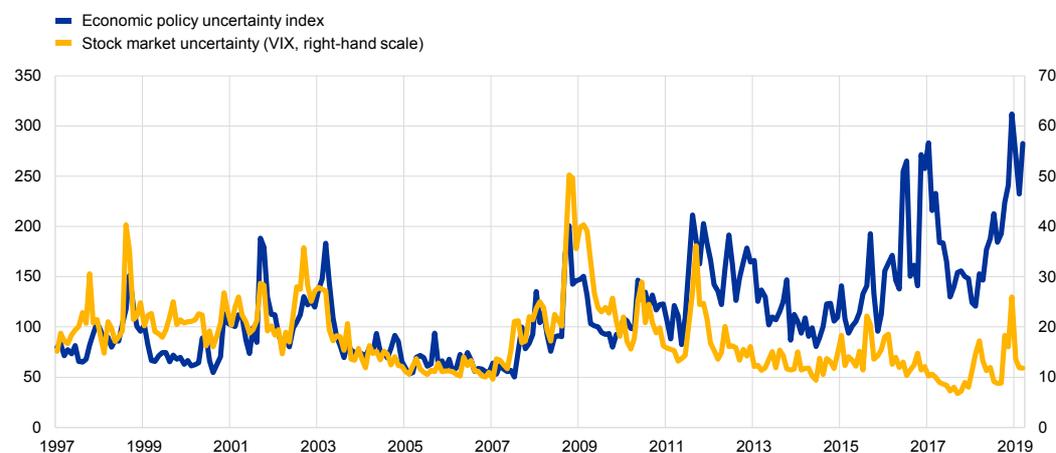
Sources: Dow Jones Factiva and ESRB Secretariat calculations.

Notes: The chart shows the number of articles (in thousands) in the global press per month which include a reference to "Brexit" (panel a) or "trade war" (panel b), as found in the Dow Jones Factiva database. The latest observations are for March 2019.



## Chart 6 Economic policy and market uncertainty

(left-hand scale: index; right-hand scale: percentages; monthly data)



Sources: [Economic Policy Uncertainty website](#), Bloomberg and ESRB Secretariat calculations.

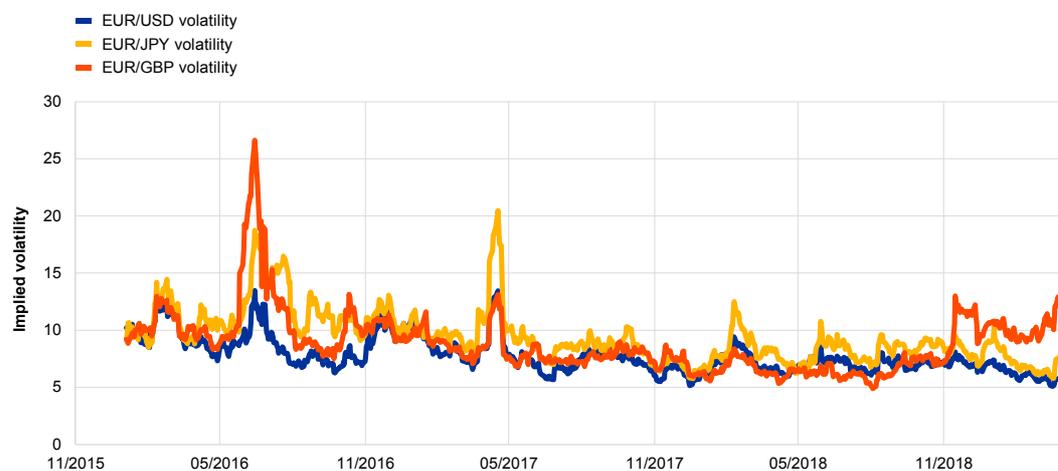
Notes: The economic policy uncertainty index is based on a newspaper search in 20 countries (the aggregation to the global index is GDP-weighted). The article count is based on three groups of terms identified jointly (those related to the economy, uncertainty and policy) and is scaled by the total number of articles in the same newspaper and month. For further methodological details, see Davis, S.J., "An Index of Global Economic Policy Uncertainty", NBER Working Paper, No 22740, October 2016; and Baker, S.R., Bloom, N. and Davis, S.J., "Measuring Economic Policy Uncertainty", *Quarterly Journal of Economics*, Vol. 131, Issue 4, November 2016. The VIX provides the expectations for US stock market volatility, as implied by S&P 500 index options. The latest observations are for March 2019.

**In foreign exchange markets, the volatility of some segments increased towards the end of the review period, in view of rising policy uncertainties.** The developments in some currency segments of the foreign exchange markets were marked by the uncertainties towards the end of the review period related to the United Kingdom's expected withdrawal from the European Union (Brexit). For example, Charts 7 and 8 show increased volatility in the EUR/GBP exchange rate and investors' positioning on the pound sterling.



Chart 7  
**Foreign exchange implied volatility**

(percentages)

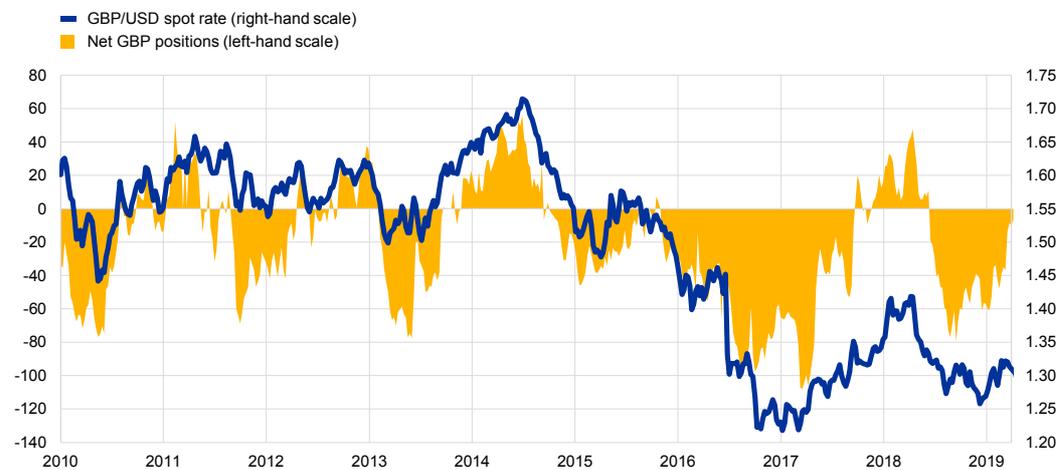


Sources: Bloomberg and ECB.

Notes: The data refer to the three-month implied volatility of options. The latest observations are for March 2019.

Chart 8  
**Net futures positions on pound sterling**

(left-hand scale: thousands of contracts; right-hand scale: GBP/USD spot rate)



Sources: ECB, based on Commodity Futures Trading Commission (CFTC) and Bloomberg data.

Notes: The chart shows the GBP/USD spot exchange rate (blue line) and the Commodity Futures Trading Commission non-commercial futures positions in GBP/USD (yellow bars). The latest observations are for March 2019.

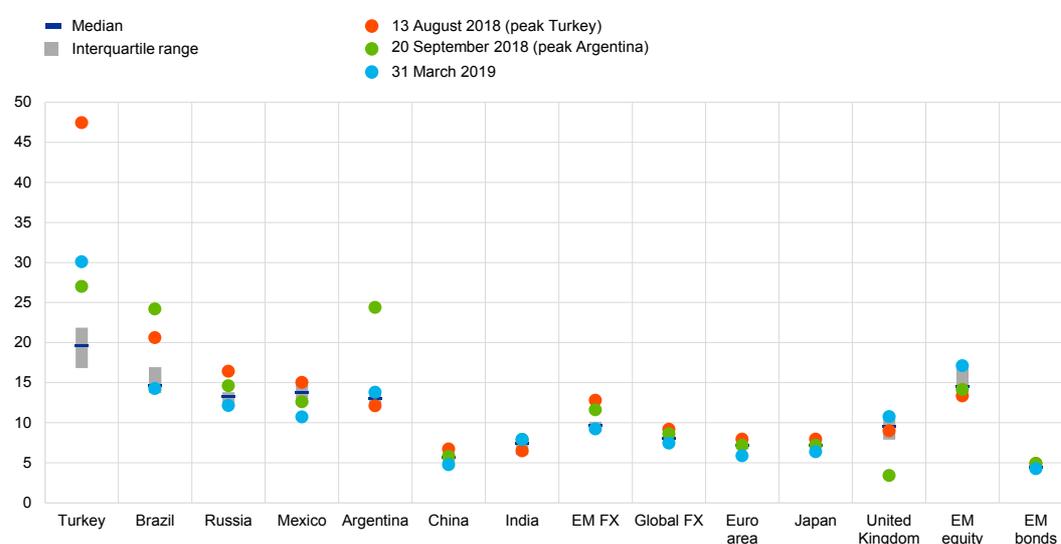
**An example of how policy uncertainty can affect market confidence and increase uncertainty in the financial markets could be observed during the summer of 2018, when some EMEs experienced periods of volatility.** Financial market uncertainty rose significantly for some EMEs last summer, reflecting the materialisation of country-specific vulnerabilities (e.g. reliance on US dollar funding) as well as – in some cases – unfavourable developments



related to international trade relations. The pricing adjustments were relatively fast in some market segments, with implied volatility increasing beyond the range observed throughout the year (see Chart 9). At the same time, the effects of the emerging market tensions on the European markets seemed to be rather contained, reflecting the fact that the exposures of most European banks towards the affected markets were relatively limited (see Chart 10). Looking ahead, similar risk pricing adjustments could occur in a broader range of financial market segments, in particular in response to (geo)political and policy developments, which could affect market confidence and risk aversion.

**Chart 9**  
**Implied foreign exchange volatility in emerging and advanced economies**

(percentages)



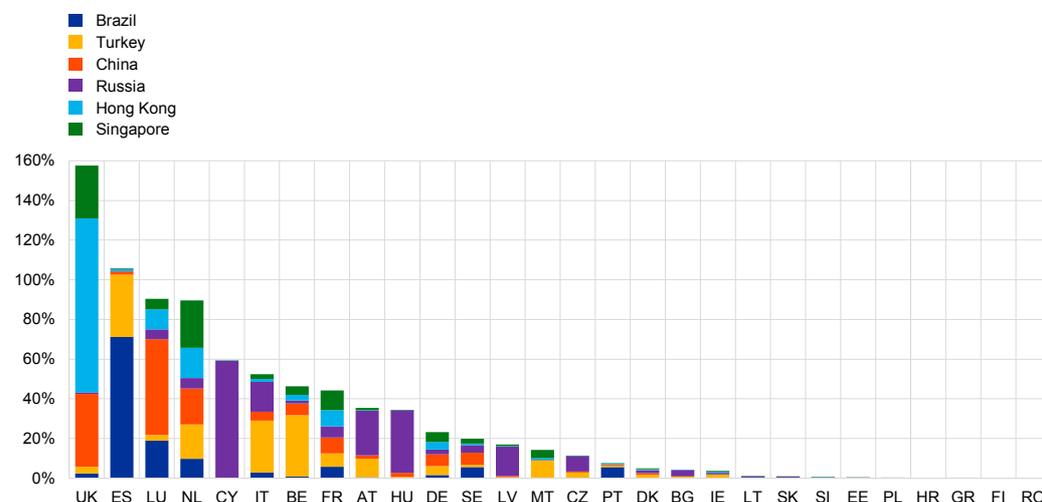
Sources: Bloomberg and ESRB Secretariat calculations.

Notes: The bars denote the 25th-75th percentile range of the three-month implied volatility of the local currency of selected emerging and advanced economies relative to the US dollar, computed on the basis of daily observations over the last year. Emerging market (EM) classification follows that of the April 2018 IMF World Economic Outlook. "EM FX" and "Global FX" denote the JP Morgan emerging market and global three-month foreign exchange (FX) volatility indices. The latest observations are for March 2019.



Chart 10  
**EU bank exposures to selected EMEs**

(percentages of total own funds)



Source: ECB consolidated banking data.

Notes: Total exposure for credit, counterparty credit and dilution risks and free deliveries as a percentage of total own funds. The latest observations are for the third quarter of 2018.

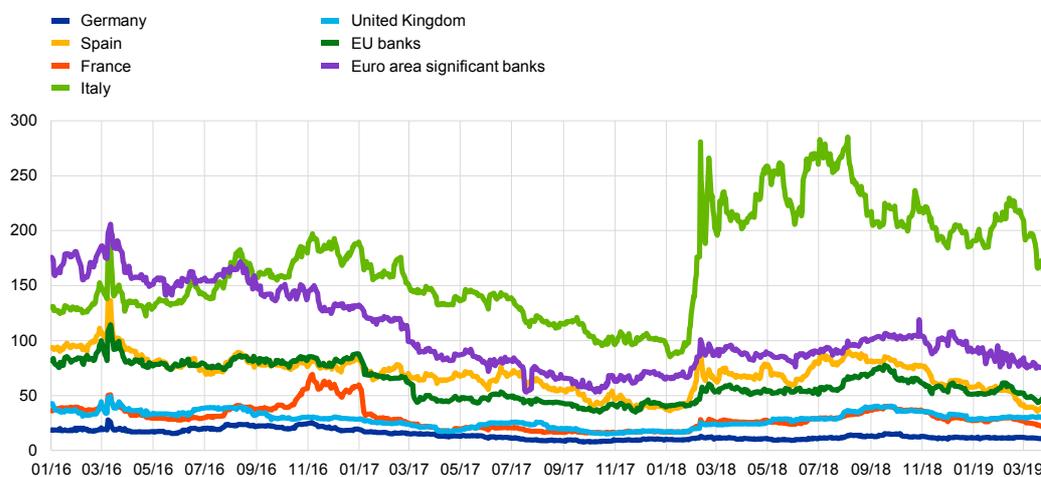
**In the European government bond markets, elevated volatility was observed in the Italian sovereign segment from mid-2018 onwards, largely driven by public debt sustainability concerns amid policy developments in Italy.** Credit default swap (CDS) premia on five-year Italian sovereign debt increased after the formation of the new Italian government, and peaked in November during the government budget negotiations, declining somewhat afterwards (see Chart 11). Overall, the CDS spreads for most EU sovereigns and banks remained at relatively low levels (see Charts 11 and 12).



Chart 11

### Developments in five-year CDS spreads for EU financials and sovereigns

(basis points)



Source: Thomson Reuters.

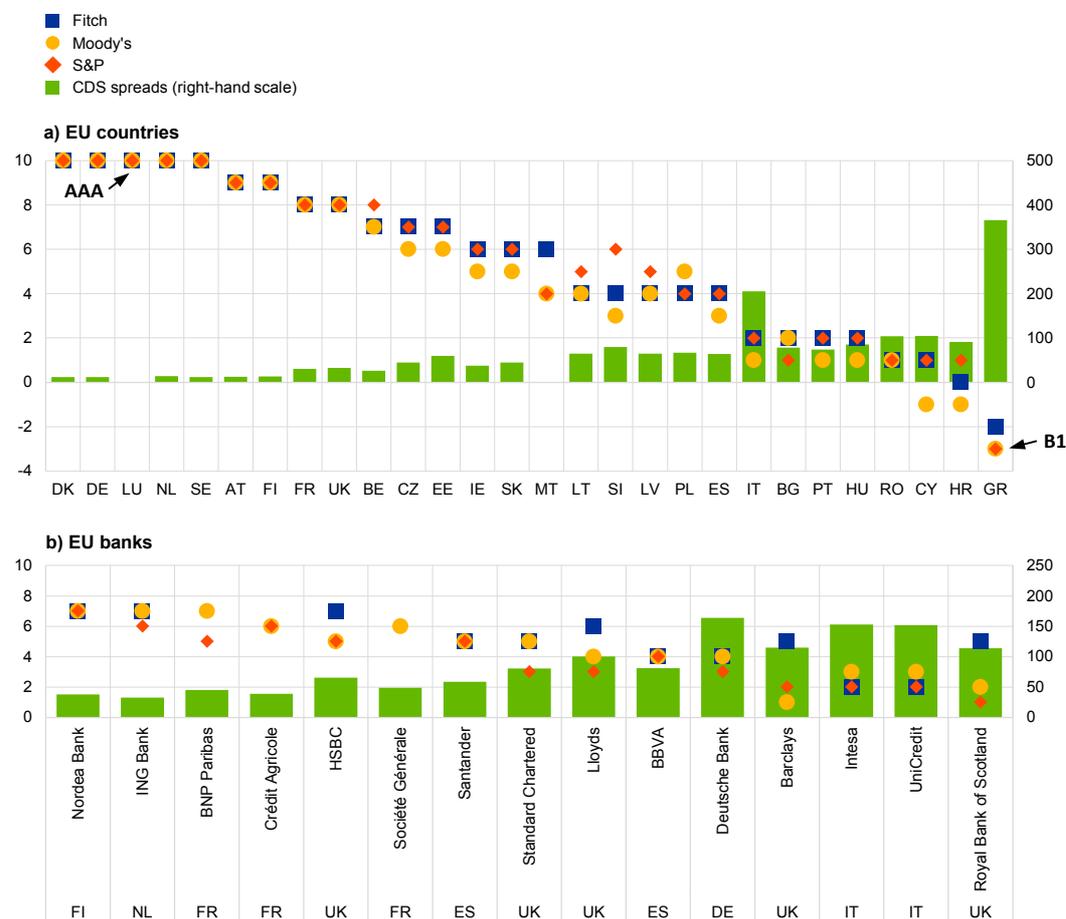
Note: The latest observations are for 27 March 2019.

**More generally, EU debt markets are currently characterised by a relatively low risk premium differentiation when compared with the corresponding credit ratings.** For example, some sovereign issuers with credit ratings only one or two notches above non-investment grade traded at credit risk premia that were not much (often less than 50 basis points) higher than those for sovereigns with significantly higher credit ratings (see Chart 12). A broadly similar pattern could be observed for the largest EU banks. A general increase in risk aversion could thus result in pricing adjustments in these markets. Also, in the case of trigger events, such as a deteriorating economic outlook or elevated market stress, a number of issuers could be subject to credit rating downgrades, which could exacerbate market moves through widespread sell-offs.



Chart 12  
Credit ratings and risk pricing

(left-hand scale: notches; right-hand scale: basis points)



Sources: S&P Global Market Intelligence and ESRB Secretariat calculations.

Notes: In both panels the coloured dots indicate how far in notches (left-hand scale) the current credit rating (as assigned by Fitch, Moody's and Standard & Poor's (S&P)) is above the highest non-investment-grade rating. The columns (right-hand scale) represent five-year CDS premia for sovereign debt (panel a) and for banks' senior unsecured debt (panel b). The latest observations are for 28 March 2019.

**Stock market developments became particularly volatile towards the end of 2018, with some recovery observed at the beginning of 2019.** Most stock market indices declined in the second half of 2018, with marked drops towards the end of the year and some recovery thereafter (see Chart 13). There was a declining trend in the stock prices of European and Chinese companies throughout the year, reflecting growth concerns and increasing trade tensions. US indices performed better, although by the end of the year US stock markets had recorded their largest falls since 2009. Emerging market indices in Latin America and Asia were generally on an upward trend in the second half of 2018, recovering from the financial market tensions observed during the summer.

**The EU banking sector was particularly affected by falling stock valuations throughout 2018.**

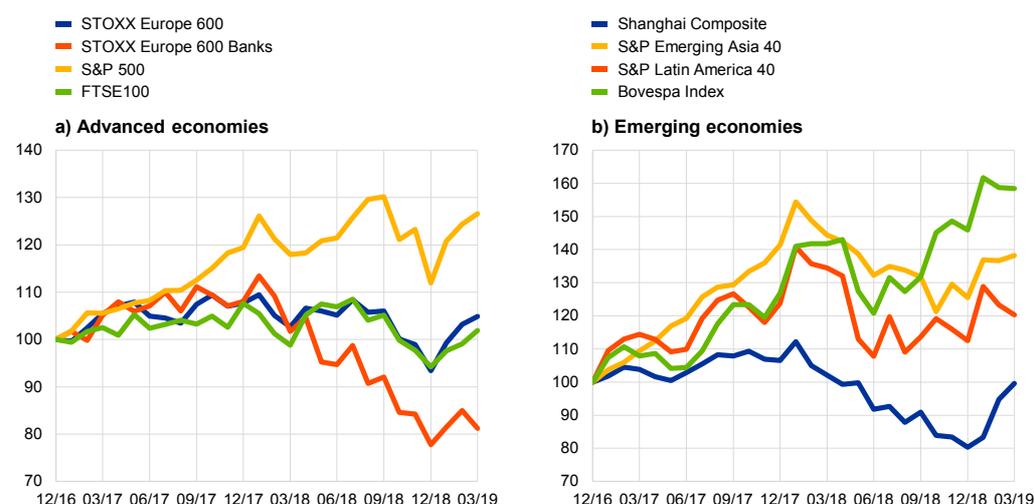
The STOXX Europe 600 Banks index performed significantly worse than the broader corporate stock indices last year, as can be seen from the divergence of prices in Chart 13. In addition,



European bank equity issuance stood at much lower levels than in previous years, which could suggest, among other things, a relatively low investor appetite for EU bank shares. This may be explained by weak bank profitability, on account of low interest income and high costs, and other vulnerabilities in the EU banking sector which put pressure on bank performance, e.g. the NPL burden in some banking systems, low cost-efficiency and overcapacity (see also Section 1.4 for a discussion of banking sector vulnerabilities).

**Chart 13**  
**Stock market developments**

(index: end of 2016 = 100)



Sources: Bloomberg, Thomson Reuters and ESRB Secretariat calculations.

Notes: The chart shows developments in month-on-month returns (30 December 2016 = 100) for stock indices of advanced and emerging economies. The STOXX Europe 600 index represents large, medium and small capitalisation companies across 17 European countries. The STOXX Europe 600 Banks index tracks the banks in the STOXX Europe 600 index. The S&P 500 index includes stocks of 500 leading US companies. The FTSE 100 index is a share index of the 100 companies listed on the London Stock Exchange with the highest market capitalisation. The Shanghai Composite index is a capitalisation-weighted index which tracks the daily price performance of all A-shares and B-shares listed on the Shanghai Stock Exchange. The S&P Latin America 40 index includes 40 leading companies that account for approximately 70% of the region's total market capitalisation. The S&P Emerging Asia 40 index is designed to provide exposure to 40 leading companies from the emerging markets of China, India, Indonesia, Malaysia, the Philippines and Thailand. The Bovespa index is a benchmark index of about 60 stocks that are traded on the Sao Paulo Stock Exchange. The latest observations are for 29 March 2019.

**The increase in uncertainty also affected corporate bond markets, where some spread widening could be observed.**

The widening of corporate bond spreads was broad-based and the spreads increased on average by 40 basis points for both the financial and the non-financial sectors during the review period (see Chart 14). Looking ahead, more corporate bond repricing could occur, given the prolonged underpricing of corporate bonds globally.<sup>3</sup> For example, many non-investment-grade corporate bonds across EU countries are still priced relatively close to the respective sovereign bonds and have absolute yield levels close to zero, which corresponds to high bond prices (see Chart 15).

<sup>3</sup> See also, for example, Figure 1.8 in **Global Financial Stability Report**, IMF, April 2018, Chapter 1.



**Further repricing in financial markets could have significant implications for EU bank funding.** In the light of weakening economic growth and increased risk aversion, potential bond repricing could affect the higher-risk segments (e.g. unsecured bank debt). Together with unfavourable developments in the equity markets, this could not only have an impact on the asset side of banks' balance sheets, but could also significantly affect the funding conditions for EU banks. Potential challenges with respect to bank funding are discussed in more detail in Section 1.3.

**Chart 14**  
**Corporate bond spreads**

(basis points)



Source: Bank of America Merrill Lynch.

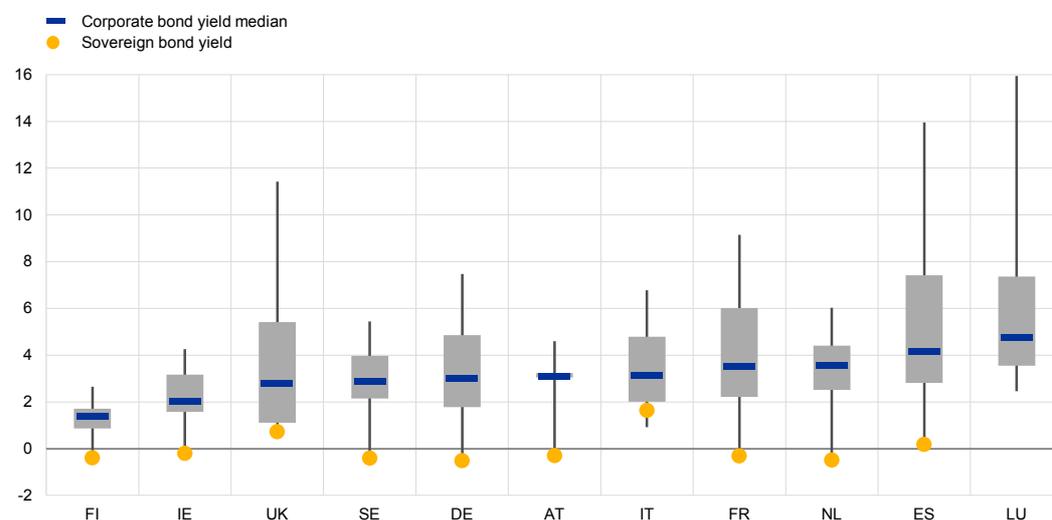
Notes: Spreads (in basis points) over German government bonds for both plain vanilla bonds and bonds with embedded options (for which the value of the option is stripped using proprietary models). The latest observations are for 29 March 2019.



Chart 15

### Non-investment-grade corporate bond yields vis-à-vis sovereign yields

(percentages)



Sources: Bloomberg and ESRB Secretariat calculations.

Notes: The bars show the 25th-75th percentile range of all non-investment-grade corporate bond yields per EU country included in the ICE BofAML Euro High Yield Index (492 bonds on 23 May 2019). The vertical lines denote the 10th-90th percentile range, while the blue horizontal lines indicate the median, as based on yields observed on 23 May 2019. The yellow dots denote sovereign bond yields of the maturity equivalent to the median maturity in the corporate bond sample for that country (data for Luxembourg are not available). The chart only shows countries, for which at least five bonds are available and for which the maturity was below 20 years. The number of bonds in country samples varies from five (Austria) to 66 (the Netherlands). The latest observations are for 23 May 2019.

**The low lending rates and the relatively favourable economic conditions observed in some EU countries in recent years have contributed to strong mortgage lending dynamics and significant increases in residential real estate (RRE) prices in many EU economies.** The relatively favourable economic conditions across Europe in recent years and low interest rates have led to increasing demand for housing, driving house prices in many EU countries towards an expansionary phase.<sup>4</sup> In certain economies, these dynamics have also contributed to increasing household indebtedness to finance housing purchases, making the housing market vulnerable to changes in economic conditions. In many EU countries, the positive house price dynamics have been coupled with signs of overvaluation, which could generate losses for banks and other financial intermediaries involved in real estate financing should the real estate market experience a significant downturn.<sup>5</sup>

**Most of the countries for which commercial real estate (CRE) price data are available have registered CRE price increases and signs of overvaluation, while bank credit for CRE has been muted.** Many EU countries have continued to see significant CRE price increases over recent years, and signs of overvaluation in prime CRE markets have been present in several

<sup>4</sup> "House Price Synchronization: What Role For Financial Factors?", *Global Financial Stability Report*, IMF, April 2018, Chapter 3.

<sup>5</sup> For a broader and more detailed discussion of RRE developments in some EU countries, see **Vulnerabilities in the EU residential real estate sector**, ESRB, November 2016 and the ESRB **warnings on medium-term vulnerabilities in the residential real estate sector**.

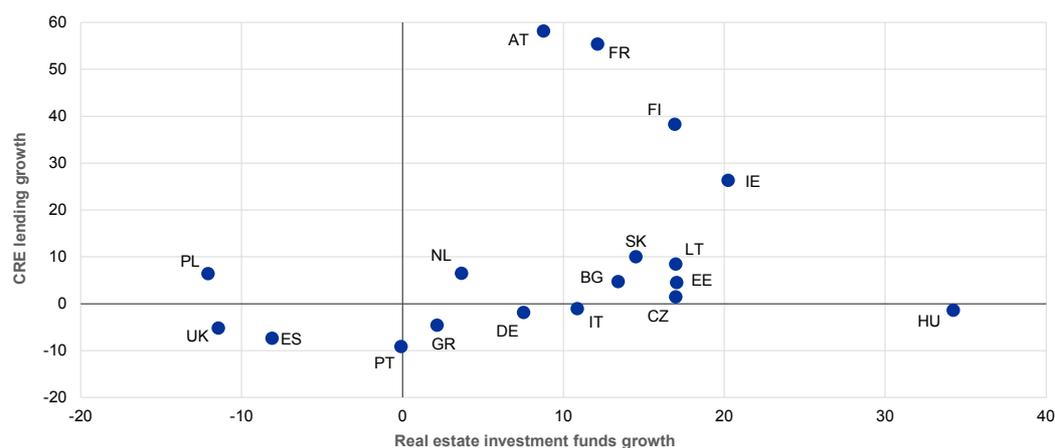


countries. However, annual growth in CRE lending has remained subdued in most countries, with many EU countries even registering negative growth in this respect (see Chart 16).

**The main sources of vulnerability identified in CRE markets relate to investors' search for yield and the highly heterogeneous nature of CRE funding, while macroprudential instruments targeting this market remain scarce.** High investor demand and the search for higher yields, which have been a major source of the CRE price increase, particularly in prime markets, have potentially made investors vulnerable to a repricing of risk premia (see Chart 17). While changes in the investor base and funding sources have increased risk sharing, they have also opened up other forms of interconnectedness and other transmission channels that have a bearing on financial stability. Few macroprudential measures have been implemented so far in the EU countries that directly target CRE vulnerabilities, though some instruments, which mainly target the banking sector, are available to macroprudential authorities seeking to address these vulnerabilities.<sup>6</sup>

Chart 16  
Growth in banks' CRE-collateralised lending and real estate investment funds

(percentages per annum)



Sources: ECB investment fund statistics and ESRB, based on EBA data.

Notes: For each country, the year-on-year growth rate is calculated for the following FINREP series for the fourth quarter of 2017: Loans and advances collateralised by commercial immovable property (FINREP Template F\_18.00.a, Row 140, Column 010) divided by the total amount of loans and advances (FINREP Template F\_18.00.a, Row 70, Column 010). Reporting might differ across countries. Data for real estate investment funds are for December 2017. Real estate investment trusts (REITs) are included in these data for some but not all countries, as they are defined by national legislation and there is no harmonised Europe-wide definition for this type of entity. The indicator can be seen as a proxy for CRE investment activities.

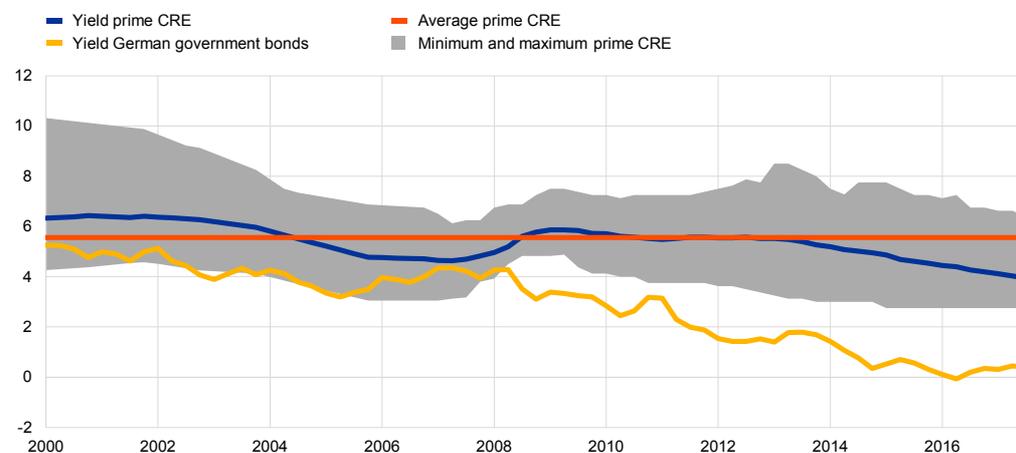
<sup>6</sup> For a detailed analysis of developments in the EU CRE sector, see [Report on vulnerabilities in the EU commercial real estate sector](#), ESRB, November 2018.



Chart 17

### Yields on prime commercial real estate in the EU and on German government bonds

(percentages)



Sources: Bloomberg and Jones Lang LaSalle.

Notes: Ten-year German government bond yield. See Indicator 5 in Table A.1 of the [Report on vulnerabilities in the EU commercial real estate sector](#), ESRB, November 2018, for more details on the yield calculation. The latest observations are for the fourth quarter of 2017.

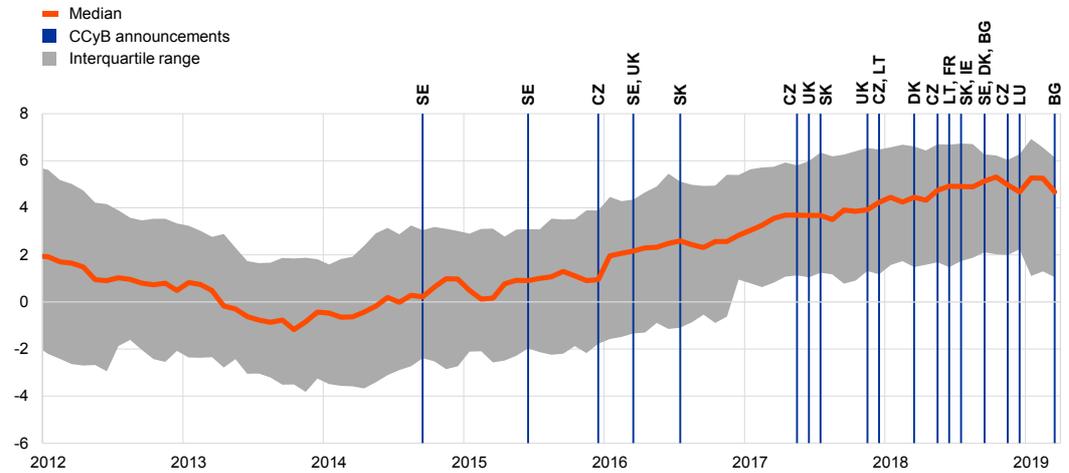
**In view of developments in the real estate sector and the build-up of cyclical risks in a phase of still relatively strong GDP and credit growth during the last two years, macroprudential policy has been active but heterogeneous across EU countries, with the aim of increasing the resilience of borrowers and banks.**<sup>7</sup> While economic growth has exceeded potential growth in recent years in several EU countries, the loss in growth momentum may make it harder for households to service their debt and may also pull down housing demand and prices. Many countries already have in place some borrower-based measures aimed at ensuring that the quality of new loans remains adequate (see also the discussion in Section 1.4). In recent quarters, a number of macroprudential authorities have undertaken policy actions, in particular with respect to the countercyclical capital buffer (CCyB). At the same time, the CCyB is not yet active in several countries in which credit growth is relatively high and the credit-to-GDP gap is narrowing (see Charts 18 and 19).

<sup>7</sup> For a broader discussion of macroprudential policy measures activated in view of cyclical risks, as well as risks related to real estate, see [Vulnerabilities in the EU residential real estate sector](#), ESRB, November 2016, ESRB [warnings on medium-term vulnerabilities in the residential real estate sector](#) and [Report on vulnerabilities in the EU commercial real estate sector](#), ESRB, November 2018.



Chart 18  
Credit growth and CCyB announcements

(percentages)

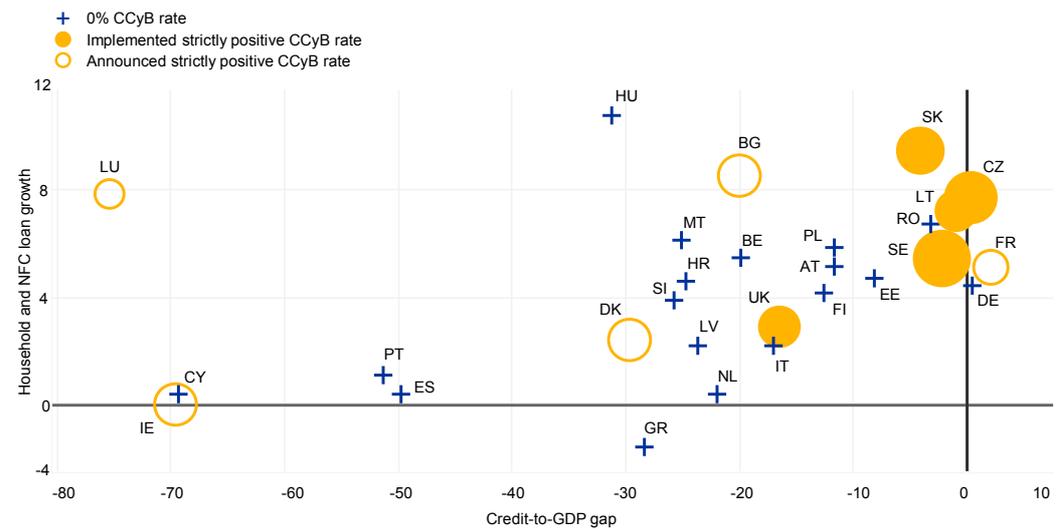


Sources: ECB balance sheet items statistics, ESRB and ESRB Secretariat calculations.

Notes: The chart presents the annual growth rate of an index of notional stocks of loans to domestic households and NFCs reported by monetary financial institutions (MFIs) excluding the European System of Central Banks (ESCB). Loans are adjusted for sales and securitisation. The grey area indicates the interquartile range for EU countries, and the red line indicates the median loan growth for EU countries. The vertical blue lines represent the dates of EU countries' decisions to set/increase the CCyB rate. The latest observations for loan growth are for 31 December 2018. CCyB announcements as at 27 March 2019.

Chart 19  
Loan growth versus the credit-to-GDP gap and the countercyclical capital buffer

(x-axis: percentage points; y-axis: one-year average growth)



Sources: European Commission, Bank for International Settlements, ECB, ECB calculations, ESRB and ESRB Secretariat calculations.

Notes: The size of filled/empty circles reflects the level of the applicable/announced CCyB rate, while crosses denote a CCyB rate set at 0%. Data on the credit-to-GDP gap are not available for Croatia. Data on NFC and household loan growth are not available for Iceland, Liechtenstein and Norway. The latest observations are for 31 September 2018 for the credit-to-GDP gap and 31 January 2019 for loan growth. Applicable and announced CCyB rates as at 27 March 2019.



Please note that, after the review period, several countries made new announcements regarding their CCyB-rates:

- On 3 April 2019, France announced its intention to revise upwards its CCyB-rate to 0.5%, with effect from 2 April 2020;
- On 23 May 2019, the Czech Republic announced its intention to revise upwards its CCyB-rate to 2%, with effect from 1 July 2020;
- On 27 May 2019, Germany announced the introduction of a CCyB-rate of 0.25%, with effect from 1 July 2020;
- On 28 June 2019, Belgium announced the introduction of a CCyB-rate of 0.5%, with effect from 1 July 2020;
- On 8 July, Denmark announced its intention to revise upwards its CCyB-rate to 1.5%, with effect from 30 June 2020.

### 1.3 Weaknesses in banks', insurers' and pension funds' balance sheets

**Downward revisions to medium-term growth and the interest rate outlook could negatively affect the balance sheets of EU financial institutions.** Weaker than expected growth, further economic uncertainty and the low interest rate environment could adversely affect the profitability outlook of EU banks, not least in view of the prevailing vulnerabilities, e.g. the burden of NPLs in some banking systems, low cost-efficiency and overcapacity (see Section 1.1).

**On the income side, banks' margins on loans to the real economy are at their lowest levels since 2008 in the majority of EU countries.** As a consequence of several factors, including the low interest rate environment<sup>8</sup> and increased competition from new financial entities entering the banking business and from fintech companies, the margins on loans to NFCs and on loans to households for house purchase are, in the majority of EU countries, at low levels (see Chart 20). Compared with 2008, when the global financial crisis was at its peak, there has been a reduction in margins in many Member States. As interest income is the most important source of income for banks, the fall in loan margins is weighing on profitability.

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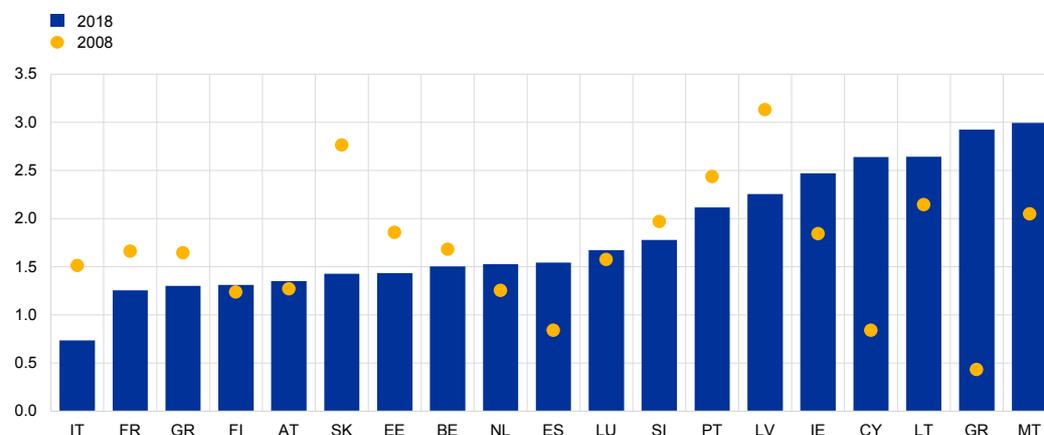
<sup>8</sup> For a broader discussion on the impact of the low interest rate environment on bank profitability, including a discussion of positive effects via loan growth, see **Macroprudential policy issues arising from low interest rates and structural changes in the EU financial system**, ESRB, November 2016 (including **Technical Documentation, Section B**).



Chart 20

**Margins on loans to NFCs and to households for house purchase in euro area countries**

(percentages)



Sources: ECB MFI interest rate statistics and ESRB Secretariat calculations.

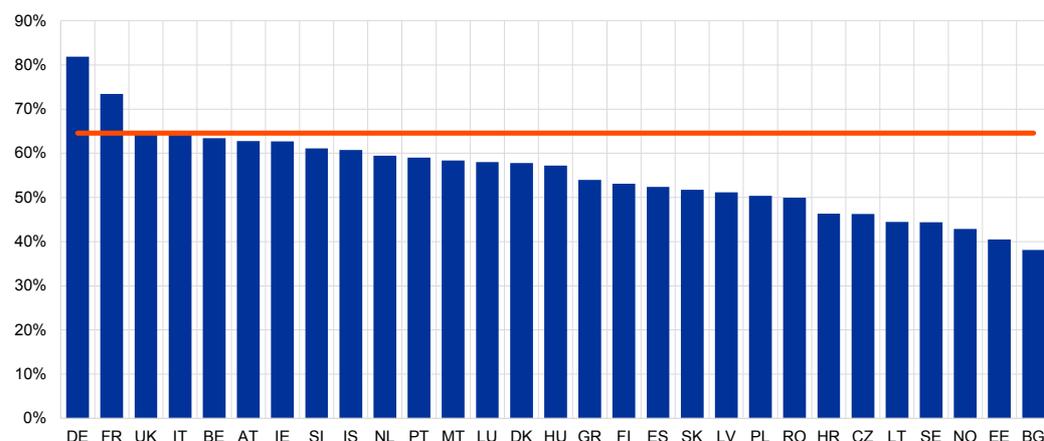
Note: Margins on loans to NFCs and to households for house purchase are weighted using the stock of loans within each category at the end of 2018.

**On the cost side, for some EU banking systems, cost-efficiency remains low.** Chart 21 shows that the cost-to-income ratios of some EU banking systems appear high. Inevitably, this ratio tends to reflect structural factors of the banking sector in each Member State, the adjustment of which may not be straightforward and can take time. Nonetheless, a reduction in banks' costs (i.e. an increase in efficiency) would have a positive impact on the profits posted by banks in those countries where the ratio is currently elevated.

Chart 21

**Cost-to-income ratios in selected EEA countries**

(percentages)



Source: EBA Risk Dashboard.

Notes: The cost-to-income ratio is defined as the ratio of administrative expenses and depreciation to net operating income of banks. Data for Cyprus are not disclosed because there are fewer than three reporting banks. The red line represents the EU average based on the EBA Risk Dashboard (64.6%). The latest observations are for the end of 2018.



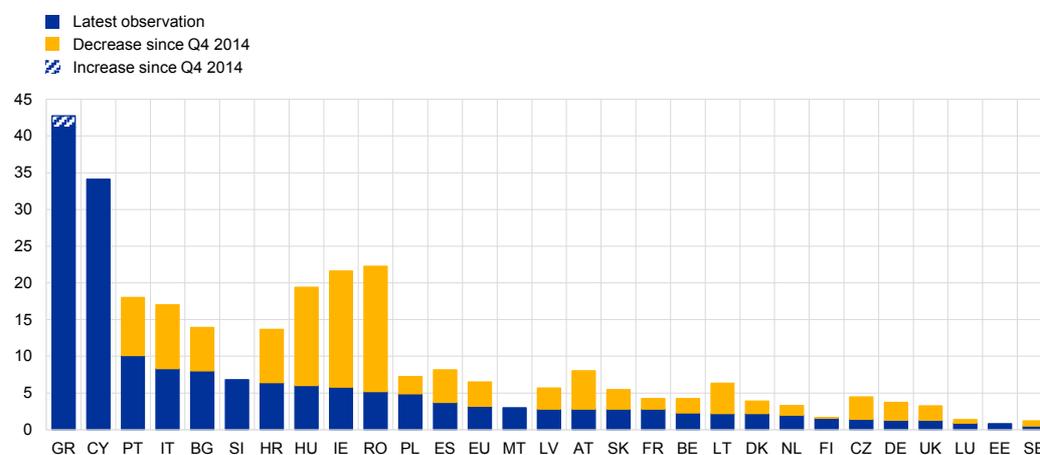
**The large size of the EU banking system and a high number of banks are major factors behind the longer-term profitability challenges.** As highlighted by the ECB report on financial structures and the ESRB ASC report on overbanking,<sup>9</sup> some European banking systems have some scope for optimising the size of their banks. Such optimisation could take place via internal decisions to enhance the mix of technologies and products or revise the size of the entity or via mergers and acquisitions. With regard to the latter, cross-border operations, especially within the framework of the Single Supervisory Mechanism, would aim to achieve synergies and reduce costs, given the already high concentration in some of the domestic banking markets.

**Asset quality is improving at an aggregate EU level, but it is still a concern in some countries.**

In countries with low asset quality, improvements continued during the past year. At the aggregate EU level and for most EU countries, stocks of NPLs have been significantly reduced (from 6.5% in December 2014 to 3.9% in March 2018 for the EU; see Chart 22 for the country overview)<sup>10</sup> and further progress on reducing NPLs is being made. Although the quality of the loan portfolio is improving overall, there are still a large number of individual banks in which the NPL share is exceptionally high and the reduction of the NPL stock has been slow. Fostering the resolution of legacy assets at the level of individual banks is important to improve confidence in banking systems. It is also important to use the available macroprudential instruments to mitigate the effects of excessive credit growth, loosening credit standards and lending to overindebted households and corporates.

**Chart 22**  
**Ratio of non-performing loans and advances**

(percentages of total gross loans and advances)



Sources: EBA Risk Dashboard and ESRB Secretariat calculations.

Notes: The chart shows the weighted average ratio of non-performing loans and advances to total gross loans and advances for banks in EU countries as at the fourth quarter of 2018 (blue bars, including the striped part). It also shows the decrease (yellow bars) or increase (blue and white striped bars) since the fourth quarter of 2014. Data for Cyprus are based on the second quarter of 2018, because the country aggregation is not available in the EBA Risk Dashboard after that date (fewer than three banks available in the EBA sample for this country). The data are based on a sample of 134 banks for the fourth quarter of 2014 and 126 banks for the fourth quarter of 2018. For more details, see Section 5 of “Risk Dashboard – data as of Q4 2018”, EBA, 2018.

<sup>9</sup> For a broader discussion on the EU banking system, see “Is Europe Overbanked?”, Reports of the Advisory Scientific Committee, No 4, ESRB, June 2014, and Report on financial structures, ECB, October 2017.

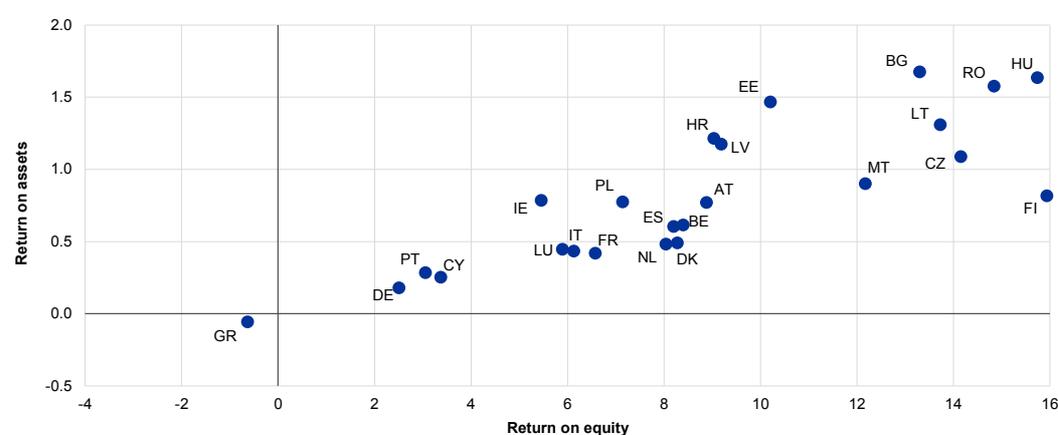
<sup>10</sup> For further analysis, see the EBA Risk Dashboard and Resolving non-performing loans in Europe, ESRB, July 2017.



**Overall, in view of the structural factors discussed above and the more recent headwinds to economic growth, profitability is relatively weak in many EU banking systems.** Bank profitability challenges in EU countries are to some extent related to structural factors, such as low cost-efficiency, weak revenue diversification and outdated business models. Additional pressures are related to the stock of non-performing loans in some countries. On the income side, suppressed interest margins pose further challenges to banks in finding stable income sources over the longer term. The overall profitability of some banking systems in the EU is relatively low (see Chart 23).

**Chart 23**  
**Return on equity and return on assets across EU countries**

(percentages)



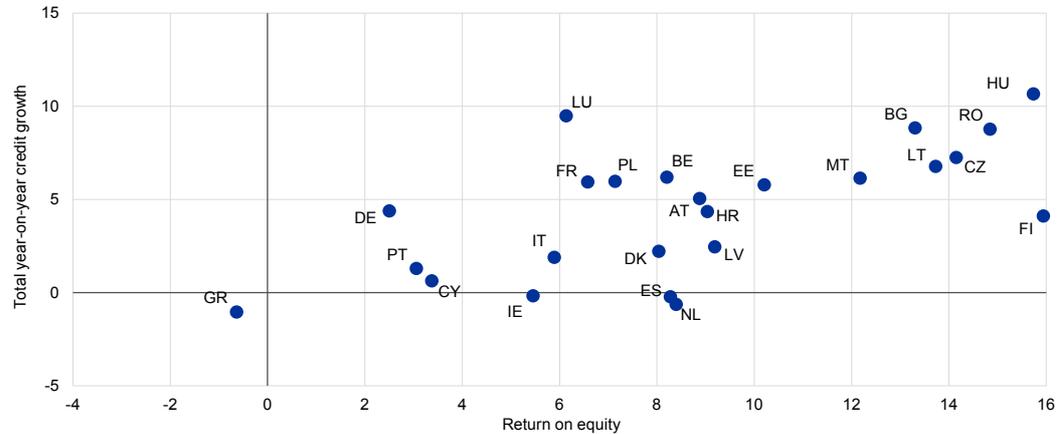
Sources: ECB consolidated banking data, ESRB and ESRB Secretariat calculations.  
Note: The latest observations are for the fourth quarter of 2018.

**In some countries, profitability is slowly improving, partly via credit growth, sometimes accompanied by looser credit standards.** In countries with elevated credit growth, favourable profitability could be related to the credit dynamics (see Chart 24). However, attention should be paid to situations in which high credit growth is associated with easing credit standards, which can lead to a future deterioration in asset quality and consequently to lower profitability.



Chart 24  
**Profitability and total credit growth**

(percentages)

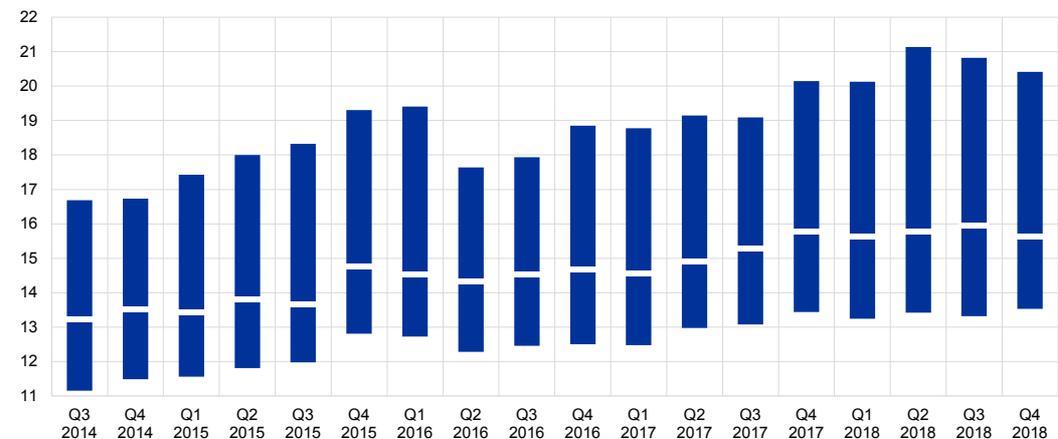


Sources: ECB consolidated banking data, ECB balance sheet items statistics, ESRB and ESRB Secretariat calculations.  
 Notes: X-axis: return on equity (ROE) for the banking sector in each country; y-axis: year-on-year growth in notional stocks of loans, net of securitisation and disposal operations, to domestic households and NFCs reported by MFIs. The latest observations are for the fourth quarter of 2018.

**The capitalisation of the EU banking sector increased overall in terms of the Common Equity Tier 1 (CET1) capital ratio.** CET1 capital ratios increased at the EU aggregate level (see Chart 25), with some heterogeneity observed across countries (see Chart 26). CET1 ratios are generally lower in countries with high levels of NPLs, because the lower asset quality puts pressure on bank profitability, thus making it more difficult to increase capital buffers.

Chart 25  
**CET1-to-risk-weighted assets ratio in the EU**

(percentages)

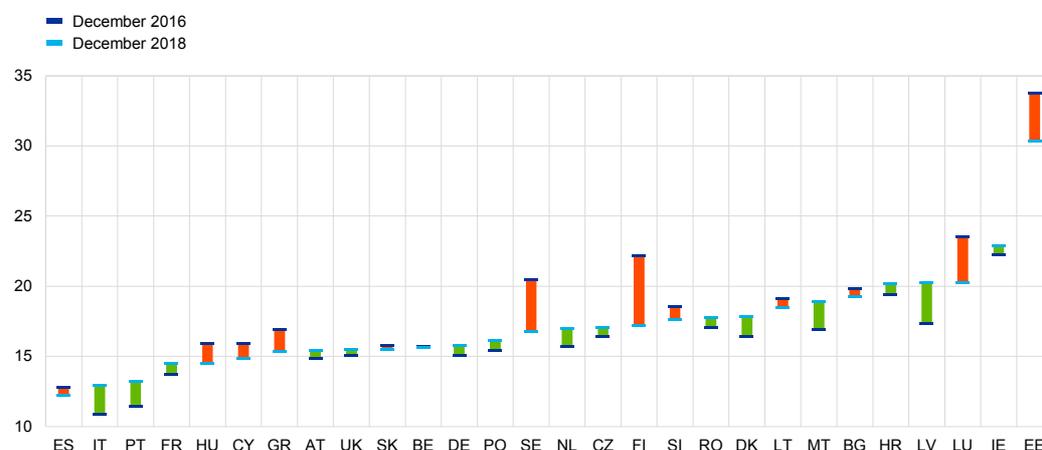


Sources: ESRB risk dashboard, March 2019, Chart 6.2a, based on EBA data.  
 Notes: The bars indicate the interquartile range and the lines show the median. The latest observations are for the fourth quarter of 2018.



Chart 26  
**CET1 capital ratio by country**

(percentages)



Source: ECB consolidated banking data.

Notes: The chart shows the fully loaded CET1 capital ratios at country level and the corresponding changes between the end of 2016 and the end of 2018 (red bars denote a decline in the ratio, green bars denote an increase). The ordering of countries is based on the 2018 CET1 ratio. The latest observations are for December 2018.

**Leverage ratios, which are capital ratios that are not dependent on asset risk weighting, increased more slowly after the crisis.**

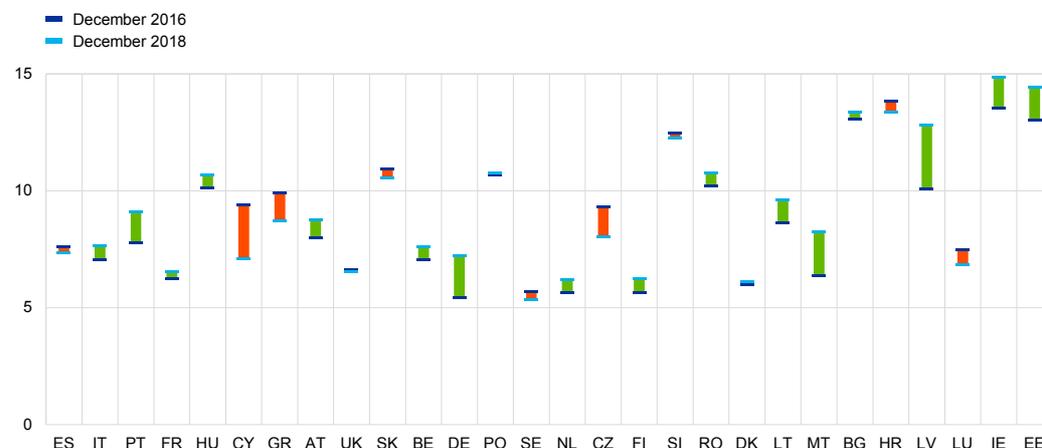
The leverage ratio, which gives the level of capital as a share of total non-risk-weighted assets, is useful to analyse the capitalisation of the EU banking system in more detail. While not accounting for the riskiness of asset classes, it does provide insights into the level of capital available to banks. The average leverage ratio for EU banks reporting to the EBA has remained fairly stable over recent years (5.3% at the end of 2018, compared with 5.1% at the end of 2016), with a tendency for larger banking systems to show somewhat lower levels of capitalisation (see Chart 27). Looking ahead, it is important that banks maintain a robust capital base, particularly in view of potential further challenges related to the weakening outlook for economic growth. When it comes to financial stability, the leverage ratio has an important role; in the run-up to the financial crisis in 2008/2009 it proved to be a more powerful predictor of default probability for large international banks than risk-weighted capital ratios.<sup>11</sup>

<sup>11</sup> See Aikman, D., Galesic, M., Gigerenzer, G. Kapadia, S., Katsikopoulos, K., Kothiyal, A., Murphy, E. and Neumann, T., **Taking uncertainty seriously: simplicity versus complexity in financial regulation**, *Financial Stability Paper*, No 28, Bank of England, May 2014.



Chart 27  
Leverage ratio across EU banking systems

(percentages)



Source: ECB consolidated banking data.

Notes: The chart shows the leverage ratios (total equity/total assets) at country level and the corresponding changes between the end of 2016 and the end of 2018 (red bars denote a decline in the ratio, green bars denote an increase). The ordering of countries corresponds to Chart 26. The latest observations are for December 2018.

**Bond issuance by European banks has remained broadly stable over the last few years, with major banks issuing more MREL-eligible securities, but challenges may crystallise looking ahead.**

In terms of access to market-based funding, while banks actively issued MREL-eligible securities throughout 2018, their equity issuance was relatively weak (see Chart 28). Overall, euro area banks reported deteriorating or broadly unchanged access to funding (see Chart 29). Looking ahead, potentially increasing investor risk aversion, coupled with the relatively weak bank profitability performance, could pose challenges to banks' funding, including in foreign currencies. Funding needs will arise due to refinancing needs and the need to build up MREL levels.<sup>12</sup> For example, countries with banking systems that are highly dependent on market-based funding will be particularly sensitive to a possible repricing of risk premia in financial markets. Countries with a high share of central bank funding (with favourable funding costs) could find it difficult to return to market-based financing at a time when a repricing of risk premia is also occurring (see Chart 30). Finally, some banks might have vulnerabilities related to funding in foreign currency, as pointed out, for example, in recent European Banking Authority (EBA) and IMF analyses.<sup>13</sup>

<sup>12</sup> Some EU banking systems could face a shortfall of MREL-eligible instruments of between €206.8 billion and €284.6 billion, which is close to the overall issuance registered in 2018; see [Quantitative update of the EBA MREL report](#), EBA, December 2017. With respect to the imbalances in the funding positions in foreign currencies, see [EBA report on liquidity measures under Article 509\(1\) of the CRR](#), EBA, October 2018.

<sup>13</sup> See [EBA report on liquidity measures under Article 509\(1\) of the CRR](#), EBA, October 2018, Figure 4, and [Euro Area Policies: Financial System Stability Assessment](#), IMF, July 2018 (e.g. point 22 on page 15).



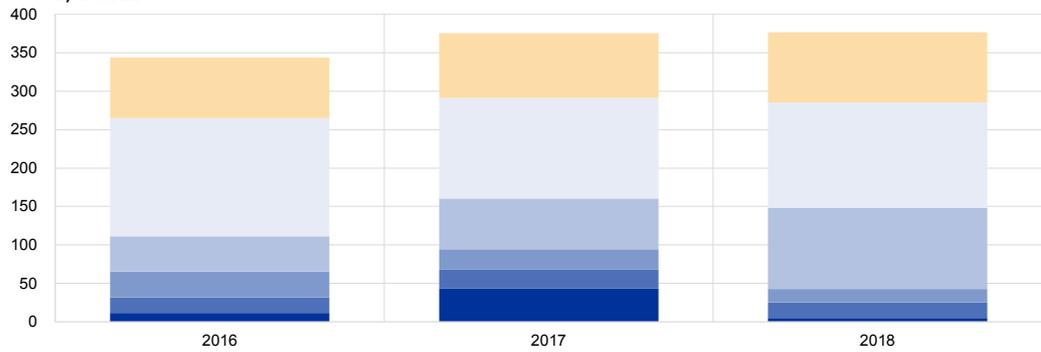
Chart 28

**Issuance of MREL-eligible debt and equity**

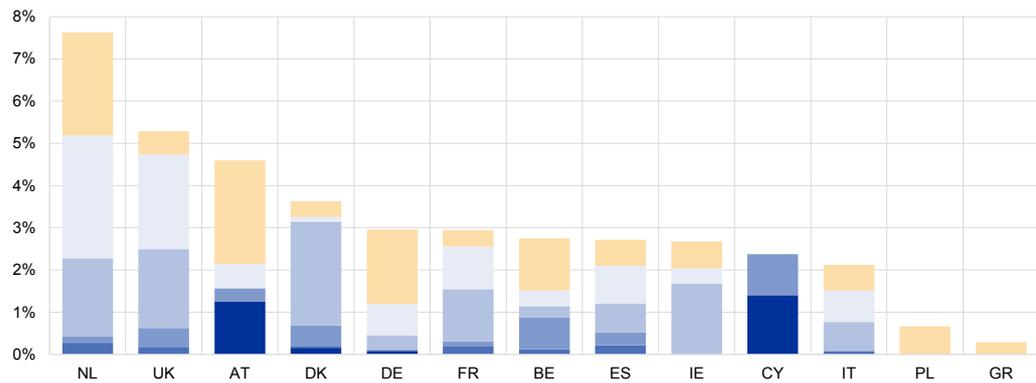
(EUR billions; percentages of risk-weighted assets)

- Equity
- Subordinated (Tier I)
- Subordinated (Tier II)
- Senior non-preferred
- Senior unsecured
- Senior secured

**a) Overall**



**b) In selected EU countries in 2018**



Sources: Dealogic and ESRB Secretariat calculations.

Notes: Panel a: Issuance by EU parent banks. Blue bars represent MREL-eligible instruments. The latest observations are for 31 December 2018.

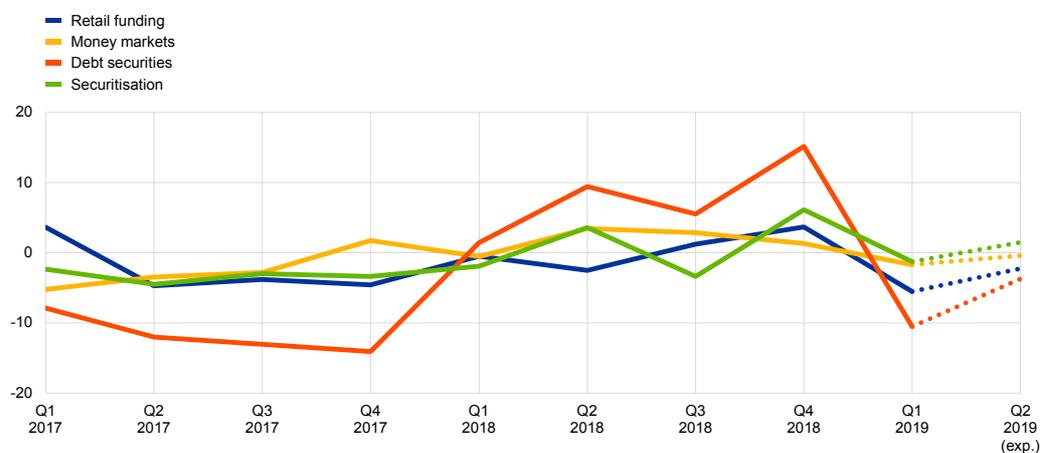
Panel b: Issuance is classified according to the country of the parent bank. State-owned banks are not considered. Blue bars represent MREL-eligible instruments. Finland and Sweden are excluded from the chart due to Nordea's relocation and its country attribution in the statistics for both Finland and Sweden. The latest observations are for 31 December 2018 for debt and 30 June 2018 for risk-weighted assets.



Chart 29

### Banks' assessment of funding conditions

(net percentages of banks reporting a deterioration in market access)



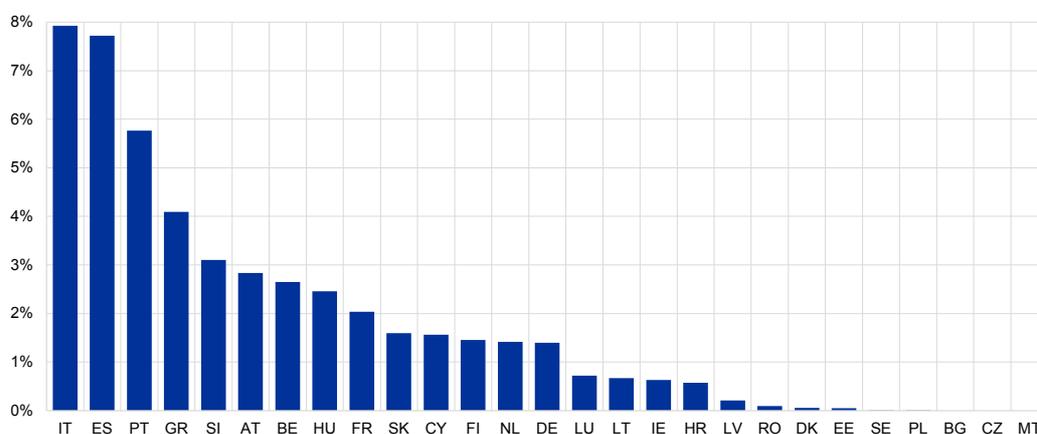
Source: ECB euro area bank lending survey, April 2019.

Note: The net percentages are defined as the difference between the sum of the percentages for “deteriorated considerably” and “deteriorated somewhat” and the sum of the percentages for “eased somewhat” and “eased considerably”. The latest observations are for the first quarter of 2019.

Chart 30

### Central bank funding of EU banking systems

(percentages of total liabilities)



Source: ECB and ECB calculations.

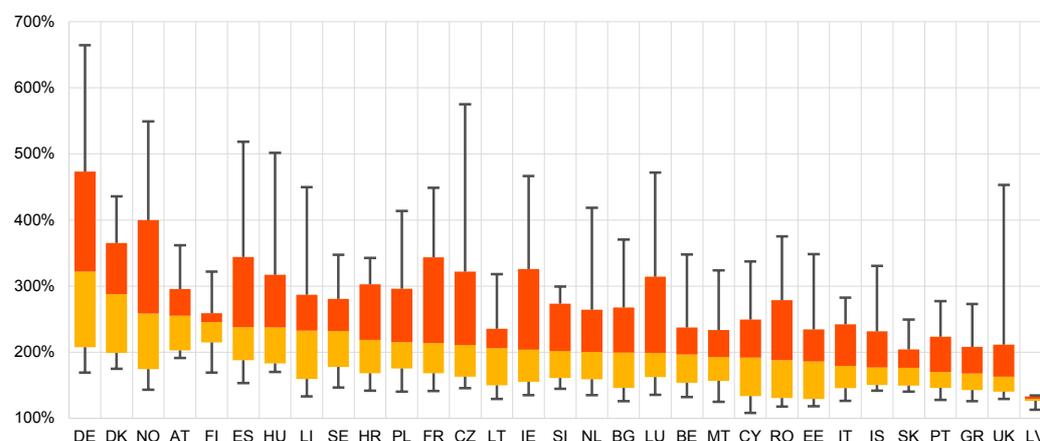
Notes: MFIs excluding the ESCB and money market funds. Bank funding by central banks comprises all loans granted by the ESCB. Total liabilities exclude capital and reserves and remaining liabilities. Data for the UK are not available. The latest observations are for 31 March 2019.

**The European insurance sector remains adequately capitalised, despite the challenges of relatively high values of liabilities and relatively low returns on assets related to the low interest rate environment.** The average solvency ratio for EU insurers is relatively high at around 200%. However, heterogeneity across countries and across insurance companies within countries is significant (see Chart 31).



Chart 31  
Insurance solvency ratios by country

(percentages; quarterly data)



Source: EIOPA.

Notes: The chart presents interquartile ranges (bars), the 10th-90th percentile ranges (lines), and the median (colour change from yellow to orange). Countries are ordered from the highest median to the lowest. The solvency ratio is defined as the own funds divided by the solvency capital requirement. The latest observations are for the fourth quarter of 2018.

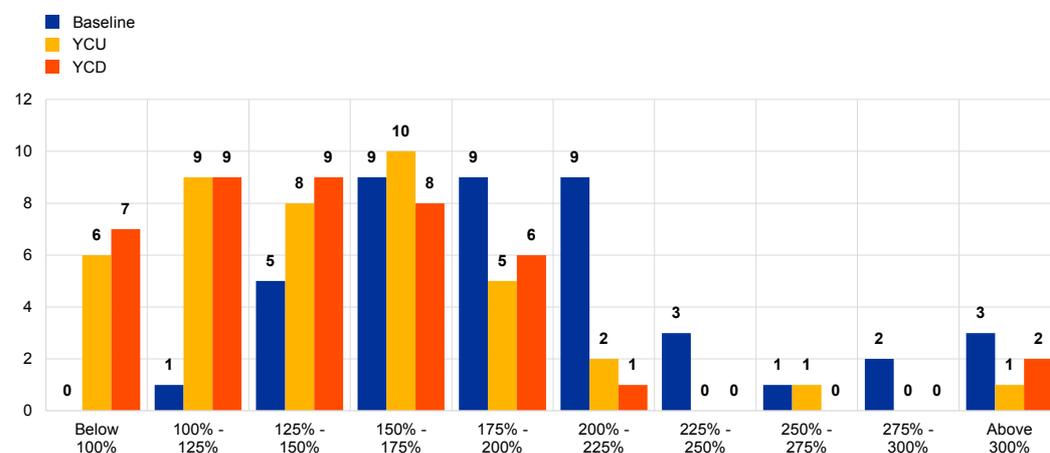
The insurance sector is exposed to two main risks, (i) the risk of a prolonged low interest rate environment and (ii) the risk of an abrupt reassessment of risk premia, both of which were tested in the stress tests conducted by the European Insurance and Occupational Pensions Authority (EIOPA). The ESRB provided adverse market stress scenarios (see Section 2.2.1), which were complemented with insurance-specific scenarios from EIOPA: a “yield curve down” scenario, where market shocks are combined with a longevity shock; and a “yield curve up” scenario, where market shocks are combined with an increase in lapse rates and higher claims inflation. The scenarios were tested on 42 insurance groups and confirmed the sensitivity of the insurance sector to such risks (see Chart 32). The long-term guarantee measures help to dampen the market stress arising from a reassessment of risk premia, since they ensure a premium over the risk-free interest rate term structure used to discount insurance obligations. The transitional measure on technical provisions, the use of which is subject to supervisory approval, is helping the insurance sector to transition towards a market-based assessment of risks. Some markets still rely heavily on this measure. For those (re)insurers using the measure, removing it would reduce the average solvency ratio from 218% to 142%.



Chart 32

**Distribution of solvency ratios in the baseline, yield curve up (YCU) and yield curve down (YCD) scenarios**

(number of (re)insurance groups)



Source: 2018 insurance stress test report, EIOPA.

**The low interest rate environment is putting pressure on the profitability of life insurance companies, in particular those with guaranteed-return business models.** In the European life insurance sector, a relatively large share of contracts have high returns guaranteed for average periods of over ten years (see Charts 33 and 34). The pressure on the profitability of these business models is related in particular to the relatively high values of liabilities and relatively low returns on assets in the environment of low and declining interest rates.<sup>14</sup> Indeed, the median return on assets decreased from 0.27% in the second quarter of 2017 to 0.24% in the second quarter of 2018,<sup>15</sup> while the drop in the return on equity was even more significant during the first half of 2018 (see Chart 35). The underwriting profitability was positive overall, but there were some companies with relatively weak performance.<sup>16</sup> Apart from the relatively high value of technical provisions in the low interest rate environment, insurance companies may face challenges in earning high returns on assets, which may result in increasing portfolio allocation to lower-quality assets. In terms of liquidity and credit quality characteristics, the investment exposures of EU insurers are, on average, considered to be liquid,<sup>17</sup> although significant differences between countries can be seen, and the majority of the bond portfolio is still of investment-grade quality, i.e. credit quality steps 0 to 3 (see Chart 36).

<sup>14</sup> For a broader discussion on the impact of the low interest rate environment on the insurance and pension fund sectors, see **Macprudential policy issues arising from low interest rates and structural changes in the EU financial system**, ESRB, November 2016 (in particular **Technical Documentation, Section C**).

<sup>15</sup> See **Annex I to the ESRB risk dashboard**.

<sup>16</sup> For a more detailed analysis of the recent profitability trends in the insurance sector, see **Financial Stability Report**, EIOPA, December 2018.

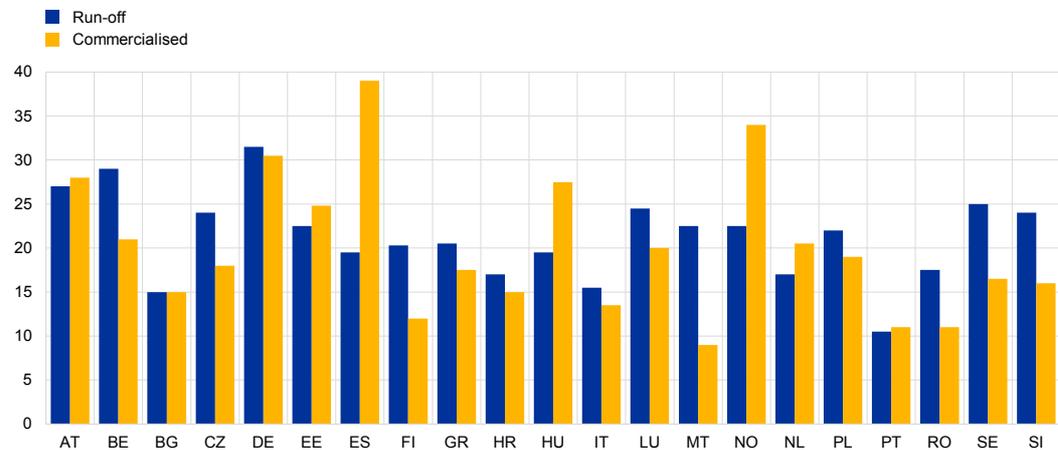
<sup>17</sup> See, for example, Chart 4.9 in the **ESRB risk dashboard** and the corresponding **ESRB risk overview note**, March 2019.



Chart 33

**Weighted average period for which interest rate guarantee is expected to apply – life insurance with profit participation**

(number of years)



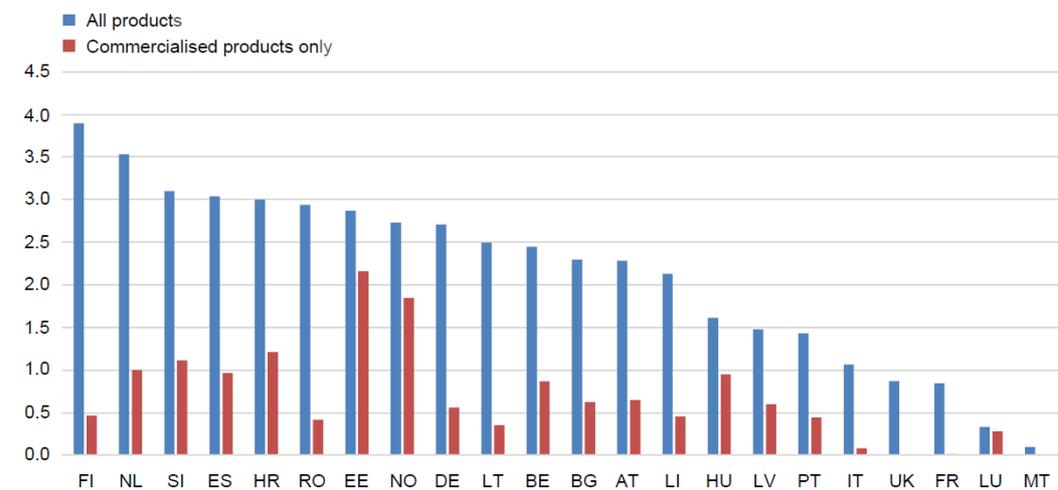
Source: *Report on long-term guarantees measures and measures on equity risk 2018*, EIOPA, December 2018.

Notes: For both France and the United Kingdom, it is not possible to display a time period in years; the information collected by EIOPA indicates that the period for which the interest rate guarantee is expected to apply is lifelong. Some other countries have also been excluded owing to insufficient data. “Commercialised” refers to insurance policies that are currently being sold; “run-off” refers to insurance policies that are no longer being sold, but where the obligations are not fully settled. The latest observations are for December 2017.

Chart 34

**Average guaranteed interest rate for life insurance with profit participation**

(percentages)



Source: *Report on long-term guarantees measures and measures on equity risk 2018*, EIOPA, December 2018.

Notes: Some countries have been excluded owing to insufficient data. The latest observations are for December 2017.



Chart 35  
Insurance groups' return on equity

(percentages)

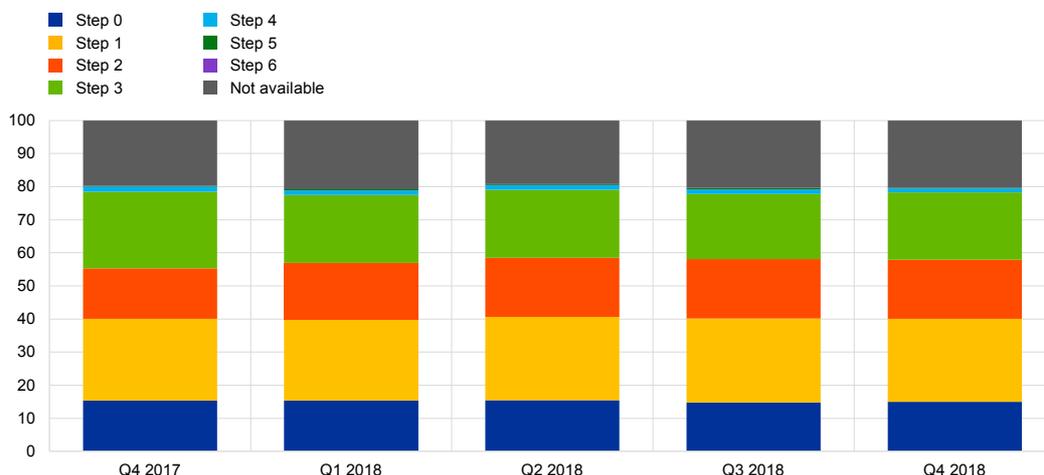


Source: ESRB risk dashboard, March 2019, Chart 6.3a, as based on EIOPA data using Solvency II reporting.

Notes: The chart presents the interquartile range and median for EU insurance groups. The return on equity is defined as the cumulated profit (loss) after tax and before dividends, divided by the excess of assets over liabilities for the current half year. Data are not annualised. For more details on Solvency II reporting, see Annex I to the ESRB risk dashboard. The latest observations are for the second half of 2018.

Chart 36  
Insurance groups' credit quality steps

(percentages of total bond portfolio)



Source: ESRB risk dashboard, March 2019, Chart 3.14, as based on EIOPA data using Solvency II reporting.

Notes: The chart presents a breakdown of the insurers' bond portfolio according to the different credit quality steps. Step 0 corresponds to the highest quality and step 6 corresponds to the lowest quality. For more details on Solvency II reporting, see Annex I to the ESRB risk dashboard. The latest observations are for the fourth quarter of 2018.

**For the EU pension system, two intertwined sources of vulnerability are of concern: (i) the evolution of demographic factors; and (ii) the current macro-financial environment of low growth and low interest rates.** The low interest rate environment may impede the accumulation of



savings and lead to excessive risk-taking with the associated financial stability risks, while the evolution of demographic factors may speed up the depletion of aggregate savings. Claims and entitlements to pension schemes are one of the main financial assets of households in certain countries and, once retired, pension benefits are an important source of income for them. Similarly, contributions to pension arrangements are substantial expenditure items for both national governments and corporations, depending on the prevailing pension system. In the last 50 years, life expectancy in Europe has been steadily rising, while birth rates have decreased, resulting in an ageing population.<sup>18</sup> As the European Commission's 2018 Ageing Report states, long-term budgetary projections show that population ageing poses a challenge for public finances in the EU. The fiscal impact of ageing is projected to be high in most Member States, with effects already becoming apparent during the next decade. Besides increasing health-related expenditure, an ageing population also puts significant pressure on pension provisioning over the long term. This issue affects all three pillars, but is particularly relevant for pillar 1 (state) pensions, since the working population as a proportion of the retired population is decreasing. Hence it also relates to debt sustainability risks (see Section 1.4). Furthermore, pay-as-you-go pillar 1 pensions rely on intergenerational transfers, as the current working population pays the pensions of the elderly. This spirit of solidarity may become strained over the long term in view of the ageing population.

**The continuing low interest rate environment is putting pressure on European pension funds.**

Pension funds operating defined-benefit plans are committed to providing a certain level of pension. In such business models, a low interest rate environment leads to lower long-term returns on assets on the investment side and higher technical provisions on the liability side (due to the lower discount factor), which together pose challenges to pension fund sustainability and increase sponsors' costs. A prolonged low interest rate environment also affects pension funds operating defined-contribution plans and would result in lower pension levels, which may compromise pension adequacy.

**The outcome of these factors can be the opening-up of a significant gap between promised or expected retirement income and the income households actually receive on retirement.**

Over a long-term horizon, the gap between the income households expect to receive in retirement and the income that pension schemes are effectively able to pay may be significant as a consequence of an increased dependency ratio due to demographic factors and of a prolonged period of sluggish growth and low interest rates, which affects the returns on pension fund assets.<sup>19</sup> While pension systems evolve gradually over long time horizons, it can be beneficial to identify and address potentially systemic issues at an early stage. Indeed, the 2017 EIOPA stress test showed that defined-benefit occupational pension funds in the EU would face deficits of at least €300 billion

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<sup>18</sup> See, for example, **The 2018 Ageing Report: Economic & Budgetary Projections for the 28 EU Member States (2016-2070)**, European Commission, May 2018, and Box 3 in **"Comparisons and contrasts of the impact of the crisis on euro area labour markets"**, *Occasional Paper Series*, No 159, ECB, February 2015, which shows how migration explains to a significant extent population growth in the euro area since 2005.

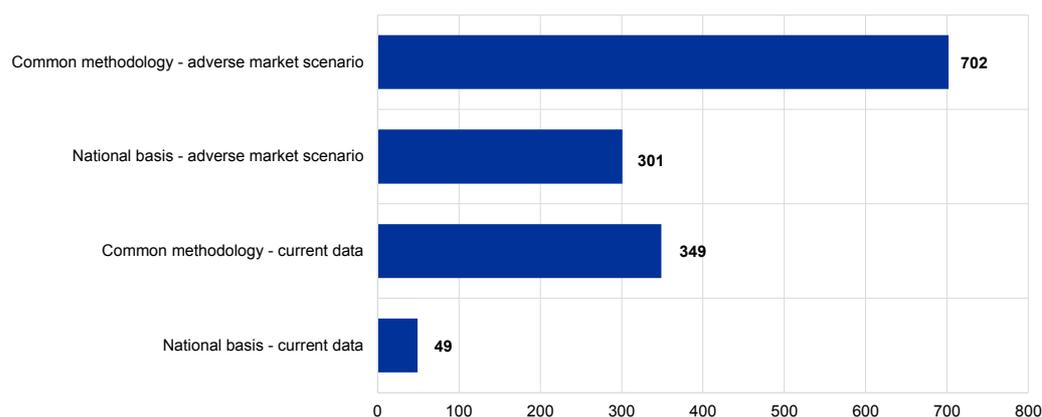
<sup>19</sup> This gap was already identified in 2012 in the European Commission White Paper **"An Agenda for Adequate, Safe and Sustainable Pensions"**, which also enumerates several policies which could attenuate this gap.



(measured on a national basis) under a stress scenario (see Chart 37).<sup>20,21</sup> The 2019 EIOPA stress test will provide valuable insights into the current situation of the private pension funds sector.

**Chart 37**  
**Deficits in pillar 2 pension funds in EIOPA's 2017 stress test**

(EUR billions)



Source: **2017 IORP Stress Test Report**, EIOPA.

Notes: Some Member States have additional safety mechanisms (such as additional sponsor support or reserve funds which may cover some of the deficits) which are not considered in the results shown in the chart. The adverse scenario, triggered by a shock to EU equity markets, combines a fall in prices of fixed income assets (due to a widening of spreads) and risk assets with a drop in risk-free rates (a "double hit"), resulting in a deterioration in the funding positions of institutions for occupational retirement provision (IORPs).

## 1.4 Debt sustainability concerns

**In view of the risk of a repricing in global and EU financial markets and vulnerabilities in the EU banking and non-bank financial sectors, elevated levels of public and private sector indebtedness can further impinge on the stability of the EU financial system.** In the event of a risk materialisation through possible trigger events (e.g. the escalation of policy uncertainties globally and within Europe), negative financial stability effects could be larger in countries where public and private indebtedness is higher. Chart 38 highlights that aggregate levels of indebtedness are elevated in several EU countries, with some countries displaying vulnerabilities through high indebtedness levels in two or three sectors simultaneously. In addition, strong credit growth has further contributed to the build-up of debt recently, as shown in Chart 39. Overall, the high stock of

<sup>20</sup> It should be noted that estimates of funding positions do not take into account all country-specific adjustment mechanisms. As explained in EIOPA's **2017 IORP Stress Test Report**, the valuation of assets and liabilities depends not only on whether the scheme is defined-contribution or defined-benefit, but also on the existence of guarantees (explicit or implicit) from fund sponsors (e.g. employers in occupational pension funds), tools a fund could use to rebalance its funding position (e.g. reducing benefits or increasing contributions) and risk-transfer mechanisms (e.g. (re)insurance contracts).

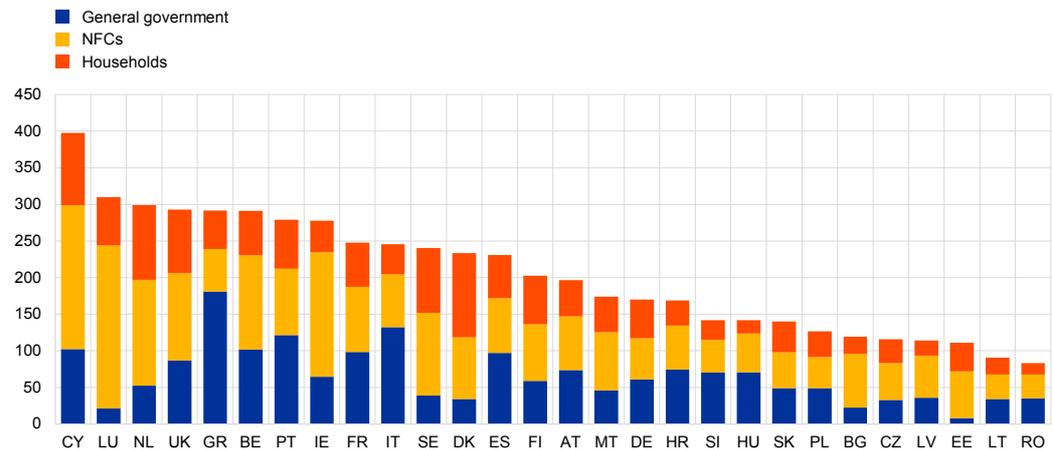
<sup>21</sup> To put the size of this deficit into perspective, the total assets under management of IORP defined-benefit pension plans and hybrid pension plans amounted to €1.6 trillion (source: **2017 IORP Stress Test Report**), the total net NPLs of EU banks amounted to €580 billion in the second quarter of 2016 (source: ECB consolidated banking data), the aggregated shortfall in the EU capital exercise of the EBA in 2011 was €114.7 billion (source: **EBA press release** of 8 December 2011) and the aggregated capital shortfall in the adverse scenario of the 2014 EBA stress test was €24.2 billion (source: **Results of 2014 EU-wide stress test**, EBA, October 2014).



public and non-financial private debt in several EU countries may have major financial stability implications.

**Chart 38**  
**Aggregate levels of indebtedness of sectors by country**

(percentages of GDP)

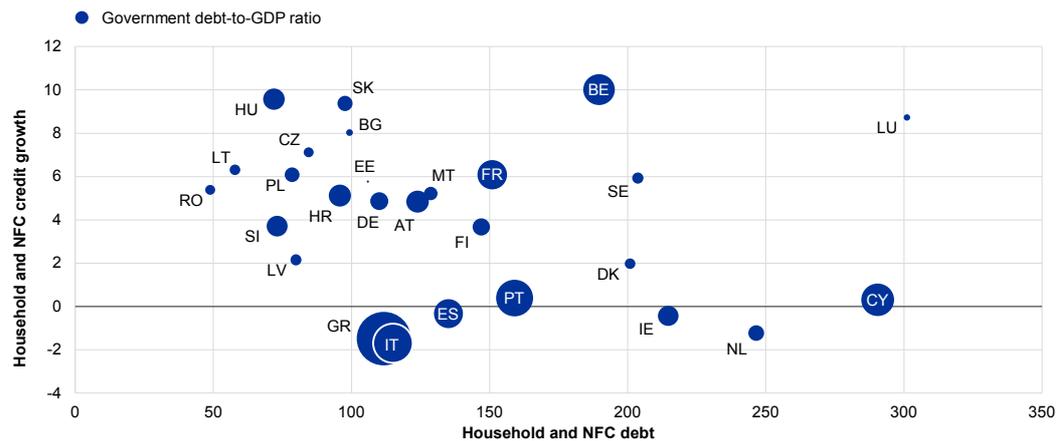


Sources: ECB balance sheet items statistics and ESRB risk dashboard, March 2019, Chart 2.5a, based on ECB, European Commission and ESRB Secretariat calculations.

Notes: The latest observations are for the fourth quarter of 2018. The chart presents private (NFC and household) and public sector indebtedness as a percentage of GDP. Data for NFCs in the United Kingdom are based on annual ESA 2010 data for 2018.

**Chart 39**  
**Credit growth, and private and public sector indebtedness**

(x-axis and bubbles: percentages of GDP; y-axis: percentages per annum)



Sources: ECB balance sheet items statistics and ESRB risk dashboard, March 2019, Chart 2.5a, based on ECB, European Commission and ESRB Secretariat calculations.

Notes: The chart presents credit growth (y-axis), private sector indebtedness (x-axis) and public sector indebtedness (bubbles). Credit growth is computed as the annual growth rate of an index of notional stocks of loans, net of securitisation and disposal operations, to domestic households and NFCs reported by MFIs excluding the ESCB. Data for the United Kingdom are not available (with respect to the NFC debt). The latest observations are for 30 September 2018 for NFC and household credit growth and 31 December 2018 for NFC and household debt.



**Given the importance of the household sector, it is important that countries implement sufficient measures to mitigate the risks and vulnerabilities stemming from unsustainable debt growth.** So far, the use of macroprudential tools related to the risk of private sector indebtedness seems to be rather heterogeneous across EU countries (see Chart 40). A majority of countries have implemented a loan-to-value (LTV) measure only, while a few countries have adopted a combination of measures. There may be a need to introduce and/or activate borrower-based measures in some countries, potentially also covering the non-financial private sector.<sup>22</sup>

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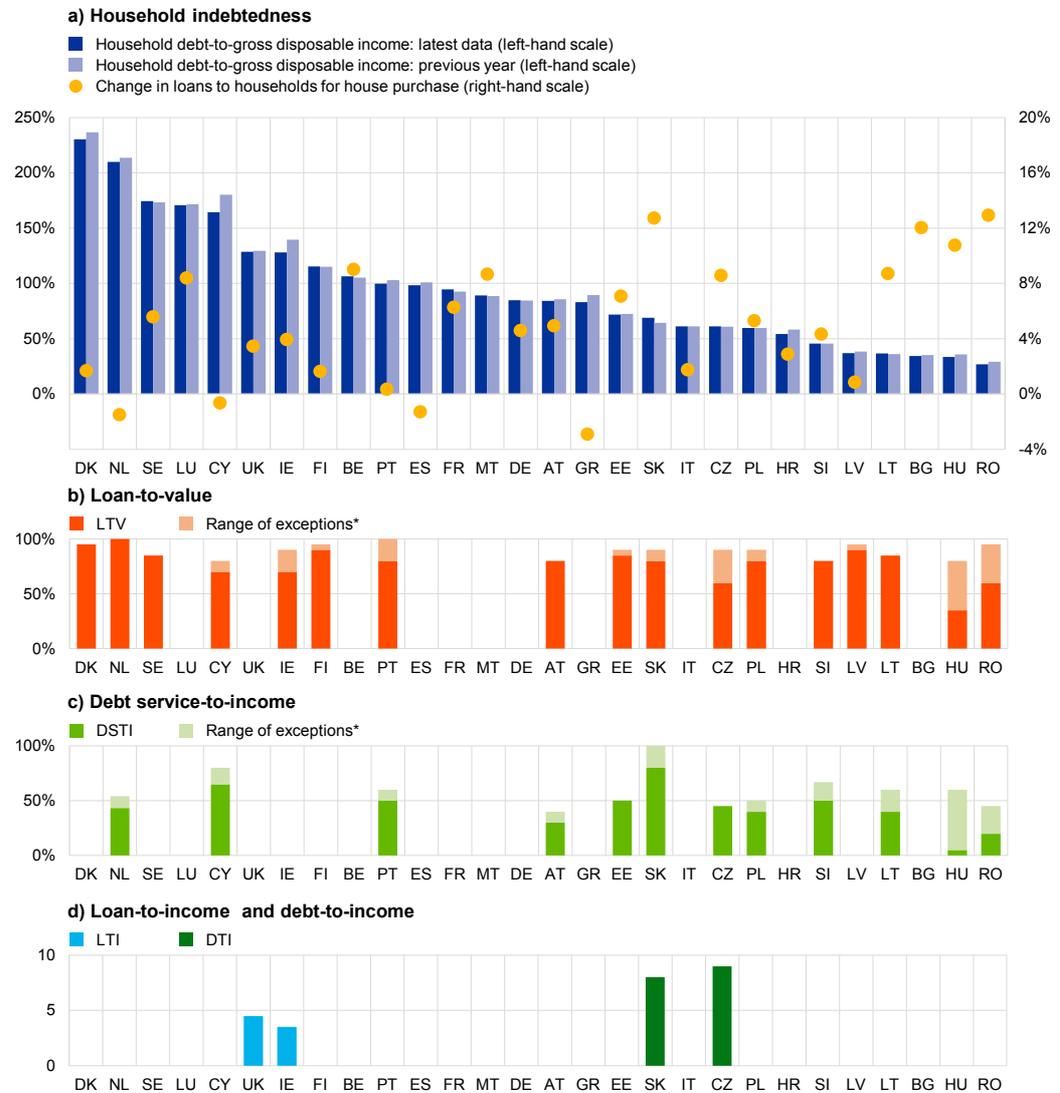
<sup>22</sup> For a broader discussion of macroprudential policy tools related to the risk of indebtedness, see [Macroprudential approaches to non-performing loans](#), ESRB, January 2019.



Chart 40

**Household indebtedness levels and growth and selected macroprudential measures**

(percentages and percentage changes; multiples for LTI and DTI)



Sources: ECB (quarterly sector accounts and balance sheet items statistics) and ESRB.

Notes: The chart shows the household debt-to-gross disposable income ratio, annual nominal growth in loans to households for house purchase and the applicable macroprudential measures (loan-to-value, LTV; debt service-to-income, DSTI; loan-to-income, LTI; and debt-to-income, DTI) in EU countries. The data for indebtedness refer to the third quarter of 2018 (latest data, dark blue bars) and the third quarter of 2017 (previous year, light blue bars). For some countries, the latest data on household indebtedness refer to the fourth quarter of 2017 (BG, CY, EE, HU, LT, LU, LV, SK) or the fourth quarter of 2016 (HR). Data for MT were provided by the Maltese authorities during the consultation for the publication of **A Review of Macroprudential Policy in the EU in 2018**; the last data point refers to the third quarter of 2018. For more detailed information on household indebtedness, see the March 2019 ESRB risk dashboard (notes to Chart 2.10). For LTV, DSTI, LTI and DTI, the darker bars represent the currently applicable measures and the lighter shades indicate the range of possible exceptions from the cap. Differentiation of DSTI and LTV limits is heterogeneous and subject to various rules across countries.

\* For detailed descriptions of the application of LTV, DSTI, LTI and DTI measures in Member States, as well as links to the official country announcements, see the "Overview of national macroprudential measures" on the **ESRB's website**. The latest observations are for 30 December 2018 for LTV, DSTI and LTI/DTI limits; 30 September 2018 for indebtedness; and 31 December 2018 for loans to households for house purchase.

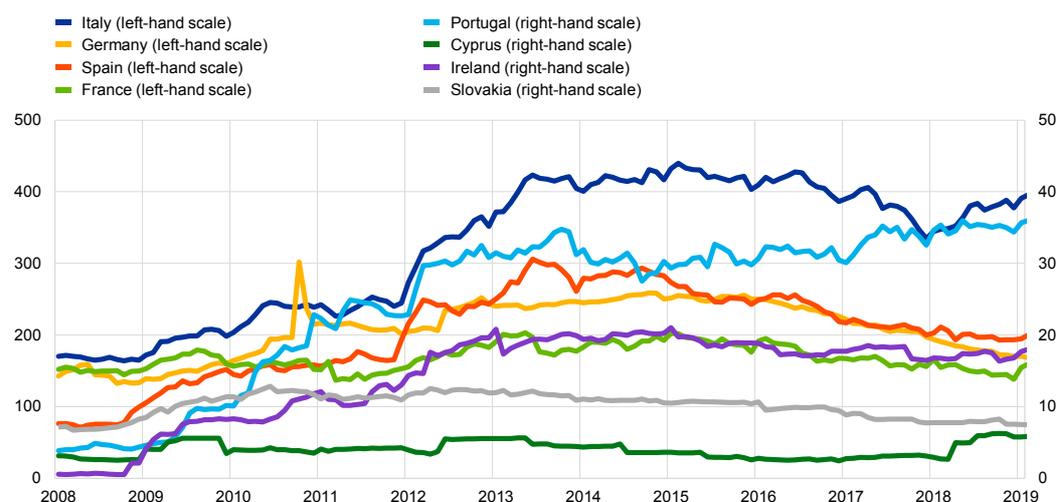


**Against the background of recent adverse developments in some European sovereign debt markets, banks' exposures to sovereign debt holdings are relevant from a financial stability perspective.**

In the event of sovereign stress, financial institutions (banks, insurance companies, other non-bank financial institutions) are affected directly by valuation losses on their sovereign portfolio, which could potentially spark sovereign feedback loops, as observed in recent years.<sup>23</sup> Rising sovereign yields can lead to increases in the refinancing costs of financial institutions. Owing to reductions in bank lending and adverse wealth effects, stress can be transmitted to the real economy by negatively affecting aggregate demand and may add another transmission channel through which stress in sovereign debt markets could be transmitted to the wider financial sector and to the economy as a whole. Overall, financial institutions in most euro area countries have higher exposures to sovereign debt than in the period before the European sovereign debt crisis. In recent years, banks have reduced their sovereign debt holdings, but during the period of sovereign market tensions in the second half of 2018, domestic banks in some countries stocked up on domestic sovereign debt again, thereby also acting to some extent as a shock absorber (see Chart 41).

**Chart 41**  
**Sovereign debt securities held by banks in selected countries**

(EUR billions)



Source: ECB balance sheet items statistics.

Notes: The chart shows time series for sovereign debt securities holdings by MFIs (excluding the ESCB) in selected euro area countries. The latest observations are for February 2019.

<sup>23</sup> For a broader discussion of sovereign-bank linkages, see [ESRB report on the regulatory treatment of sovereign exposures](#), ESRB, March 2015, and [Report of the High-Level Task Force on Safe Assets](#).



## 1.5 Non-bank financial intermediation and CCPs

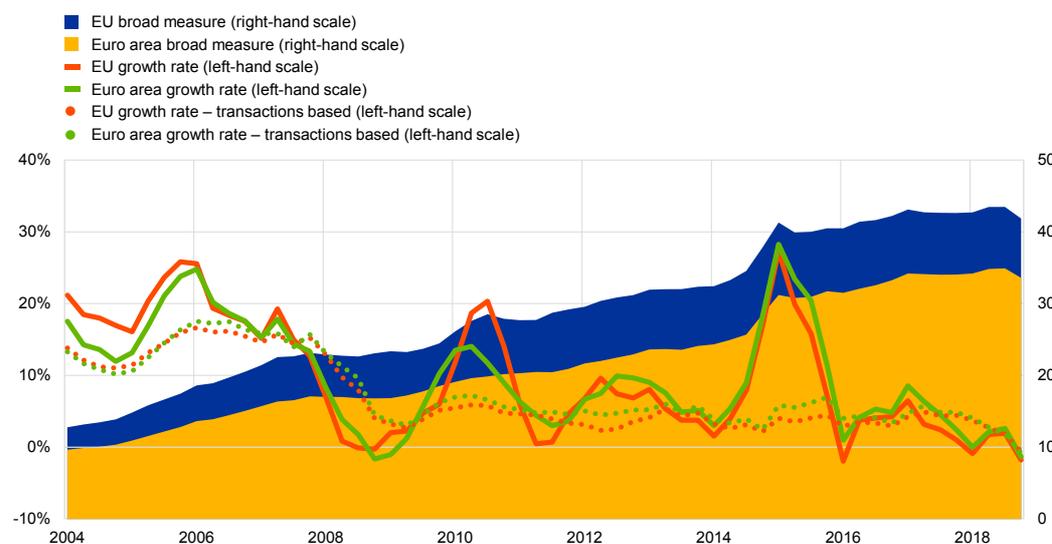
### 1.5.1 Developments in the non-bank financial sector

**Total assets held by investment funds (IFs) and other financial institutions (OFIs) decreased in 2018 as a result of falling asset valuations during the final quarter.** The ESRB's monitoring reported in the annual "EU Non-bank Financial Intermediation Risk Monitor"<sup>24</sup> (formerly called the "EU Shadow Banking Monitor"<sup>25</sup>) covers all IFs and OFIs. The size of this monitoring universe is measured by total assets under management in IFs and OFIs, and thus excludes the assets of banks, insurance corporations and pension funds. It focuses in particular on risks and vulnerabilities arising from shadow banking-related activities, as well as on interconnectedness with the banking system. Total assets under management in IFs and OFIs amounted to €41.9 trillion at the end of 2018 (see Chart 42). Since the end of 2017 this measure has fallen by 1.8%, while the banking sector has grown by 0.1%. In 2018 the IF and OFI sectors accounted for around 38.2% of the overall EU financial system, a slight decrease from 38.7% at the end of 2017.

Chart 42

#### Assets under management in EU investment funds and other financial institutions

(right-hand scale: EUR trillions; left-hand scale: percentages per annum)



Source: ECB and ECB calculations.

Notes: The continuous lines indicate annual growth rates based on changes in outstanding amounts. The dotted lines indicate annual growth rates based on transactions, i.e. excluding the impact of FX or other revaluations and statistical reclassifications. The latest observations are for the fourth quarter of 2018.

**The rapid growth in assets under management in IFs and OFIs over the past few years underlines the need for close monitoring to detect and assess sources of systemic risk.** The ESRB published the third edition of the EU Shadow Banking Monitor, thereby continuing to build up

<sup>24</sup> See [EU Non-bank Financial Intermediation Risk Monitor, No 4, July 2019](#).

<sup>25</sup> See [EU Shadow Banking Monitor, No 3, September 2018](#).



its monitoring framework. While the size of the IF and OFI sectors is important for monitoring purposes, it is not in itself a measure of risks and vulnerabilities. Although the broader non-bank sector provides the benefit of diversified funding for the real economy, risks can arise, for instance from liquidity and maturity transformation, which may cause spillovers to the wider financial system during times of stress. Furthermore, non-bank financial institutions employing leverage can contribute to the amplification of credit cycles across the financial system. Last year's EU Shadow Banking Monitor did not identify new risks and vulnerabilities, but instead considered those identified in the previous report in more detail.

**One set of risks identified in the third edition of the EU Shadow Banking Monitor was liquidity risk and risks associated with leverage in some types of investment fund.** Liquidity risk remained at elevated levels across bond funds, and liquidity transformation by open-ended bond funds increased. From an investment fund perspective, several factors can influence liquidity risk, including: (i) the ratio of withdrawable equity to assets, which tend to be less liquid; (ii) the rating and maturity of the assets held by a fund, where lower ratings and longer maturities may indicate increased term risk, credit risk and possibly lower liquidity; and (iii) the interaction between leverage and liquidity. Some aspects of this risk may be more significant than others, depending on the asset class in which funds invest, the different ways the funds are structured, and the way the funds are regulated.

**European banks are closely interconnected with the non-bank sector, and such interconnectedness is an important feature of a modern financial system.** It can be useful to transfer risks between entities and across borders to parts of the financial system that are better suited to managing the risks. However, this risk transfer can also lead to contagion during times of stress, for example, as new forms of interconnectedness and transmission channels may arise. It is therefore important to monitor interlinkages between banks and non-banks, and cross-border linkages between entities. In addition, interconnections can result in vulnerabilities; for example, sudden and large-scale redemptions by investors in money market funds and other investment funds can lead to the sale of bank debt securities and an increase in the cost of short and longer-term debt funding of the banking sector. Conversely, entities included in the non-bank sector may be exposed to the banking sector through their deposits at banks and their investments in bank-issued securities.

**Procyclicality, leverage and liquidity risk can be a significant aspect of some types of securities lending transactions where collateral is reused.** In some types of securities lending transactions, lenders may recall the loaned securities at any time. This exposes borrowers to liquidity risk, as it may be difficult for them to return the securities, which they may have used in other transactions, at short notice. If borrowers are unable to return securities, this will also expose lenders to risk, since lenders will need to sell the collateral obtained from borrowers and repurchase the loaned securities in the market. More generally, the reuse of cash and non-cash collateral can involve liquidity and maturity transformation, as cash collateral may be reinvested in securities with longer maturities, or in securities that are less liquid than the loaned securities.

**Vulnerabilities can build up among entities for which statistical information is not readily available.** This is especially relevant for entities included in the OFI sector, such as captive financial institutions or special-purpose entities. For these firms, a more detailed breakdown by type of entity is not available for all jurisdictions. Such data gaps make it more difficult to closely monitor potential risks or vulnerabilities. However, during the last monitoring period, it could be shown that a

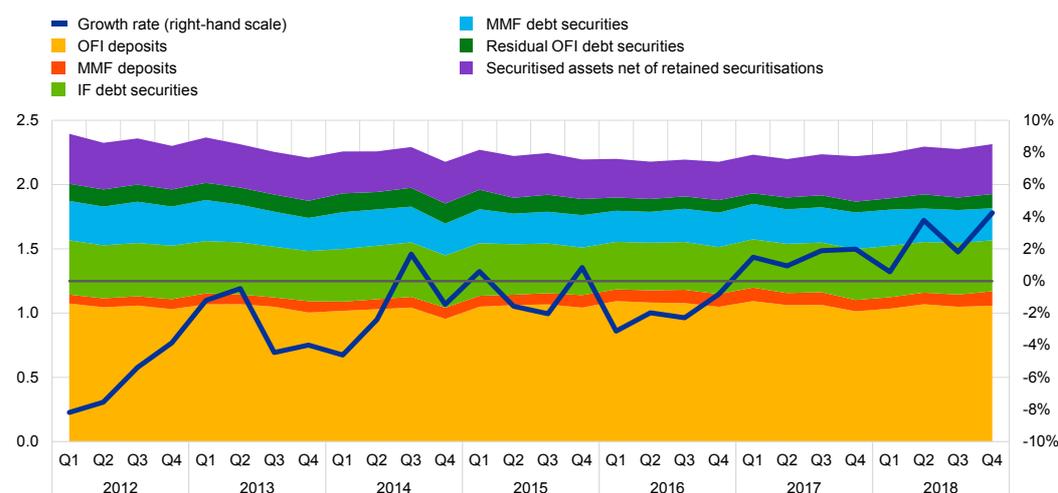


majority of entities included in the OFI residual<sup>26</sup> were not necessarily engaged in shadow banking activities, since most of these entities are set up by large multinational corporations to channel funds.

**The interconnectedness between the banking sector and the non-bank financial sector has increased liquidity risks through the bank funding channel.** Wholesale funding of euro area banks provided by IFs and OFIs further increased to €2.31 trillion in the fourth quarter of 2018, from €2.22 trillion in the fourth quarter of 2017, a 4.2% year-on-year increase (see Chart 43). Banks became less reliant on money market fund (MMF) debt securities funding, which recorded a 12.3% year-on-year decrease in the third quarter of 2018, and on MMF deposit funding, which registered a 27.6% year-on-year decrease in the fourth quarter of 2018. However, over the same period, they became even more reliant on securitised assets net of retained securitisations, which increased by 10.0%, and residual OFI debt securities, which rose by 30.4% (see Chart 43).

**Chart 43**  
**Wholesale funding provided by non-bank financial entities to the banking sector**

(left-hand scale: EUR trillions; right-hand scale: percentages per annum)



Sources: ECB and ESMA calculations.

Notes: The wholesale funding measure is the sum of MFI funding arising from securitisation, IF, MMF and OFI deposits at euro area MFIs, and IF, MMF and OFI holdings of debt securities issued by euro area MFIs. The latest observations are for the fourth quarter of 2018.

## 1.5.2 Linkages of the non-bank financial sector to households and non-financial corporations

**Since the global financial crisis, alternative sources of finance to traditional bank lending have grown in importance.** The decline in total net financing raised by euro area NFCs in 2008 was largely due to a sharp reduction in bank loans (see Chart 44). Over the past three years the

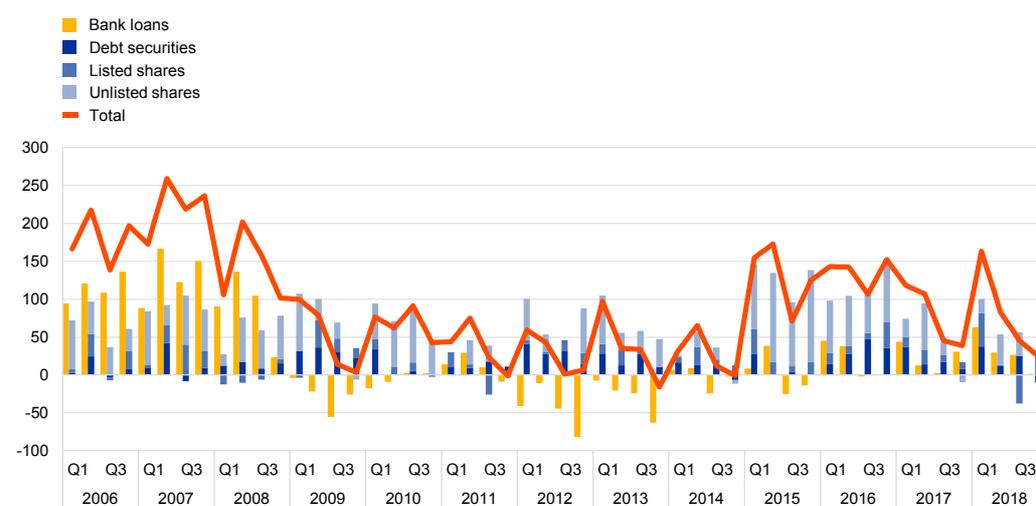
<sup>26</sup> The OFI residual reflects the difference between the total financial sector and the known sub-sectors within the statistical financial accounts (e.g. banking sector assets, plus the assets of insurance corporations, pension funds, financial vehicle corporations, investment funds and money market funds).



non-bank sector has provided approximately half of the financing flows to NFCs. From a financial stability perspective, this may be seen as a welcome diversification of funding sources, as risks are transferred from the banking sector to investors. At the same time, the regulatory framework needs to keep pace with this development to address potential risks, such as excessive credit growth, rising private sector indebtedness, a deterioration in credit quality and an accumulation of risks in the non-bank sector.

**Chart 44**  
**Net finance raised by euro area NFCs**

(EUR billions)



Sources: ECB quarterly sector accounts and ESRB Secretariat calculations.

Notes: The latest observations are for the fourth quarter of 2018.

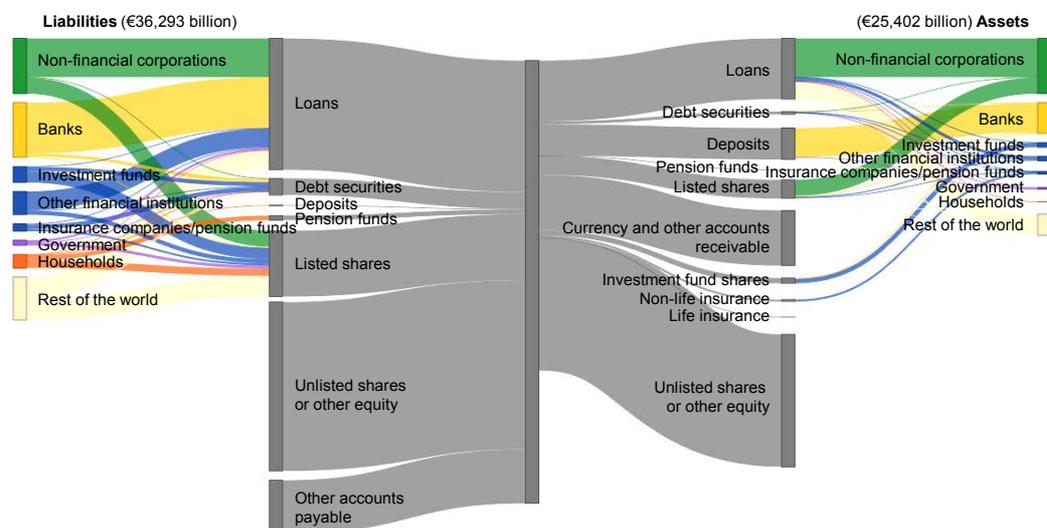
**In some EU countries, the share of funding of NFCs provided by non-banks is already high.**

EU NFCs have diversified sources of funding from both the banking and non-bank sectors, which include loans, debt securities and shares (see Chart 45). Debt securities and listed shares issued by NFCs are mainly held by non-bank financial institutions, with a smaller share being held by banks (see Chart 45). Loans are mainly provided by banks, NFCs and OFIs, such as special-purpose entities or leasing firms.



Chart 45  
**Financial balance sheet of NFCs**

(EUR billions)



Sources: ECB and ESRB Secretariat calculations.

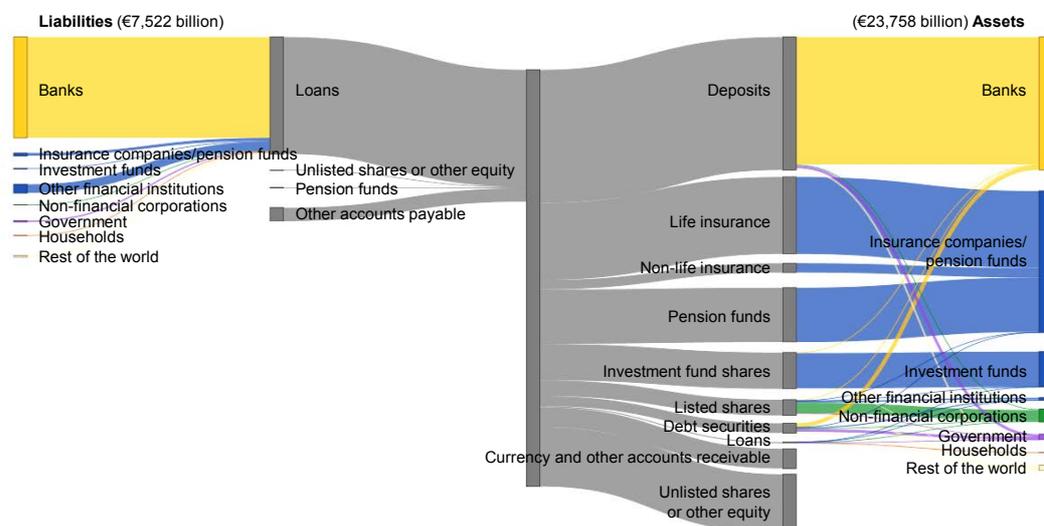
Notes: The chart shows issuing and holding sectors of NFCs' financial assets for the euro area. Outstanding amounts as at the fourth quarter of 2018, presented as a share of GDP.

**The non-bank financial sector is particularly important for households' asset allocation, but in some countries it also accounts for a large share of lending to households.** In terms of the overall financial balance sheet, households hold significantly more assets than liabilities. The largest proportion of households' financial assets is held as deposits in banks, but the non-bank sector on aggregate accounts for a larger share due to assets held in insurance, pension and investment fund products (see Chart 46). The main source of households' liabilities is bank loans, including mortgages. In some countries, the non-bank sector plays an important role in the provision of new mortgages. For example, in the Netherlands 35% of new mortgages are provided by pension funds, insurers and mortgage funds. A smaller share of loans is provided by other financial institutions; this includes leasing agreements (e.g. for cars). In some EU countries, insurance companies also provide loans to households.



Chart 46  
Financial balance sheet of households

(EUR billions)



Sources: ECB and ESRB Secretariat calculations.

Notes: The chart shows issuing and holding sectors of households' financial assets for the euro area. Outstanding amounts as at the fourth quarter of 2018 presented as a share of GDP.

### Most EU countries have some policy instruments or frameworks in place that help to address financial stability risks related to finance provided by the non-bank financial sector.

Most of these policy instruments or frameworks tend to focus on the mortgage market, and therefore in particular on the household sector (e.g. LTV and LTI ratios). However, specific macroprudential tools that address financial stability risks which may be linked to high levels of credit to NFCs are not well developed.

### 1.5.3 Central clearing

The introduction of clearing obligations, designed to reduce interconnectedness in the financial system and increase transparency, has increased the systemic importance of CCPs. By intermediating exposures between market participants, CCPs reduce counterparty credit risk, thereby reducing interconnectedness in the financial system. CCPs are therefore considered to have positive implications for financial stability. Following the introduction of the central clearing obligation for certain classes of over-the-counter derivatives contracts in major jurisdictions, CCPs have become key nodes within the financial system. The importance of CCPs is expected to increase, especially as the number of asset classes and counterparties to which the clearing obligation applies gradually increases.

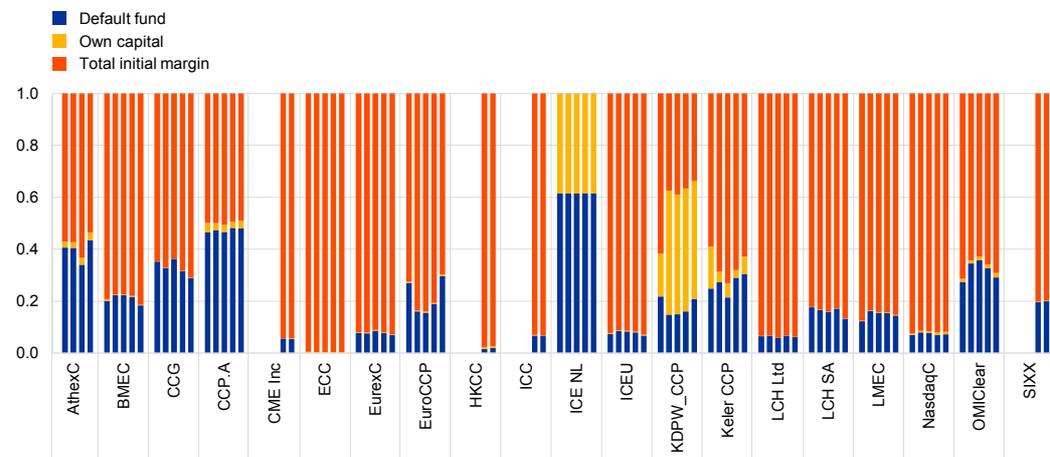
A recent default of a clearing member<sup>27</sup> of a CCP illustrated the practical application of the default management procedure of CCPs. To manage counterparty credit risk, CCPs collect

<sup>27</sup> Further information can be found on [Nasdaq's website](#).



resources in the form of initial margin requirements and default fund contributions from their clearing members, as shown in Chart 47. CCPs have a default waterfall in place, which sets out the procedural steps to be taken by the CCP in the event of a default of a clearing member. A recent default at a CCP, closely observed by the ESRB, illustrated this default management process in action. Due to large price movements in German and Nordic power markets, a clearing member was not able to meet a variation margin call. The position was auctioned off among a selected number of clearing members. The remaining losses, which were large, were covered by the CCP's own capital (or "skin in the game") and two-thirds of the default fund dedicated to its energy commodity clearing service.

**Chart 47**  
**Structure of pre-funded default resources of CCPs**



Source: CPMI-IOSCO Public Quantitative Disclosure Framework data.

Notes: The chart shows the relative shares of different components of each CCP's default waterfall for each quarter from the fourth quarter of 2017 to the fourth quarter of 2018. Initial margin is the first line of defence, followed by default fund contributions of the defaulting clearing members and the CCP's own capital. Lastly, the default fund contributions of non-defaulting clearing members are used.



## 2 Policies addressing systemic risk

### 2.1 ESRB policies

**In 2018 the ESRB recommended reciprocation of national flexibility measures in Belgium, France and Sweden and a materiality threshold for the systemic risk buffer (SyRB) in Estonia.** Following a request from a Member State that is activating a macroprudential measure, the ESRB recommends that other Member States reciprocate the measure, if the ESRB deems this justified.<sup>28</sup> Other Member States should reciprocate, ideally with the same instrument, within a set period of time. Member States have the option of exempting individual financial service providers that have non-material exposures. The ESRB recommends a maximum institution-specific materiality threshold for this purpose.<sup>29</sup> Reciprocating authorities may set a lower threshold, or no threshold, in order to acknowledge reciprocity as a matter of principle.

#### 2.1.1 Materiality threshold for reciprocation of the systemic risk buffer in Estonia

**The ESRB recommended an increased materiality threshold of €250 million following the resetting of the SyRB in Estonia in 2018.** Eesti Pank activated an SyRB of 1% for domestic exposures of all credit institutions authorised in Estonia in April 2016 and the ESRB recommended its reciprocation in June 2016. An informal institution-specific materiality threshold of €200 million was suggested in 2016 to guide the application of the de minimis principle.<sup>30</sup> In April 2018 Eesti Pank reset the SyRB to 1% in line with the two-year evaluation period pursuant to Article 133(10)(b) of the Capital Requirements Directive (CRD IV)<sup>31</sup>. When resetting the SyRB, Eesti Pank proposed a formal institution-specific materiality threshold of €250 million and requested that the ESRB recommend the materiality threshold to other European Economic Area (EEA) countries.<sup>32</sup> The ESRB recommended the revised materiality threshold in January 2019 as a maximum institution-specific materiality threshold.

<sup>28</sup> See **Recommendation of the European Systemic Risk Board of 15 December 2015 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures (ESRB/2015/2)** (OJ C 97, 12.3.2016, p. 9).

<sup>29</sup> For further details on the determination of the absolute level of materiality thresholds, see section 9.2 of **A Review of Macroprudential Policy in the EU in 2017**, ESRB, April 2018.

<sup>30</sup> The ESRB has recommended a maximum materiality threshold since 2017 to limit potential material divergences in the application of the de minimis principle. For further information, see **Recommendation of the European Systemic Risk Board of 20 October 2017 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures (ESRB/2017/4)** (OJ C 431, 15.12.2017, p. 1) and Section 9.2 of **A Review of Macroprudential Policy in the EU in 2017**, ESRB, April 2018.

<sup>31</sup> **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).

<sup>32</sup> The “EEA countries” are the EU Member States plus Iceland, Liechtenstein and Norway.



## 2.1.2 Recommendation of a risk weight add-on for residential real estate exposures in Belgium

**Belgium requested reciprocation of a national flexibility measure under Article 458 of the Capital Requirements Regulation (CRR)<sup>33</sup> in May 2018.** The measure is a risk weight add-on for retail exposures secured by residential immovable property located in Belgium of credit institutions applying the internal ratings-based (IRB) approach. The risk weight add-on has two components:

- a flat risk weight add-on of 5 percentage points applied after the proportionate risk weight add-on; and
- a proportionate risk weight add-on calculated as a percentage (33%) of the average microprudential risk weight of the bank's portfolio of retail mortgage exposures.

**The ESRB deemed the request justified as a backstop to prevent regulatory arbitrage and issued a recommendation for reciprocation in July 2018.<sup>34</sup>** Although foreign branches are small players in the Belgian mortgage market, Belgian subsidiaries of EU banking groups are important. Some of these banking groups have both subsidiaries and branches in Belgium. Belgium's request for reciprocation was motivated by the potential for regulatory arbitrage stemming from the transformation of subsidiaries into branches or the rebooking of the mortgage loans from subsidiaries. The ESRB recommended the application of the Belgian measure to all credit institutions having branches in Belgium or providing direct cross-border services in Belgium. The ESRB recommended a maximum institution-specific materiality threshold of €2 billion for exposures to the Belgian RRE market.

## 2.1.3 Recommendation of a risk weight floor for residential real estate exposures in Sweden

**Sweden requested reciprocation of a national flexibility measure under Article 458 of the CRR in November 2018.** The measure is an institution-specific average risk weight floor of 25% for retail exposures to Swedish obligors collateralised by immovable property. It is applied to credit institutions that use the IRB approach (see Section 2.3.3). Sweden's Finansinspektionen submitted to the ESRB its reciprocation request concerning the national macroprudential measure based on Article 458 of the CRR in November 2018. Sweden's reciprocation request was motivated by the potential for regulatory arbitrage stemming from branches of foreign institutions with material Swedish mortgage exposures. Banks might have incentives to shift a large part of their mortgage portfolios from their subsidiaries to branches, if the latter were not within the scope of the macroprudential measure. These incentives are amplified by the fact that the Swedish risk weight floor is one of the highest among EU countries and a significant difference can be observed between the actual risk weights estimated by IRB banks and the risk weight floor. The measure

<sup>33</sup> [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).

<sup>34</sup> See [Recommendation of the European Systemic Risk Board of 16 July 2018 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures \(ESRB/2018/5\)](#) (OJ C 338, 21.9.2018, p. 1).



aims to maintain the existing level of capital requirements for mortgage exposures in Sweden and to ensure a level playing field following the re-domiciliation of the headquarters of the Nordea group from Sweden to Finland.

**The ESRB deemed the request justified to prevent regulatory arbitrage and to allow all potential material sources of systemic risk relevant for Sweden to be addressed adequately, and issued a recommendation for reciprocity in January 2019.**<sup>35</sup> Although exposures of foreign banks in Sweden stem mainly from their subsidiaries in Sweden, the operations of their branches are also considered material. The materiality threshold should ensure reciprocity for all material exposures and, at the same time, be proportionate. The ESRB recommended the application of the Swedish measure to all credit institutions having branches in Sweden or providing direct cross-border services in Sweden. The ESRB recommended a materiality threshold of SEK 5 billion for exposures to the Swedish RRE market (de minimis principle).

#### **2.1.4 Recommendation of tighter large exposure limits for non-financial corporations in France**

**The ESRB recommended the reciprocity of a French national flexibility measure in February 2019.** The measure consisted in tightening limits to 5% for large exposures of French systemically important credit institutions to highly indebted large NFCs that have their registered office in France (see Section 2.3.6). The Haut Conseil de Stabilité Financière submitted its reciprocity request concerning the national flexibility measure to the ESRB in May 2018. The ESRB deemed the request adequate and justified and issued a recommendation for reciprocity in December 2018, which was published in the Official Journal of the European Union on 1 February 2019.<sup>36</sup> Although reciprocating the measure will not completely prevent regulatory arbitrage, the ESRB considered that reciprocity was warranted to raise awareness of the risk and preserve a level playing field among EU banks. The ESRB recommended the application of the French measure to systemically important institutions having branches in France or providing direct cross-border services in France. Relevant authorities are recommended to adopt reciprocating measures no later than six months after this date. Guided by the principle of proportionality, the ESRB recommended a combined materiality threshold (de minimis principle):

- (a) a threshold of €2 billion for the total original exposures of domestically authorised global systemically important institutions (G-SIIs) and other systemically important institutions (O-SIIs) at the highest level of consolidation of the banking prudential perimeter to the French NFC sector;
- (b) a threshold of €300 million applicable to domestically authorised G-SIIs and O-SIIs equalling or exceeding the threshold mentioned in (a) for a single exposure to a French NFC or a French NFC group;

<sup>35</sup> See [Recommendation of the European Systemic Risk Board of 15 January 2019 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures \(ESRB/2019/1\)](#) (OJ C 106, 20.3.2019, p. 1).

<sup>36</sup> See [Recommendation of the European Systemic Risk Board of 5 December 2018 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures \(ESRB/2018/8\)](#) (OJ C 39, 1.2.2019, p. 1).



- (c) a threshold of 5% of the G-SII's or O-SII's eligible capital at the highest level of consolidation for exposures identified in (b).

**As an exception to the reciprocity framework, the materiality threshold is applied in the French case at the highest consolidated level for G-SIIs and O-SIIs in the reciprocating Member States.**<sup>37</sup> The original measure still applies at the highest level of consolidation in France. Applying the materiality threshold at an individual level could lead to the exemption of institutions which, at a consolidated level, have concentrated large exposures to highly indebted NFCs having their registered office in France.

## 2.2 ESRB contributions to the policy framework

### 2.2.1 General contributions

**Stress tests are important macroprudential tools.** They can help ensure the resilience of financial institutions and systems to adverse macro-financial developments. By creating transparency about vulnerabilities and how such vulnerabilities are to be addressed, they can increase confidence in individual financial institutions and the financial system as a whole.

**The ESRB has a key role in stress tests in the EU.** In particular, the regulations establishing the European Supervisory Authorities (ESAs) – the EBA, EIOPA and ESMA – require them, in cooperation with the ESRB, to initiate and coordinate EU-wide assessments of the resilience of financial institutions to adverse market developments, including via stress testing.<sup>38</sup> This cooperation has typically taken the form of the ESRB providing adverse scenarios for the stress tests of the ESAs that take as their starting point the risks identified by the ESRB (see Section 1 for a more detailed description of these risks). Over the review period, the ESRB provided the adverse market scenarios for EIOPA's third EU-wide stress test for IORPs,<sup>39</sup> for ESMA's third EU-wide stress test for CCPs and for the ESMA guidelines on establishing common reference parameters for the stress-test scenarios to be included in MMF stress tests conducted in accordance with Article 28 of the MMF Regulation. These scenarios are described below. The scenarios that the

<sup>37</sup> The application of a measure at the consolidated level means that the measure applies to a credit institution and all its subsidiaries. The credit institution and its subsidiaries are considered as if they were a single institution. The consolidated situation includes all exposures of the credit institution and its subsidiaries, but excludes intra-group exposures between them.

<sup>38</sup> See [Regulation \(EU\) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority \(European Banking Authority\), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC](#) (OJ L 331, 15.12.2010, p. 12); [Regulation \(EU\) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority \(European Insurance and Occupational Pensions Authority\), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC](#) (OJ L 331, 15.12.2010, p. 48); and [Regulation \(EU\) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority \(European Securities and Markets Authority\), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC](#) (OJ L 331, 15.12.2010, p. 84).

<sup>39</sup> For the previous adverse scenario for the pension fund sector, see [Adverse scenario for the European Insurance and Occupational Pensions Authority's EU-wide pension fund stress test in 2017](#), ESRB, 23 March 2017.



ESRB provided in early 2018 for the EBA stress test of banks<sup>40</sup> and the EIOPA stress test of insurers<sup>41</sup> were described in the ESRB's 2017 Annual Report.<sup>42</sup>

**The ESRB – in collaboration with the ECB, EIOPA and ESMA – prepared a single scenario for the IORP and MMF exercises.** The design of a single scenario for both exercises increases the coherence between the stress tests, allowing for an appropriate response of the institutions and companies participating in the ESMA and EIOPA stress tests. The scenario is assumed to be initiated by an abrupt reversal in global risk premia. The shock to interest rates is stronger at short-term maturities than at long-term maturities. This reflects higher uncertainty and the potential threats to growth in the near term due to policy tensions, combined with concerns about long-term growth prospects. The overall repricing of risk premia would raise concerns about the debt sustainability of some EU sovereigns, widening the spreads of EU government bond yields versus equivalent German bond yields. In addition, yields on NFC and bank debt would increase, following the generalised increase in risk premia. In the banking sector, shocks to credit spreads would be aggravated by fundamental concerns about prospective mark-to-market losses on fixed income assets. The repricing of risk premia would also imply a large fall in stock prices, which would be amplified by a general sell-off of stocks by the non-bank sector. Residential and commercial real estate prices would also decline significantly from their starting levels.

**The ESRB also provided the adverse scenario for the 2019 ESMA EU-wide CCP stress test.**<sup>43</sup> Like the adverse scenario for the EIOPA IORP and ESMA MMF exercises, the scenario reflects the triggering of one or more of the sources of systemic risk to the EU financial system identified by the ESRB which could materialise jointly and reinforce each other. It covers more than 500 financial risk factors that are relevant for EU CCPs.

**The ESRB amended Recommendation ESRB/2016/14 on closing real estate data gaps, given the difficulties with the implementation of the original recommendation issued in 2016.** The adjustment was made in order to allow Member States to make use of data already collected from other sources, most notably under the AnaCredit Regulation<sup>44</sup>, and thus limit costs and the reporting burden.

**The amendments covered three areas.** First, some of the deadlines for the national macroprudential authorities were extended. Second, a new recommendation addressed to Eurostat was added. Eurostat has been asked to develop a common minimum framework for the physical CRE market data and, in this way, will also assist those Member States which do not have any data in this area so far. Third, a number of definitions were amended to better align them with possible major data sources, in particular the AnaCredit Regulation. In addition, the definitions and concepts used in the recommendation were further clarified in a Questions and Answers document.

<sup>40</sup> **Adverse macro-financial scenario for the 2018 EU-wide banking sector stress test**, ESRB, 16 January 2018.

<sup>41</sup> **Adverse scenario for the European Insurance and Occupational Pensions Authority's EU-wide insurance stress test in 2018**, ESRB, 9 April 2018.

<sup>42</sup> **Annual Report**, ESRB, 2017.

<sup>43</sup> For the previous adverse scenarios for CCPs, see **Scenarios for the European Securities and Markets Authority's EU-wide central counterparty stress test in 2017**, ESRB, 15 December 2016.

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



## 2.2.2 Banking

**The ESRB continued the assessment of the financial stability implications of IFRS 9 and published two reports on the topic.** In 2016 the ESRB was invited by the European Parliament to assess the financial stability implications of IFRS 9 and published a report in July 2017.<sup>45</sup> The ESRB deepened its assessment and published two additional technical reports in the first quarter of 2019. In these reports, the ESRB examined the financial stability impact of the differences between the expected credit loss (ECL) approach in IFRS 9 and the US equivalent – the current expected credit loss (CECL) approach – and analysed the cyclical behaviour of the ECL model in IFRS 9.

**The differences between IFRS 9 and the CECL approach may be relevant for the provision of lending through the cycle and the market segments where EU and US banks compete (e.g. lending to large corporations).** As stated in the first report<sup>46</sup>, the existence of two different accounting standards for credit losses can be explained by a number of factors. The factors identified were: (i) the different weight given by accounting standard-setters to the possible double counting of credit risk at loan inception; (ii) the practical implementation of the approaches; and (iii) the historical influence of prudential regulators in determining loss allowances for financial reporting purposes. Despite these differences, both approaches respond to the mandate given by the G20 after the global financial crisis and aim to prompt a timelier and fuller recognition of credit losses. From a financial stability point of view, in certain circumstances, the existing differences could in theory negatively affect the way banks provide credit to the real economy, manage their credit risk and compete in global markets. Looking at lending through the cycle, it could be argued that the level of impairments could influence lending decisions of EU and US banks or could affect their relative competitive position. However, the extent to which the differences between the ECL and the CECL approaches can affect financial stability by inducing changes in lending conditions is still unknown (IFRS 9 has been applied since January 2018, while the CECL approach will not come into force until December 2019).

**Although experience with IFRS 9 so far is limited, there are some areas in IFRS 9 which may warrant closer monitoring and may be reviewed going forward.** The second report<sup>47</sup> describes those aspects of the ECL model under IFRS 9 that could potentially contribute to procyclical behaviour, and the conditions under which such behaviour would be more likely to arise. The descriptive part is complemented with insights from the analysis of data as of the first year of application of IFRS 9. Although there is still a substantial degree of uncertainty regarding the cyclical behaviour of the ECL model in IFRS 9 and its impact on banks' behaviour, certain areas which could undermine its expected and desired impact on financial stability have been identified (e.g. the excessive weight given to the baseline macroeconomic scenario, the excessive variability/uniformity of the outcomes of ECL models for comparable portfolios of borrowers). Therefore, any policy analysis should focus, inter alia, on how the requirements of IFRS 9 are being applied and whether banks have appropriate incentives to recognise credit losses in a timely manner. The development of best practices or enhanced guidelines could help to ensure that the financial stability benefits of IFRS 9 are reaped.

<sup>45</sup> See **Financial stability implications of IFRS 9**, ESRB, July 2017.

<sup>46</sup> See **Expected credit loss approaches in Europe and the United States: differences from a financial stability perspective**, ESRB, January 2019.

<sup>47</sup> See **The cyclical behaviour of the ECL model in IFRS 9**, ESRB, March 2019.



**The ESRB identified the main triggers, vulnerabilities and amplifiers that can drive system-wide increases in NPLs.** The ESRB provided a policy response to a request from the EU Council<sup>48</sup> by publishing a report on NPLs<sup>49</sup>. Macroprudential policy can play a role in preventing system-wide increases in NPLs and/or in strengthening banks' resilience to such increases. The business cycle and asset price shocks were two of the main drivers of the systemic increase in NPLs in the last crisis, alongside vulnerabilities that built up before the crisis (such as excessive credit growth, high indebtedness and poor banking practices) and structural factors (such as weaknesses in the legal and judicial system). While no fundamental changes to the existing macroprudential toolkit seem to be required, some refinements should be considered. In particular, further work is needed in areas such as the use of sectoral capital buffers and the development of borrower-based measures for both households and NFCs. Capital-based instruments should also be considered to address vulnerabilities that could later result in system-wide increases in NPLs, and macroprudential authorities should develop early warning systems to monitor the risks of credit portfolio deterioration from a macroprudential perspective. Some of the triggers of system-wide NPL problems fall outside the scope of macroprudential policy, notably the legal and judicial framework and banks' governance structures. Nevertheless, they determine the circumstances in which any macroprudential policy approach will have to be developed and, as such, deserve consideration in designing macroprudential approaches to NPLs.

### Box 1 Features of a macroprudential stance

**In March 2019 the ESRB Expert Group on Macroprudential Stance published its report, which outlines some initial considerations on a framework for the macroprudential stance.** The mandate for the expert group was established following extensive discussions in various ESRB fora over recent years that have consistently highlighted the need to develop a conceptual framework for the macroprudential stance to support policymakers in preparing decisions. In addition to promoting a common understanding, such a framework could be useful in improving the communication of policy decisions and in helping to anchor expectations about financial sector stability and future policy actions. Moreover, such a framework may be effective in mitigating any potential inaction bias in the face of increasing financial stability risks.

**A stance establishes a relationship between actions and an objective one wants to achieve through those actions.** In the case of the macroprudential stance, the report identifies that the relationship is between macroprudential actions by policymakers and the objective of financial stability, i.e. that macroprudential actions aim to prevent or mitigate systemic risk. A macroprudential stance assessment should therefore inform us about the extent to which macroprudential actions achieve their financial stability objective.

**Due to the multidimensionality of macroprudential policy in terms of the intermediate objectives and instruments, the development of a framework for assessing the macroprudential stance is challenging.** While the expert group's report summarises initial

<sup>48</sup> The EU Council conclusions on an **Action plan to tackle non-performing loans in Europe**, adopted by the ECOFIN Council on 11 July 2017, invited the ESRB to develop, by the end of 2018, "macro-prudential approaches to prevent the emergence of system-wide NPL problems, while taking due consideration of procyclical effects of measures addressing NPLs' stocks and potential effects on financial stability".

<sup>49</sup> See **Macroprudential approaches to non-performing loans**, ESRB, January 2019.

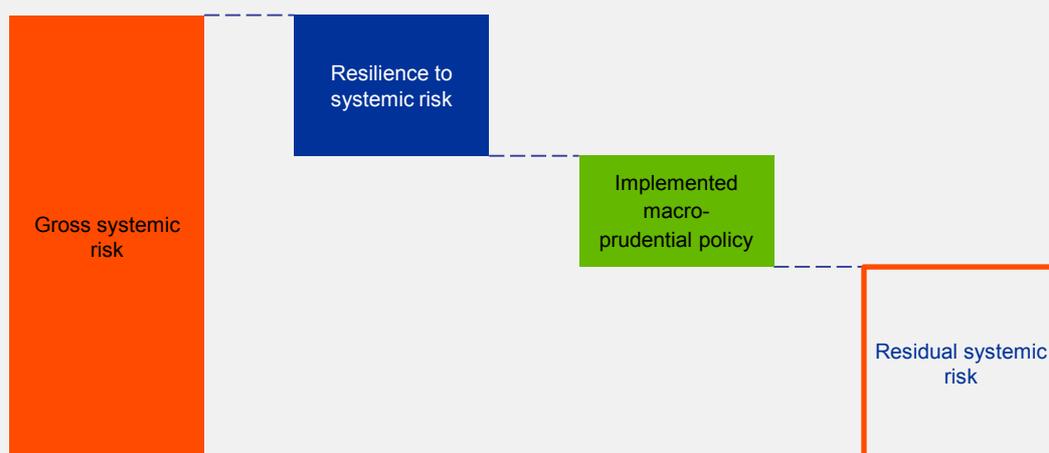


considerations that will be subject to refinement as the understanding of macroprudential policy develops, it provides a useful first step towards a common framework for the macroprudential stance which can support the decision-making process of policymakers.

**The ESRB proposes a conceptual definition of macroprudential stance which considers a risk-resilience framework (see Figure A for a stylised representation).** This framework covers the assessment of gross systemic risk (orange bar), which includes a combination of macro-financial vulnerabilities that could be a source of shocks or systemic threats to the financial system. The framework also takes into account available resilience in the economy and the financial system (blue bar). The third component is the contribution of implemented macroprudential policies to addressing gross systemic risk and to raising resilience (green bar). Relating the amount of gross systemic risk to available resilience in the system, while taking into account implemented macroprudential policy, gives an indication of the level of “residual systemic risk” (red-framed grey bar).

Figure A

#### Risk-resilience framework for the assessment of the macroprudential stance



Source: Expert Group on Macroprudential Stance.

Note: This is a stylised illustration and the relative sizes of the boxes are not meant to indicate the relative importance of any of the risk-resilience components.

**Using this risk-resilience framework, the macroprudential stance can be assessed as the difference between the observed level of residual systemic risk and a benchmark (neutral) level of risk, which depends on policymakers’ preferences.** If the residual systemic risk level exceeds the neutral level, this implies that the current macroprudential stance is loose; if the level of residual systemic risk is lower than the neutral level, the stance is tight. The stance assessment is a point-in-time assessment and does not attempt to identify an optimal target for macroprudential policy, but rather aims to assess whether further policy action may be required.

**The policy stance assessment forms the basis for considering policy action.** A policy action assessment would consider the short and long-run costs and benefits of adjusting the calibration of macroprudential instruments, either in terms of a loosening or a further tightening, depending on the policy stance assessment outcome. In addition, the policy action assessment takes into account the appropriateness and effectiveness of individual instruments for reaching the specified



macroprudential objective. There are a number of factors affecting both the policy stance and policy action assessments which policymakers must consider, including the judgement of risks and resilience, the position in the financial cycle, policy preferences and interactions of macroprudential instruments with other policies, in particular monetary and fiscal policies.

**As the concept of macroprudential stance is at an early stage of development, it is envisaged that the work on the conceptual aspects of the macroprudential stance framework will be further developed into an operational framework over the medium term.**

Macroprudential authorities could use such a framework when conducting their assessment of risk and resilience and analysing the appropriateness of their macroprudential responses. This would require the development of a quantitative concept which is transparent and flexible enough to allow and encourage implementation by national authorities. In order to further develop the concepts presented in the report, cooperation among the ESRB membership and ESRB working groups will be necessary.

### 2.2.3 Beyond banking

**The ESRB identified options to further strengthen the macroprudential framework for (re)insurance and to target systemic risks.** In a report published in November 2018,<sup>50</sup> the ESRB identified the risk of systematic withdrawal or failure of (re)insurance services and the risk of direct or indirect contagion as key systemic risk types for the insurance sector. Since the current regulation was not designed to fully address these risk types, a broader macroprudential toolkit is needed to fill the gaps. The ESRB identified a shortlist of options for additional provisions, measures and instruments deemed sufficiently promising to warrant further work. In addition to the development of a harmonised EU-wide recovery and resolution framework, which would provide legal certainty in the event that a (re)insurer runs into difficulties and ensure that any failure is orderly, the shortlisted options include:

- (i) a power for authorities to impose entity-based and/or activity/behaviour-based market-wide capital increases and dividend restrictions in situations in which (re)insurance market developments could generate systemic risk;
- (ii) symmetric capital requirements for cyclical risks;
- (iii) liquidity requirements for (re)insurers with a vulnerable liquidity profile;
- (iv) a discretionary power for authorities to intervene in cases of mass lapses; and
- (v) instruments to target bank-like activities to ensure cross-sector consistency of macroprudential policy.

While the implementation of these options at the EU level would provide all authorities with the necessary tools and flexibility to address a wide range of systemic risks, the modalities of certain options could differ across jurisdictions to reflect differences in national (re)insurance markets.

<sup>50</sup> See [Macroprudential provisions, measures and instruments for insurance](#), ESRB, November 2018.



**In January 2019 the ESRB published a report<sup>51</sup> that considers how the resilience of CCP interoperability arrangements could be strengthened further.** An interoperability arrangement is where two CCPs are direct counterparties to each other. There are five such arrangements between European CCPs, clearing cash equities, exchange-traded funds and repo contracts. Functionally interoperable CCPs increase the operational efficiency of the post-trade market infrastructure and are conducive to achieving the Markets in Financial Instruments Directive (MiFID I & II)<sup>52</sup> goals of lowering costs for financial market users and fostering competition among trading venues. By considering the implications of the EU legislative proposal for the recovery and resolution of CCPs, and by addressing the specific risks associated with extending interoperability arrangements to derivatives contracts, the ESRB further developed the analysis on this topic described in a previous report published in 2016.<sup>53</sup> Different interpretations of the regulatory framework applicable to interoperable links could lead to unintended outcomes in recovery and resolution, and therefore the legal text should explicitly address how recovery and resolution tools should be applied to interoperable CCPs. The ESRB also suggested clarifying in legislation whether interoperable arrangements for derivatives could be approved and implemented and, if so, for which product types and under what conditions.

## 2.3 Review of national measures

**This subsection provides an overview of the measures adopted by EEA countries during the review period.**<sup>54</sup> Given its broad mandate and EEA-wide perspective, the ESRB is well placed to act as an information hub for macroprudential measures taken by its members. The ESRB published several such notified measures on its website. Actions taken by EEA countries in the review period are discussed in this subsection according to the different types of instrument used, including reciprocating actions taken in response to requests from other countries.

### 2.3.1 Overview of measures

**Compared with 2017, there was a significant increase in the total number of macroprudential measures adopted by EEA countries in 2018 (see Chart 48).**<sup>55</sup> For this report, the broader concept of the measure of macroprudential interest is used. Several reciprocation measures were taken in 2018 following the ESRB's recommendations to reciprocate the Finnish and Belgian risk weight add-ons for RRE exposures of banks using the IRB approach. Excluding reciprocation measures, the increase in the number of domestic macroprudential measures is attributable mostly to the activation of or increase in the CCyB rate in several EEA countries. In addition, nine

<sup>51</sup> See **CCP interoperability arrangements**, ESRB, January 2019.

<sup>52</sup> **Directive 2014/65/EU of the European Parliament and of the Council of 15 May 2014 on markets in financial instruments and amending Directive 2002/92/EC and Directive 2011/61/EU** (OJ L 173, 12.6.2014, p. 349).

<sup>53</sup> See **ESRB report to the European Commission on the systemic risk implications of CCP interoperability arrangements**, ESRB, January 2016.

<sup>54</sup> For further details of the measures taken throughout 2018, see **A Review of Macroprudential Policy in the EU in 2018**, ESRB, April 2019.

<sup>55</sup> Since it remains challenging to define exactly what constitutes a macroprudential measure, in this report the broader concept of the measure of macroprudential interest is used; see Section 2 of **A review of macro-prudential policy in the EU one year after the introduction of the CRD/CRR**, ESRB, June 2015, p. 6, for further details. To some extent, the review relies on the qualification of a measure as macroprudential by the Member State itself.

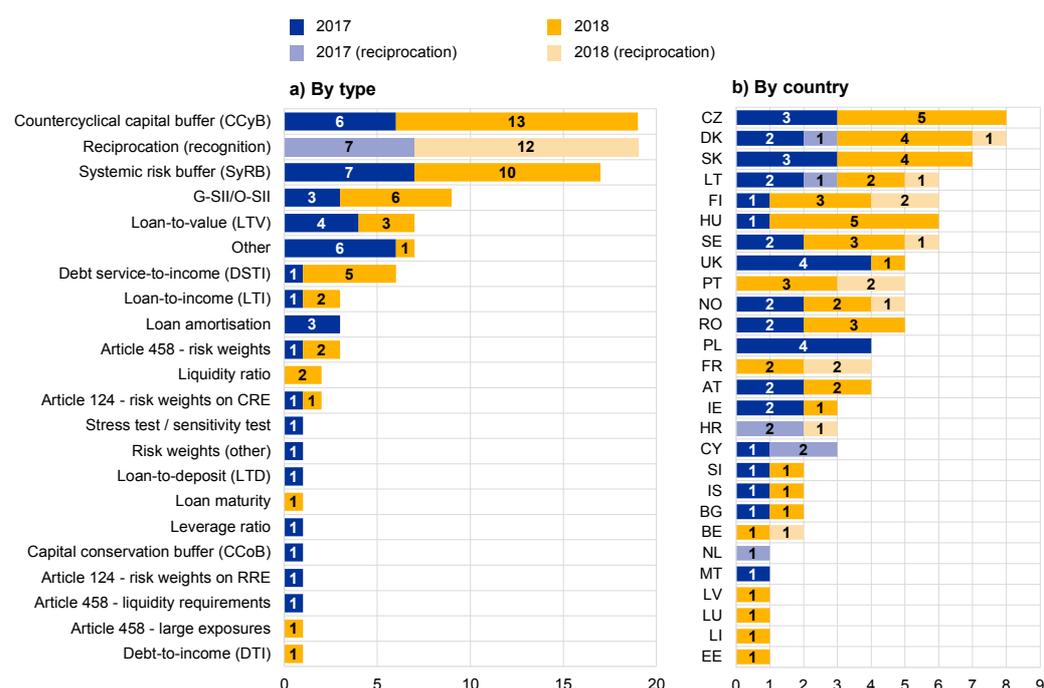


countries introduced or recalibrated an SyRB. After that, the most frequently introduced measure in 2018 pertained to caps on debt service-to-income ratios. Changes to the methodology used to identify systemically important institutions (SIIs) and set their buffers were also often made. Overall, more than half of the EEA countries took some macroprudential policy action in 2018, and most actions were of a tightening nature to address cyclical risks.

Chart 48

### Substantial measures notified to the ESRB in the period 2017-18

(number of notifications received by measure type (panel a) and country (panel b))



Source: ESRB.

Notes: Notifications do not necessarily refer to new macroprudential measures, as they can also refer to changes to measures already in place. The notifications refer to the year of initiation of the measure rather than implementation. All measures are deemed to be substantial, apart from measures of a more procedural or administrative nature, such as the early introduction of the capital conservation buffer (CCoB) and the exemption of small and medium-sized investment firms from the CCoB or CCyB. The chart does not include unchanged CCyB rates or those set at 0%. In the case of G-SIIs/O-SIIs, the measures only cover changes in the methodology for the G-SII/O-SII identification and buffer setting (not changes in the number of G-SIIs/O-SIIs or their buffer levels resulting from the actual application of the same methodology) or changes in the phasing-in arrangements.

## 2.3.2 The countercyclical capital buffer

### 2.3.2.1 Setting of domestic buffers

At the end of March 2019 seven EEA countries (the Czech Republic, Iceland, Lithuania, Norway, Sweden, Slovakia and the United Kingdom) had a positive CCyB rate, and five countries (Bulgaria, Denmark, France, Ireland and Luxembourg) decided to introduce a positive CCyB rate with a phase-in over the course of 2019 or early 2020 (see Chart 49).

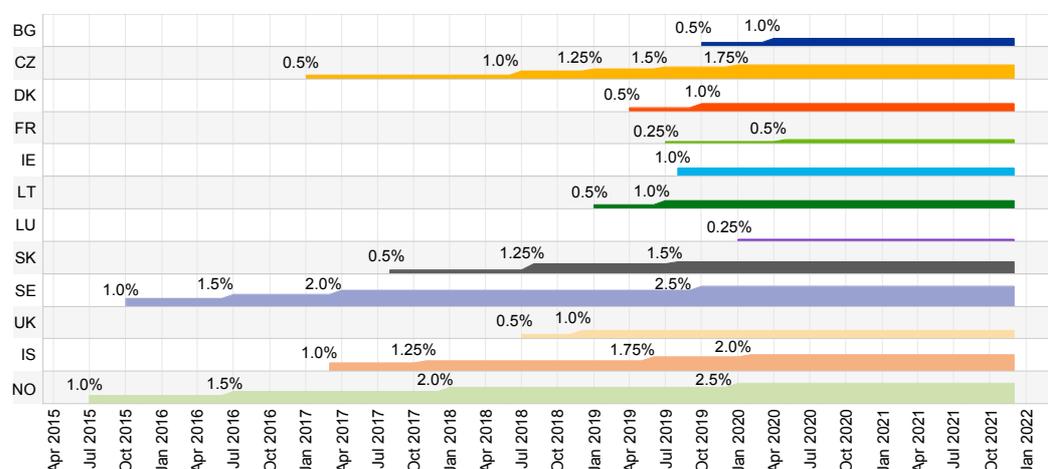


Sweden, Iceland and Norway kept their positive CCyB rates unchanged over 2018, but announced an increase for 2019. The Czech Republic, Slovakia, Lithuania and the United Kingdom increased their positive CCyB rates in 2018, with Lithuania increasing it further in 2019. Denmark introduced a positive CCyB rate at the end of the first quarter of 2019, with Bulgaria, France and Ireland following later in 2019 and Luxembourg in January 2020. After the review period, France, the Czech Republic and Denmark further announced their intention to revise their CCyB rate upwards and Germany and Belgium announced the introduction of a positive CCyB rate with effect from 1 July 2020. The remaining EEA countries kept their CCyB at 0% and did not announce any intention to increase it in the future.

**Signs of a turn in the financial cycle in a number of EEA countries have led to an increased use of the CCyB.** The CCyB is a countercyclical tool to be activated in the upward phase of the credit cycle when signs of excessive credit growth are observed. For the countries using the CCyB, the credit-to-GDP gap – the benchmark indicator for setting the CCyB rate – is on average still very negative. However, under the principle of guided discretion that governs the use of this instrument, authorities that set the CCyB rate have the discretion to deviate from the Basel buffer guidance, taking into account, for example, complementary indicators and/or models. In fact, several macroprudential authorities explicitly stated that they do not rely exclusively on the credit-to-GDP gap as a prominent indicator for the calibration of the CCyB.

**Chart 49**  
**Timeline of the announced countercyclical capital buffers in Europe**

(percentages)



Source: ESRB.

Notes: The coloured lines start at the date on which the countercyclical capital buffer becomes effective. The timeline reflects announced phase-ins as at 31 March 2019.

### 2.3.2.2 Setting of buffers for third countries

**In addition to setting domestic CCyB rates, EU capital rules for banks also provide for the possibility of setting rates for exposures to third countries.** National authorities have the right to set a CCyB rate for exposures to third countries that domestic banks must apply when



calculating their institution-specific CCyB rate. This right may be exercised when the third country has not set and published a CCyB rate or if the rate is not deemed sufficient. In addition, the ESRB may recommend the setting of a CCyB rate for third countries. The ESRB provided details of its approach in a recommendation and decision<sup>56</sup> with the aim of implementing a coherent approach across the EU. Given the very large number of third countries, the ESRB, the EU Member States and the ECB focus on identifying and monitoring material countries and share responsibilities in that respect. In particular, the ESRB establishes to which third countries the EU banking system as a whole has material exposures and monitors developments in those countries for signs of excessive credit growth, which may result in a recommendation on setting an appropriate CCyB rate for exposures to the country in question.

**When reviewing its list of material third countries in 2018, the ESRB confirmed its 2017 list.**<sup>57</sup>

The initial list established in 2015 included the United States, Hong Kong, China, Turkey, Brazil and Russia. In 2017 Singapore and Switzerland were added. The 2018 list of third countries that are material for the EU banking sector is the same as the 2017 list. In descending order of exposures for the EU banking sector, the countries on the list are: the United States, Hong Kong, Singapore, Switzerland, Turkey, China, Brazil and Russia.

**In 2018 EU Member States also reviewed their lists of material third countries, mostly confirming their 2017 lists.**

In line with Recommendation ESRB/2015/1, individual EU Member States identified material third countries for the first time in 2016 and the lists were reviewed in 2017. Member States reviewed their lists for the second time in 2018, based on their respective existing methodologies. The lists of material third countries maintained by Member States did not change substantially compared with the previous year.<sup>58</sup>

### 2.3.3 Real estate measures

**Real estate lending represents a significant part of credit activity in many countries, and remained one of the most important areas for macroprudential policymaking in 2018 (see Chart 50).** Macroprudential authorities that seek to address vulnerabilities related to residential real estate (RRE) and commercial real estate (CRE) markets have various instruments at their disposal for the banking sector. However, they face challenges in implementing macroprudential policies for the CRE sector, given its extensive cross-border development. In addition, the growing role of non-banks in financing CRE highlights the need to develop appropriate macroprudential tools targeting all parts of the financial sector.<sup>59</sup>

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<sup>56</sup> Recommendation of the European Systemic Risk Board of 11 December 2015 on recognising and setting countercyclical capital buffer rates for exposures to third countries (ESRB/2015/1) and Decision of the European Systemic Risk Board of 11 December 2015 on the assessment of materiality of third countries for the Union's banking system in relation to the recognition and setting of countercyclical buffer rates (ESRB/2015/3).

<sup>57</sup> In the annual revisions in line with Decision ESRB/2015/3, new countries can be added. Furthermore, the countries on the list can either be confirmed or not. In the latter case, they are dropped only if they meet the deletion criteria. Finally, discretion can be used, amending the result of the purely mechanical revision.

<sup>58</sup> 23 Member States maintained last year's list without any change. Three Member States added one third country each, and two Member States deleted one third country each.

<sup>59</sup> See Report on vulnerabilities in the EU commercial real estate sector, ESRB, November 2018.

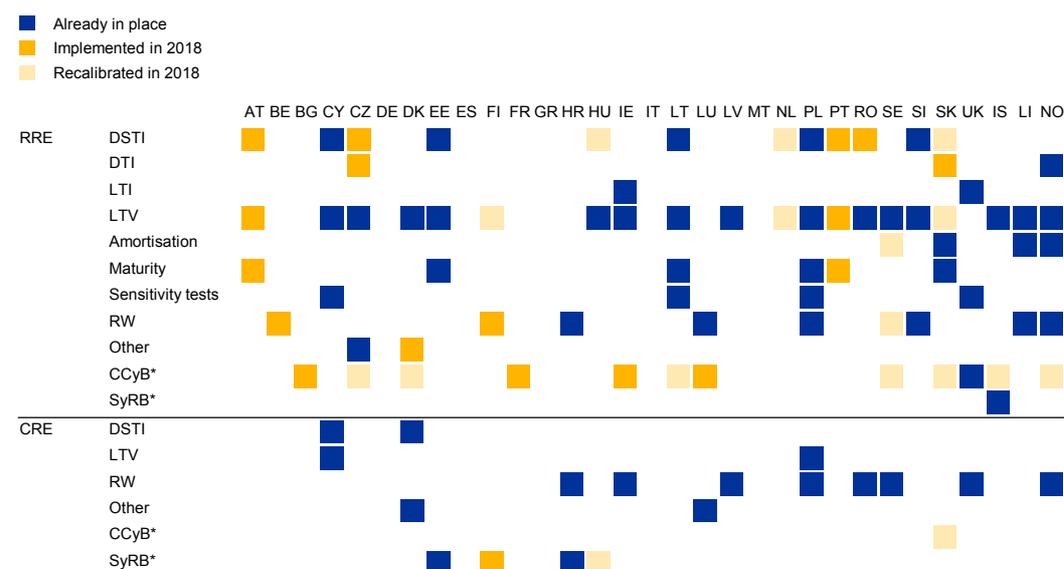


**In 2018 countries which activated or recalibrated instruments for real estate risks mostly used borrower-based measures targeting the residential sector.** The most commonly used measures were LTV and DSTI caps, with DTI limits being in force in the Czech Republic and Slovakia. Countries also implemented or changed measures regarding maturities or amortisation requirements, which were sometimes tied to LTV or DTI/LTI levels. Three countries (Belgium, Finland and Sweden) activated or recalibrated risk weights for RRE exposures.

**Borrower-based measures aim to address risks related to lending dynamics and have been implemented by several countries with high household credit growth or indebtedness.**

Mortgage lending grew strongly in many countries over the course of 2018. While this was the case mostly for economies with low levels of indebtedness, there were several situations where both high household credit growth and high indebtedness were present. Measures targeting borrower resilience are particularly suitable for addressing flow risks like pronounced lending dynamics, but in countries where indebtedness is relatively high they can also ensure a higher quality of loans and act as automatic stabilisers of debt levels.

**Chart 50**  
**Real estate-related measures in countries which activated or recalibrated policies in 2018**



Source: ESRB.

Notes: \* CCyB and SyRB buffers are not measures targeting CRE or RRE risks directly, but have been cited by national authorities as also tackling such risks, among other vulnerabilities. For CRE risks, the reasons for implementing the CCyB and SyRB were strictly those reflected in the [Report on vulnerabilities in the EU commercial real estate sector](#), ESRB, November 2018. For Poland, the soft DSTI limit in place applies to all loans extended to households, not just RRE-related loans.

**In addition to borrower-based measures, countries relied on the CCyB, the SyRB and national flexibility measures under Article 458 of the CRR to address real estate-related risks.**

In the review period, Sweden introduced a risk weight floor for Swedish mortgages under Article 458 of the CRR, which replaced an earlier Pillar 2 requirement. The measure consists of a credit institution-specific minimum level of 25% for the average risk weight on Swedish housing loans applicable to credit institutions that have adopted the IRB approach. The measure is intended to maintain the current level of capital requirements for mortgage exposures in Sweden and to



ensure a level playing field in the Swedish mortgage market by counteracting potential regulatory arbitrage and leakages.<sup>60</sup> The ESRB issued a positive opinion on the measure.<sup>61</sup> In April 2018 Belgium introduced a risk weight add-on for retail exposures secured by residential immovable property located in Belgium for locally authorised credit institutions using the IRB approach. The add-on has two components: a flat risk weight add-on of 5 percentage points and a proportionate risk weight add-on of 33% of the average of the credit institution's microprudential risk weight. The ESRB also issued a positive opinion<sup>62</sup> on this national flexibility measure. Both countries requested reciprocation of their respective measures (see Sections 2.1.2 and 2.1.3).

### 2.3.4 Systemic risk buffer

**The systemic risk buffer is increasingly being used in EEA countries.** In all EEA countries, with the exception of Ireland and Italy, this instrument is now available for use by the macroprudential authority. By the end of 2018 a SyRB was active or announced in 16 countries.<sup>63</sup> Finland was the only EEA country to activate a new SyRB in 2018, and most countries left their SyRB rate unchanged in 2018. Under EU law, the SyRB needs to be reviewed at least every second year. As this instrument is used to address long-term non-cyclical systemic risks, the modalities for the use of the buffer would not be expected to change frequently.

**The implementation of the SyRB varies widely across countries.** EEA countries have been following different arrangements in terms of the buffer level (see Chart 51), scope (all banks or a selection of banks; all exposures or domestic exposures; solo or consolidated), type of risks addressed (e.g. macroeconomic imbalances, external risks, banking system features, real estate risk, NPL risk, systemic risk resulting from O-SIIs) and phase-in periods (with or without). This highlights the great flexibility of the SyRB in addressing a wide variety of long-term non-cyclical risks.

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<sup>60</sup> Given the re-domiciliation by Nordea of its headquarters from Sweden to Finland, there is the possibility that the institution will organise its operations through branches. Under these circumstances, using Article 458 of the CRR facilitates reciprocation among macroprudential authorities.

<sup>61</sup> **Opinion of the European Systemic Risk Board of 21 June 2018 regarding Swedish notification of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (ESRB/2018/4).**

<sup>62</sup> **Opinion of the European Systemic Risk Board of 16 February 2018 regarding Belgian notification of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (ESRB/2018/2).**

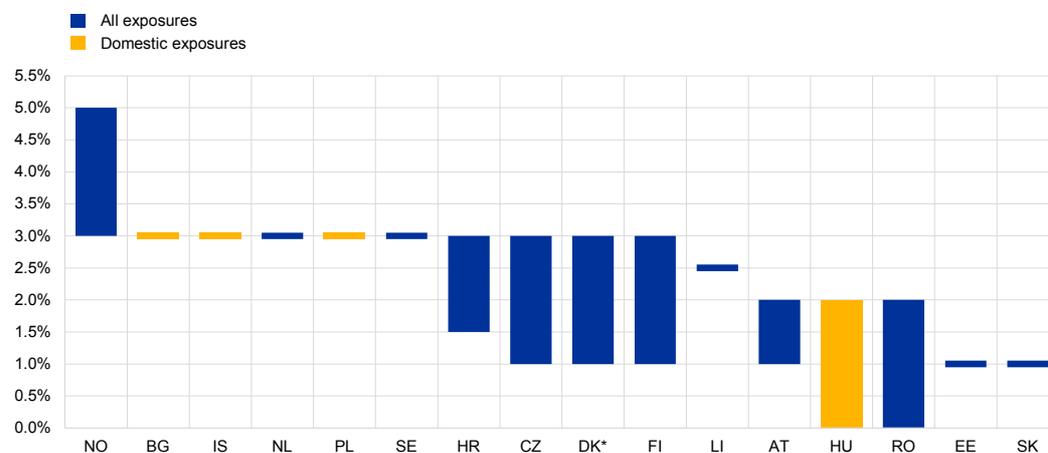
<sup>63</sup> The 16 countries include 13 EU Member States (Austria, Bulgaria, Croatia, the Czech Republic, Denmark, Estonia, Finland, Hungary, the Netherlands, Poland, Romania, Slovakia and Sweden), Iceland, Liechtenstein and Norway.



Chart 51

### The range of the fully phased-in SyRB rates in Europe

(percentages)



Source: ESRB.

Notes: The chart depicts the range of the fully phased-in SyRB rates by country, including those that have been announced, but are not yet fully phased-in. \* For Denmark, the SyRB applied in the Faroe Islands is not taken into account.

## 2.3.5 Buffers for systemically important institutions

**Compared with 2017, the annual O-SII identification exercise<sup>64</sup> resulted in changes to the list of O-SIIs or O-SII buffer rates in 17 EU Member States.** In total, 198 SIIs were identified by designated authorities in the EEA, four fewer than in the previous year. The number of SIIs in each country ranges from 15 in the United Kingdom to two in Norway (see Chart 52). All the SIIs are credit institutions, apart from five investment firms identified as O-SIIs in Cyprus. The list of identified SIIs changed in 15 Member States (see Chart 52), one more than in 2017. These changes are often the result of corporate restructurings (mergers or changes of subsidiaries into branches), changes in the systemic risk score of institutions or changes in the methodology for setting the O-SII buffers.<sup>65</sup>

**In 2018 the number of EU-based G-SIIs decreased again, by one institution to 11 in total.**

After being removed from the list in 2017, Groupe BPCE was added back to the list of G-SIIs in 2018. Two other institutions, Nordea and Royal Bank of Scotland, were removed from the G-SII list.<sup>66</sup> The 11 EU-based G-SIIs are located in the five largest Member States (France, Germany, Italy, Spain and the United Kingdom) or the Netherlands. All G-SIIs have also been identified as O-SIIs in their home markets.

<sup>64</sup> According to Article 131(6)(b) and (12) of the CRD IV, designated authorities should review the identification of the O-SIIs and G-SIIs and the corresponding buffer rates at least annually.

<sup>65</sup> In five Member States, the national designated authorities amended the methodology to identify O-SIIs or set the O-SII buffer. The most prominent examples of changes in methodology are the changes implemented in Sweden and Finland after Nordea moved its headquarters.

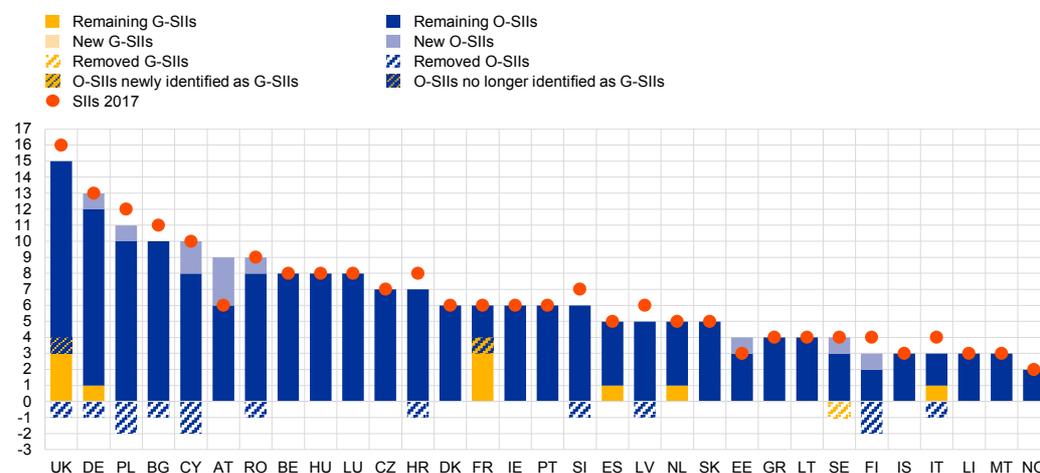
<sup>66</sup> Please note that the identification was based on data at the end of 2017, so the removal of Nordea from the list is not connected to the move of its headquarters from Sweden to Finland on 1 October 2018.



Chart 52

**Number of systemically important institutions by EEA country**

(number, as notified to the ESRB in 2018)



Source: ESRB.

Notes: In the case of qualification as both a G-SII and an O-SII, the institution has been allocated to the G-SII category. In the 2018 sample all G-SIIs were also classified as O-SIIs. Additions and removals distinguish between individual institutions to avoid double counting. When an O-SII is newly identified or no longer identified as a G-SII, it is shifted in between the two coloured bars with the diagonal pattern indicating the previous status. The removals result from the fact that an institution previously identified as an O-SII was not identified as an O-SII in 2018 due to either a decrease in its relative significance, its acquisition by or merger with another institution, or its liquidation or resolution. The changes shown result from notifications received in 2018, regardless of the date of application. The G-SII/O-SII identifications are to take effect immediately or in the near future.

**Heterogeneity in the calibration of the O-SII buffer across countries is continuing, which can only partially be explained by the differences in bank significance (see Chart 53).**

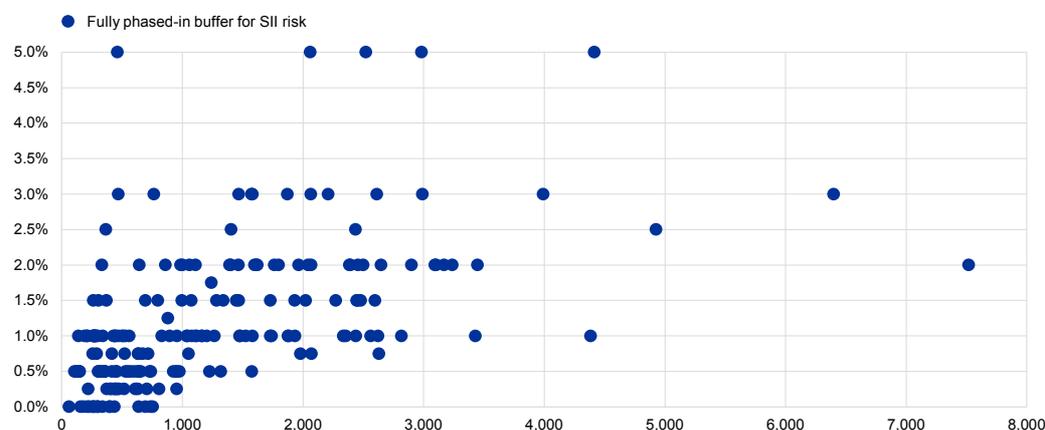
There are several reasons which could explain some of the differences in the O-SII buffer calibration across countries. First, the O-SII score is calculated with reference to the domestic economy. Therefore, a given O-SII score has a different relevance in a highly concentrated banking system than in a fragmented one. Second, Member States use a different methodology to calibrate the O-SII buffer rates, leading to fundamental differences in buffer levels. On the other hand, legal restrictions on the level of the O-SII buffer should limit the scope for cross-country heterogeneity. However, they might also prevent some Member States from setting the O-SII buffer at the desired level and thus may leave some systemic risk unaddressed. In some of these countries the authorities use other instruments to reach the target buffer level for O-SIIs. Possible measures to tackle risks stemming from SIIs are the O-SII buffer, the G-SII buffer, the SyRB and Pillar 2 measures.



Chart 53

### Relationship between the O-SII score and the fully phased-in buffer targeting SII-specific risks

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



Source: ESRB.

Notes: Data are based on notifications received in 2018. The buffer targeting SII-specific risks includes the O-SII buffer, the G-SII buffer and the SyRB, while Pillar 2 measures are included only if the national designated authority has publicly stated that the measures are used to target such risks. The O-SII/G-SII buffer is cumulated with the SyRB in accordance with the CRD IV provisions.

## 2.3.6 Other measures

**France's Haut Conseil de Stabilité Financière adopted a national measure in accordance with Article 458 of the CRR to limit concentration risk in banks' exposures to highly indebted large French NFCs.** The measure aimed to enhance banks' resilience and to reduce the risk of further increases in the debt of the most-indebted large French NFCs. The measure consisted in tightening limits for large exposures of French systemically important credit institutions to highly indebted large NFCs that have their registered office in France to 5%.<sup>67</sup> This was the first time an authority had asked to use the option under Article 458(2)(d)(ii) of the CRR to set stricter large exposure limits. The measure came into effect on 1 July 2018. As per CRR requirements, the ESRB issued a positive opinion on the use of Article 458 of the CRR. The opinion took into account that the changes in the intensity of systemic risk were a threat to financial stability at the national level. The ESRB believes that the measure will not entail disproportionate adverse effects on all or parts of the financial system in other Member States.<sup>68</sup>

**Cyprus imposed tighter lending requirements on institutions so as to prevent a cliff effect following the abolition of national liquidity requirements, which were terminated under the CRR at the end of 2017.** The measure was based on Article 458 of the CRR and took the form of a liquidity add-on in addition to the fully phased-in liquidity coverage requirement (LCR). The

<sup>67</sup> The measure limits the large exposures of French SIs to 5% of their eligible capital for exposures to NFCs or a group of connected NFCs having their registered office in France and assessed to be large and highly indebted.

<sup>68</sup> **Opinion of the European Systemic Risk Board of 9 March 2018 regarding French notification of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (ESRB/2018/3).**



measure was introduced on 1 January 2018 for a duration of 12 months and phased out over the course of the year, expiring on 31 December 2018. This was achieved through the implementation of a macroprudential liquidity buffer under Article 458 of the CRR. As per CRR requirements, the ESRB issued an opinion on the use of Article 458 of the CRR, noting that large cliff effects following the transition to the new liquidity regime could pose financial stability risks and thus justified the measure.<sup>69</sup>

**Hungary introduced a cap on interbank funding for banks to target excessive reliance on funding from financial corporations.** Based on data available to the Magyar Nemzeti Bank, the cap would not affect the vast majority of institutions. However, the cap should act as a barrier to the build-up of excessive reliance on wholesale funding, which proved to be volatile and an important potential channel of contagion during the last financial crisis. The interbank funding ratio limits funds from financial corporations. It is weighted according to currency and residual maturity and divided by the bank's total balance sheet, excluding own funds. The cap is limited to 30% and there is a de minimis rule whereby only banks with a total balance sheet of HUF 30 billion or more have to comply with the rule. The measure was activated from 1 July 2018.

**Hungary also adjusted its foreign exchange funding adequacy ratio (FFAR) to align it with the future net stable funding ratio (NSFR) requirement.** The FFAR has been in place in Hungary since 2012 to better match the assets and liabilities of Hungarian credit institutions in foreign currencies. Since then, the currency structure of the balance sheet and the funding business model of Hungarian credit institutions have changed, following the conversion of foreign currency mortgages. In addition, the European Commission proposed amendments to the CRR in 2016, including the EU-wide implementation of the NSFR requirement adopted by the Basel Committee on Banking Supervision in 2014.<sup>70</sup> Without altering the required level, the amendments changed the formula for the calculation of the FFAR. The amended FFAR entered into force on 1 July 2018.

**In Slovenia, additional reporting requirements were introduced and a binding measure was changed to a non-binding recommendation.** Banks have been required to report daily on their liquidity ratio since 1 January 2018. In addition, the gross loan-to-deposit flows (GLTDF) ratio, which was implemented in 2014 to prevent drastic reductions in the loan-to-deposit ratio and, ultimately, in lending, and required that the GLTDF ratio (annual ratio) did not fall below zero in any reporting quarter, was changed to a non-binding recommendation as of January 2018 owing to favourable developments, such as the stabilisation of credit activity and the loan-to-deposit ratio.

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<sup>69</sup> **Opinion of the European Systemic Risk Board of 7 December 2017 regarding Cypriot notification of a stricter national measure based on Article 458 of Regulation (EU) No 575/2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms (ESRB/2017/5).**

<sup>70</sup> See Proposal for a Regulation of the European Parliament and of the Council 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 and amending Regulation (EU) No 648/2012 (COM (2016) 850 final) and **Basel III: the net stable funding ratio**, Basel Committee on Banking Supervision, October 2014.



## 2.3.7 Reciprocating actions taken by Member States

### 2.3.7.1 National flexibility measure in Finland

**The ESRB recommended reciprocation of a Finnish national flexibility measure under Article 458 of the CRR in January 2018.** Finanssivalvonta activated a credit institution-specific average risk weight floor of 15% for IRB credit institutions, at the portfolio level, for residential mortgage loans secured by housing units in Finland in October 2018. The ESRB issued its recommendation to other Member States to reciprocate the measure in January 2018. The ESRB recommended a maximum institution-specific materiality threshold of €1 billion to guide the application of the de minimis principle.

**By the end of March 2019 eight Member States had reciprocated the Finnish measure.**

Sweden, the Member State with the largest exposures to Finnish real estate, reciprocated the measure in December 2017, even before the ESRB had issued its recommendation. Denmark, which also has institutions with material exposures to the Finnish market, reciprocated the measure in April 2018. Belgium, Croatia, France, Lithuania, Norway and Portugal also reciprocated the measure as a matter of principle, although their Finnish exposures were insignificant. France, Lithuania and Portugal reciprocated the measure without a materiality threshold. All other reciprocating countries exempted individual institutions with exposures below the €1 billion materiality threshold.

### 2.3.7.2 Systemic risk buffer in Estonia

**By the end of March 2019, 13 Member States had reciprocated the Estonian SyRB.** These included Sweden, Denmark and Finland, the three Member States with the largest exposures to Estonia. Finland reciprocated the Estonian SyRB in 2018 after incorporating the SyRB into national legislation.<sup>71</sup> Poland and Slovenia reassessed and confirmed their non-reciprocation of the Estonian SyRB in 2018, applying the de minimis principle. Croatia required the application of a 1% SyRB rate to its banks' Estonian exposures where the risk-weighted credit risk exposure is higher than 2%. Due to Estonia's recalibration of the SyRB, which included a de minimis threshold of 1% of total risk weighted credit risk exposures (i.e. €250 million), Croatia no longer fulfilled all the criteria to be considered as reciprocating.

### 2.3.7.3 National flexibility measure in Belgium

**In the review period Denmark, France, Lithuania, the Netherlands and Portugal reciprocated the Belgian measure.** The three-month deadline for implementation started on 21 September 2018 when the ESRB recommendation<sup>72</sup> was published in the Official Journal of the European

<sup>71</sup> See Section 2.2 of [A Review of Macroprudential Policy in the EU in 2017](#), ESRB, April 2018, regarding the introduction of the SyRB in Finland.

<sup>72</sup> [Recommendation of the European Systemic Risk Board of 16 July 2018 amending Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures \(ESRB/2018/5\)](#) (OJ C 338, 21.9.2018, p. 1).



Union. France and the Netherlands, the Member States with the largest exposures to Belgian real estate, reciprocated the measure in October 2018 and March 2019 respectively, with France doing so without a materiality threshold and the Netherlands following the €2 billion materiality threshold as laid out in Recommendation ESRB/2018/5. Denmark and Portugal reciprocated the Belgian measure as a matter of principle and without any materiality threshold. Nine Member States (Estonia, Germany, Greece, Ireland, Italy, Romania, Slovenia, Spain and the United Kingdom) notified the ESRB that they would not reciprocate the Belgian measure based on the de minimis principle.

#### **2.3.7.4 A risk weight floor for residential real estate exposures in Sweden**

**Finland voluntarily reciprocated the Swedish measure with effect from 31 December 2018 before the ESRB recommended its reciprocation.** Denmark and Finland are the two countries with significant exposures to the Swedish mortgage market. The measure had been in force in Sweden since 2013 under Pillar 2 and Denmark had already reciprocated the previous risk weight floor by using Pillar 2. Finland reciprocated the national flexibility measure that replaced the Pillar 2 measure.

#### **2.3.7.5 Tighter large exposure limits for NFCs in France**

**By the end of March 2019, no country had reciprocated the French measure.**<sup>73</sup> Credit institutions from eight countries other than France reported significant exposures to French NFCs as at the end of June 2018. The highest exposures were reported by the United Kingdom, followed by Germany, the Netherlands, Italy, Spain, Belgium, Luxembourg and Ireland. However, the data available to the ESRB cannot distinguish to what extent these are large exposures to individual NFCs or NFC groups of more than €300 million, which are targeted by the French measure.

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<sup>73</sup> Belgium and Denmark reciprocated the French measure in April 2019, i.e. after the review period (up to the end of March 2019) considered in this report.



## 3 Institutional framework: implementation and accountability

**This final section provides an overview of the action taken to enhance the ESRB's accountability.** First, it explores how compliance with the ESRB's recommendations is assessed by examining the results of the follow-up processes carried out in the review period. Second, it gives an account of the ESRB's reporting to the European Parliament, including the presentations given by the Chair of the ESRB at the hearings before the Committee on Economic and Monetary Affairs, and of other institutional aspects. Third, it discusses the review of the mission and organisation of the ESRB. Finally, the section describes some of the events that the ESRB organised over the review period.

### 3.1 Assessment of compliance with ESRB recommendations

**ESRB recommendations are not legally binding, but they are subject to an “act or explain” regime.** This means that the addressees of recommendations – such as the EU as a whole, Member States, the ESAs, the national supervisory authorities and the European Commission – have an obligation to communicate to the ESRB and the EU Council the actions that they have taken to comply with a recommendation, or to provide adequate justification in the case of inaction. In order to provide guidance to addressees on how to assess the implementation of ESRB recommendations, the “Handbook on the assessment of compliance with ESRB recommendations”<sup>74</sup> was published in July 2013 and later revised in April 2016.

**The following subsections outline the three compliance assessments undertaken over the review period.** The compliance assessments for Recommendation ESRB/2012/1 on money market funds and Recommendation ESRB/2014/1 on guidance for setting countercyclical buffer rates were finalised, whereas the compliance assessment for Recommendation ESRB/2015/2 on the assessment of cross-border effects of and voluntary reciprocity for macroprudential policy measures is still ongoing.

#### 3.1.1 Assessment of compliance with Recommendation ESRB/2012/1 on money market funds

**This ESRB recommendation aims to reduce the systemic risks arising from money market funds.** A recommendation was addressed to the European Commission to ensure, through EU legislation, the implementation of the change from a constant to a fluctuating net asset value model, the introduction of stricter liquidity requirements, the public disclosure of specific information by MMFs and the adoption by MMFs of enhanced obligations for reporting to supervisory authorities.

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<sup>74</sup> [Handbook on the assessment of compliance with ESRB recommendations](#), ESRB, April 2016.



**The overall assessment of the recommendation was divided into two stages.** In the first stage, the ESRB considered the compliance of the legislative proposal of the European Commission with the recommendation. In the second stage, the ESRB analysed the MMF Regulation<sup>75</sup>, which was adopted under the ordinary legislative procedure. Overall, the assessment team found the European Commission's proposal for a regulation to be largely compliant with the recommendation. The second stage of the assessment should not be considered as a formal assessment, given that the European Parliament and the EU Council are not addressees of the recommendation. Instead, at this stage only a follow-up evaluation of the content of the MMF Regulation was conducted, taking into consideration the provisions set out in the recommendation. This follow-up evaluation concluded that, if this had been a formal compliance assessment, the MMF Regulation would be largely compliant.

### **3.1.2 Assessment of compliance with Recommendation ESRB/2014/1 on guidance for setting countercyclical buffer rates**

**This recommendation provides guidance on setting countercyclical buffer rates, with the aim of establishing a common approach across the EU.** The role of the ESRB in providing such guidance is set out in Article 135 of the CRD IV. In particular, the recommendation provides guidance to designated authorities by listing a set of principles which are to be adhered to when assessing and setting the appropriate countercyclical buffer rates applicable in the respective Member States. Moreover, it provides guidance on other topics of relevance when setting a countercyclical buffer rate: (i) the measurement and calculation of the credit-to-GDP gap; (ii) the calculation of the benchmark buffer rate and the buffer guide; (iii) the variables that indicate the build-up of system-wide risk associated with periods of excessive credit growth; and (iv) the variables that indicate that the countercyclical buffer should be maintained, reduced or fully released.

**The deadline for addressees to report to the ESRB, the EU Council and the European Commission on the level of implementation of the recommendation was 30 June 2016.** The assessment of compliance was concluded in February 2019 following extensive work of the assessment team appointed to evaluate the implementation of the recommendation and further interaction with the addressees of the recommendation. The assessment revealed that, overall, despite the limited number of decisions to set positive countercyclical buffer rates (or to release the buffer), addressees have accomplished a timely and comprehensive operationalisation of the countercyclical buffer. Notwithstanding the positive outcome of the assessment, further improvements are still possible, for instance as regards the monitoring of variables to inform the maintenance or reduction of countercyclical buffer rates, methodologies for the analysis of cyclical systemic risks, the publication of data accompanying quarterly announcements of countercyclical buffer rate decisions and communication strategies.

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<sup>75</sup> **Regulation (EU) 2017/1131 of the European Parliament and of the Council of 14 June 2017 on money market funds** (OJ L 169, 30.6.2017, p. 8).



The summary compliance report containing more detailed information on the implementation of the recommendation was published in March 2019.<sup>76</sup>

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

**This recommendation aims to promote a coordinated policy approach across borders within the EU and to prevent financial service providers from circumventing national macroprudential measures.** In particular, the recommendation focuses on the assessment of cross-border effects of relevant activating authorities' own macroprudential policy measures, ahead of the request for reciprocation. Moreover, it sets out the procedures to be followed both when submitting a request for reciprocation and when giving notification of reciprocation of other relevant authorities' macroprudential policy measures. Finally, the recommendation contains a continuously updated list of macroprudential policy measures adopted by other relevant authorities and recommended by the ESRB for reciprocation.

**The assessment of the follow-up to the recommendation started in the first quarter of 2018.**

The assessment is based on the information provided by the addressees by 30 June 2017. The exercise is ongoing and is expected to be completed in the course of 2019.

## 3.2 Reporting to the European Parliament and other institutional aspects

### 3.2.1 Reporting to the European Parliament

**The ESRB reports regularly to the European Parliament on its activities pursuant to Article 19 of the ESRB Regulation.**<sup>77</sup> In line with the ESRB's accountability and reporting obligations, the Chair of the ESRB attends hearings before the Committee on Economic and Monetary Affairs of the European Parliament (ECON). These hearings are public and are transmitted via a webcast accessible on the ESRB's website.

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

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<sup>76</sup> See **Summary Compliance Report on Recommendation ESRB/2014/1**, ESRB, May 2019.

<sup>77</sup> **Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macro-prudential oversight of the financial system and establishing a European Systemic Risk Board** (OJ L 331, 15.12.2010, p. 1).



**At the hearings, the ESRB Chair presented policy initiatives that have been adopted in the course of the year, with a view to providing MEPs with first-hand information on the underlying rationale for such initiatives.** The main points of the three most recent hearings are summarised below.

**At the hearing before ECON on 9 July 2018, the ESRB Chair updated the MEPs on the most recent developments in macroprudential policy at the national level, focusing on the use of the countercyclical capital buffer and instruments targeting vulnerabilities in the real estate sector.** The ESRB Chair also highlighted the main features of the ESRB recommendation aimed at addressing liquidity and leverage risks in investment funds,<sup>78</sup> directed at two ESRB member institutions: the European Securities and Markets Authority (ESMA) and the European Commission. The ESRB Chair explained that the ESRB saw the need for ESMA to provide supervisory authorities with guidance on applying the macroprudential elements already in the regulatory framework. At the same time, the regulatory framework needed to be enhanced and, to this end, the ESRB recommended that the European Commission propose some new legislative initiatives.

**At the hearing on 26 November 2018, the ESRB Chair focused on two topics: the findings of the ESRB work on the commercial real estate sector<sup>79</sup> and the ESRB's proposals regarding macroprudential tools for insurers.<sup>80</sup>** The ESRB Chair noted that while the increasing share of cross-border and non-bank financing of commercial real estate has some positive aspects, in particular as regards overall risk sharing, it can also open up new channels for shocks to be transmitted to the financial sector and the real economy. Macroprudential authorities seeking to address vulnerabilities related to commercial real estate have various instruments at their disposal, although these concentrate on the banking sector. Therefore, the ESRB Chair stressed the need to develop appropriate macroprudential tools for beyond the banking sector. As regards the ESRB proposals regarding macroprudential tools for (re)insurers, the ESRB Chair highlighted that the authorities should have at their disposal an appropriate macroprudential toolkit to target systemic risks. Such a toolkit could, for example, include time-varying countercyclical capital requirements or instruments targeting vulnerabilities in the real estate sector.

**At the hearing on 28 January 2019, the ESRB Chair reflected on what had been achieved in the macroprudential policy area, discussing how authorities use different tools, and highlighted remaining challenges.** As regards the latter, the ESRB Chair called for greater progress on incorporating macroprudential tools for non-banks into the EU legal framework. He also stressed that, in order to monitor the financial system, the authorities need to have access to high-quality, detailed and granular transaction data and be able to link data across markets, instruments and counterparties. He also highlighted the main findings of the ESRB report on macroprudential approaches to non-performing loans.<sup>81</sup>

**In addition to the public hearings, the ESRB Chair holds confidential discussions on the work of the ESRB with the Chair and Vice-Chairs of ECON, when appropriate.** Furthermore, a delegation from ECON, namely Ms Pervenche Berès and Mr Burkhard Balz, rapporteurs for the

<sup>78</sup> **Recommendation of the European Systemic Risk Board of 7 December 2017 on liquidity and leverage risks in investment funds (ESRB/2017/6)** (OJ C 151, 30.4.2018, p. 1).

<sup>79</sup> **Report on vulnerabilities in the EU commercial real estate sector**, ESRB, November 2018.

<sup>80</sup> **Macroprudential provisions, measures and instruments for insurance**, ESRB, November 2018.

<sup>81</sup> **Macroprudential approaches to non-performing loans**, ESRB, January 2019.



review of the European System of Financial Supervision, attended the ESRB General Board meeting in June 2018.

### 3.2.2 Other institutional relations

**The ESRB held its annual meeting with the Committee of European Audit Oversight Bodies and statutory auditors of EU-based globally systemically important financial institutions (G-SIFIs) on 15 and 16 November 2018.** The meeting is required by EU law in order to inform the ESRB of sectoral developments or any significant developments at G-SIFIs. The discussion focused on the following topics: (i) the implementation of IFRS 9; (ii) the valuation of assets; (iii) the implications of climate change for the insurance sector; (iv) technology-related risks; and (v) key audit matters.

**The ESRB cooperated with the European Court of Auditors (ECA) on its performance audits of EIOPA and the EBA.** The ESRB cooperated with the ECA in the context of its performance audits of EIOPA<sup>82</sup> and the EBA<sup>83</sup> regarding the provision of the adverse scenarios for the 2016 EU-wide insurance stress test and the 2018 EU-wide banking stress test, respectively. While the ESRB was not the auditee in either of the audits, it contributed by providing supporting evidence to help ensure the factual correctness of the ECA's findings on the adverse scenarios. This evidence was provided through on-site information-gathering meetings and video conferences and in the form of relevant documentation.

### 3.2.3 The institutional framework

**The organisational structure of the ESRB comprises a General Board, a Steering Committee, an Advisory Scientific Committee (ASC), an Advisory Technical Committee (ATC) and a Secretariat.** The ESRB is currently chaired by the President of the ECB, Mario Draghi. During the review period, the Chair of the ATC was Philip R. Lane, Governor of the Central Bank of Ireland. Professor Javier Suarez chaired the ASC and Professor Marco Pagano and Professor Richard Portes were the Vice-Chairs of the ASC.

#### Box 2 Advisory Scientific Committee

**In May 2018, the ESRB issued a call for members of the ASC, which started to work under its new composition in May 2019.** Anticipating that the term of many members of the ASC would come to an end in the second half of 2018 or the first half of 2019, the ESRB decided to issue a call for expressions of interest to be appointed as members of the ASC. The General Board decided at its meeting in September 2018 on the new members to appoint to the ASC as well as on those who should join the reserve list. The ASC started work in its new composition in May 2019.

<sup>82</sup> See the [ECA's website](#).

<sup>83</sup> See the [ECA's website](#).



**During the period covered by the report, the ASC continued its contribution to the discussions on systemic risk in the EU and its work on research-related activities.** In October 2018, the ASC published a report on the conceptual foundations for a macroprudential approach to non-performing loans (NPLs), which responded to the concerns about the high level of NPLs in the EU after the global financial crisis.<sup>84</sup> In June 2019, the ASC published a report discussing the contribution of excessive regulatory complexity to systemic risk and possible ways to enhance it, in view of the existing significant complexity and uncertainty in the financial system.<sup>85</sup> A third ASC report was published in June 2019, focusing on the contribution of exchange-traded funds (ETFs) to systemic risk.<sup>86</sup> In terms of research-related activities, the ASC continued to run the ESRB Working Paper Series, with 24 papers published in 2018.

From 1 April 2018 to the end of March 2019 there were 24 active working groups within the ESRB. Overall, 96 meetings and 598 teleconferences were organised to perform the tasks assigned to them.

**The ECB supports the work of the ESRB in various ways. The day-to-day business of the ESRB is carried out by its Secretariat.** The Head of the ESRB Secretariat is Francesco Mazzaferro and the Deputy Head is Tuomas Peltonen. In accordance with Council Regulation (EU) No 1096/2010<sup>87</sup>, the ECB ensures the functioning of the Secretariat of the ESRB and thereby provides the ESRB with analytical, statistical, logistical and administrative support. In 2018 the ECB provided the ESRB with support in the form of 62.8 full-time equivalent (FTE) staff. Of these, 29 FTEs were employed within the Secretariat and 33.8 FTEs provided other forms of support. The direct costs incurred by the ECB amounted to €9.2 million. The indirect costs for other support services shared with the ECB (e.g. human resources, IT, general administration) are in addition to this amount. Over the same period, other member institutions of the ESRB provided approximately 49.9 FTEs for analytical support within the context of ESRB groups and ESRB group chair positions.

### 3.3 ESRB review

**As required by Article 20 of the ESRB Regulation, the European Parliament and the Council, on the basis of a report from the Commission<sup>88</sup>, have examined the ESRB Regulation to determine whether the mission and organisation of the ESRB needed to be reviewed, in**

<sup>84</sup> See Suárez, J. and Sánchez Serrano, A., “Approaching non-performing loans from a macroprudential angle”, *Reports of the Advisory Scientific Committee*, No 7, ESRB, September 2018.

<sup>85</sup> See Gai P., Kemp M., Sánchez Serrano, A. and Schnabel, I., “Regulatory complexity and the quest for robust regulation”, *Reports of the Advisory Scientific Committee*, No 8, ESRB, June 2019.

<sup>86</sup> See Pagano, M., Sánchez Serrano, A. and Zechner, J., “Can ETFs contribute to systemic risk?”, *Reports of the Advisory Scientific Committee*, No 9, ESRB, June 2019.

<sup>87</sup> Council Regulation (EU) No 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board (OJ L 331, 15.12.2010, p. 162).

<sup>88</sup> Report from the Commission to the European Parliament and the Council on the mission and organisation of the European Systemic Risk Board (ESRB) (COM (2014) 508 final).



**particular as regards the modalities for the designation of the Chair of the ESRB.**<sup>89</sup> A political agreement on the dossier was reached in April and the text of the amended regulation is expected to be published later this year. The co-legislators proposed targeted changes to the ESRB's mandate and governance in order to increase the ESRB's visibility, to enhance its accountability and transparency, and to address changes in the supervisory architecture and operating environment that have occurred since the ESRB's inception (such as the setting-up of the banking union and efforts to achieve a capital markets union). The main changes are briefly summarised below.

**The co-legislators decided that the ECB President will chair the ESRB on a permanent basis, noting that this has conferred credibility and authority on the ESRB and ensured that the ESRB can rely on the expertise of the ECB in the area of financial stability.** At the same time, they decided to strengthen the role of the first Vice-Chair. The Chair and first Vice-Chair of the ESRB shall jointly set up the meetings of the Steering Committee. Furthermore, the first Vice-Chair can represent the ESRB externally (see below).

**As regards the ESRB's mandate, the co-legislators noted that the ESRB is expected to monitor and assess risks to financial stability regardless of their origin, including the implications of monetary conditions.**<sup>90</sup> Emphasis is also put on risks and vulnerabilities stemming from technological change, as well as environmental and social factors. It is worth noting that the ESRB has already worked and continues to work on the financial stability implications of climate change and cyber risks (see Box 3).

**The ESRB Regulation has been amended so that the setting-up of the banking union is reflected in the ESRB's governance.** The Chair of the Supervisory Board of the ECB and the Chair of the Single Resolution Board have become non-voting members of the ESRB General Board. Corresponding adjustments were made to the membership of the Advisory Technical Committee. Furthermore, the co-legislators confirmed that the ECB, the national resolution authorities and the Single Resolution Board should be potential addressees of ESRB warnings and recommendations. Finally, the reference to the need for "a balanced representation of Member States overall and between those whose currency is the euro and those whose currency is not the euro" has been replaced with a reference to "the Member States which participate in the banking union and those which do not".

**The review introduced flexibility as regards the selection of the members of the ESRB General Board with voting rights.** When nominating their voting representative, Member States will be able to choose between the governor of the national central bank and a high-level representative of a designated authority in accordance with the CRD IV and the CRR where that designated authority has the leading role in financial stability in its area of competence. This rule has consequences for the composition of the electoral body for the elections of the four national members of the ESRB Steering Committee, as well as for the election of the first Vice-Chair ("elected by and from national voting members").

<sup>89</sup> This was carried out in the broader context of the review of the European System of Financial Supervision. See [Capital Markets Union: Creating a stronger and more integrated European financial supervisory architecture, including on anti-money laundering](#), European Commission, 1 April 2019.

<sup>90</sup> In November 2016 the ESRB published a report on [Macprudential policy issues arising from low interest rates and structural changes in the EU financial system](#).



**In order to strengthen the ESRB's visibility, the ESRB Chair is given the possibility to delegate tasks, such as those related to external representation,<sup>91</sup> to the first Vice-Chair or, if the first Vice-Chair is unavailable and where appropriate, to the second Vice-Chair or the Head of the ESRB Secretariat.** Several amendments enhanced the democratic accountability and transparency of the ESRB: (i) the General Board may decide to make an account of its deliberations public and/or hold press conferences after its meetings; (ii) the ESRB warnings and recommendations should, as a rule, be transmitted not only to the European Commission and the EU Council, but also to the European Parliament and the ESAs; and (iii) both the Advisory Scientific Committee and the Advisory Technical Committee should consult stakeholders, where appropriate, at an early stage and as widely as possible.

### Box 3

#### **Emerging systemic risks: climate-related risk and cyber risks**

**Climate change can affect the stability of the financial system.** The primary channels are physical risk (through the severity and frequency of natural disasters) and transition risk (as the economy reduces its carbon intensity). Macroprudential regulators should be aware of both risks and their potential impact on financial institutions' balance sheets and the macroeconomy. The ESRB was one of the first institutions to make this point in a report published by the Advisory Scientific Committee in 2016.<sup>92</sup> Since then, the issue has gained increased attention, with the Central Banks' and Supervisors' Network for Greening the Financial System being established at the end of 2017. Within the ESRB, analytical work has continued under the auspices of the Analytical Working Group. The focus has been on reviewing methodologies for assessing climate-related risks, developing risk indicators and identifying data gaps. The ultimate purpose of this work is to design and conduct a stress test concerning physical and transition risks and their implications for financial stability in the EU.

**Cyber risk is unique because of its nature and the speed at which an event can crystallise, the deliberate intent to cause major disruption, the potential scale of the shock and the high probability that a successful attack will occur.** Last year the ESRB established the European Systemic Cyber Group to consider such risks.<sup>93</sup> The group's work includes surveying national authorities to identify the cyber-related vulnerabilities most common in their individual financial systems. Such vulnerabilities warrant particular focus from regulatory authorities when assessing risks in their jurisdictions. Where relevant, the group drew upon and developed work undertaken in other international fora. It defined "systemic cyber risk" as the risk of disruption to financial services that is (i) caused by an impairment of all or parts of the financial system following a cyber incident and (ii) has the potential to have serious negative consequences for the real economy. The group developed a conceptual framework to help understand when and how a cyber shock could trigger a systemic crisis. The group is currently building on this framework, using scenario-based analysis to assess whether a systemic crisis is more likely to occur if particular transmission channels are

<sup>91</sup> Such delegation does not, however, extend to participation in public hearings and in discussions behind closed doors at the European Parliament.

<sup>92</sup> See "**Too late, too sudden: Transition to a low-carbon economy and systemic risk**", *Reports of the Advisory Scientific Committee*, No 6, ESRB, February 2016.

<sup>93</sup> See the ESRB **press release** dated 13 December 2018.



affected and/or whether certain cyber incidents are more likely to exhaust the absorptive capacity of the system. By bringing together the analysis of the common individual vulnerabilities with the conceptual framework, the group's work adds additional insight into cyber risks to that provided by other international initiatives and fora.

## 3.4 ESRB events

**In July 2018 the ESRB, the ECB and Banco de Portugal jointly held a workshop entitled “Advances in systemic risk analysis: theoretical and empirical approaches focussing on a cross-country perspective”.** The workshop was held under the aegis of the ESRB's Analysis Working Group (AWG) and the ECB's Macroprudential Analysis Group (MPAG). It was primarily aimed at providing an overview of the research done within both groups, but was opened to academics from outside the two institutions. Apart from the overview of the current research on systemic risk analysis in a cross-country setup, a main goal of the event was to identify methodologies that could be further applied in the AWG/MPAG analytical tools and products. The workshop included four thematic sessions, each covering different topics: (i) structural credit models, (ii) measuring credit cycles and credit excesses, (iii) composite indicators of cyclical systemic risks, and (iv) assessing risks from interconnectedness and contagion. The workshop provided interesting insights into the ongoing work in the key areas of systemic risk analysis, as well as a macroeconomic interpretation for optimal credit provision and measurement of cyclical risks.

**In October 2018 the ESRB, in conjunction with the ECB and the IMF, held a workshop entitled “Towards a framework for macroprudential stance”.** Consideration was initially given to how to develop and communicate an effective macroprudential strategy, as it was indicated that developing the underlying strategy for measuring the macroprudential stance is an integral first step. Subsequently, potential key elements of a macroprudential stance framework were proposed, considering what may currently be feasible and what would be desirable in the future after further development of the measurement of risk and policy effectiveness. Participants gained insights from the experiences of countries with challenges related to the implementation of macroprudential policies and with assessing the effectiveness and efficiency of macroprudential policies. Overall, a key takeaway from the workshop was that a great degree of complexity is involved in macroprudential policymaking which leads to difficulties in boiling down concepts to easily measurable and explainable rules. A challenge of future work on the macroprudential stance will be to find ways to show that policy decisions are not arbitrary, so as to gain the trust of the public and industry representatives.

**In December 2018 the ESRB held its annual workshop on stress testing dedicated to the topic “Future directions for macroprudential stress-testing”.** This workshop was the sixth of its kind and brought together staff from ESRB member institutions and practitioners from other jurisdictions, international organisations and the private sector, with a view to learning from each other's experiences and reflecting together on the opportunities and challenges that future developments in macroprudential stress testing may entail. The workshop also reflected on the progress made in the field of stress testing since the onset of the global financial crisis ten years ago. This included participants exchanging views and experiences on: (i) state-of-the-art



approaches to scenario design for different types of stress tests (e.g. climate stress tests); (ii) integrating stress tests into macroprudential and microprudential frameworks across the globe; and (iii) promising avenues for system-wide stress testing to better understand feedback effects within and between different parts of the financial system. The participants also considered how stress tests could play a role in supporting the calibration of macroprudential policy.

#### Box 4

#### ESRB Annual Conference on 27-28 September 2018<sup>94</sup>

**About 300 participants and more than 20 distinguished panellists and speakers contributed to a successful third ESRB Annual Conference.** The programme included keynote addresses, policy panel discussions, and thematic sessions where policymakers and top academics presented their views on topics related to macroprudential policy and financial stability.

Mario Draghi, Chair of the ESRB and President of the ECB, emphasised in his opening speech the important role the ESRB plays in supporting successful macroprudential policy in Europe, as it provides a forum to collectively discuss emerging risks and vulnerabilities. Moreover, authorities can learn from each other by sharing their experiences of using macroprudential instruments, thereby enabling more effective implementation.

Philip R. Lane, Governor of the Central Bank of Ireland, highlighted in his keynote address that financial stability risks and vulnerabilities should be addressed by macroprudential policies in a forward-looking and proactive manner: “When the sun is shining, prepare for a rainy day.”

One of the panel discussions focused on the potential threats that climate change can pose to financial stability, either due to the adverse impact of climate-related events on the economy or due to the transition risks associated with reducing carbon emissions. François Villeroy de Galhau, Governor of the Banque de France, explained that, while finance cannot solve all the climate-related issues, it could – with the right interventions – play a role in mitigating the financial stability implications. In particular, it was suggested that climate change scenarios could be translated into economic scenarios for stress-testing purposes.

A recurring issue that was raised at the conference was the increasing importance of non-bank finance, or shadow banking, for the funding of economic activities. Professor Richard Portes, Vice-Chair of the ESRB’s Advisory Scientific Committee, chaired a session entirely devoted to the discussion of financial stability risks emanating from the shadow banking sector as well as central clearing counterparties. The panel highlighted the key risks related to shadow banking activities, including interconnectedness, leverage, liquidity and concentration.

Policymakers’ ability to act hinges crucially on the availability of high-quality data, as was outlined by Mario Draghi and several other speakers. Data allow policymakers to identify, analyse and quantify emerging risks. Data also provide policymakers with the necessary knowledge to be able to target and calibrate their tools and to be aware of possible spillovers or attempts to circumvent regulations. Several speakers emphasised the importance of closing the data gaps which impede the monitoring of important aspects of the EU financial system. The derivatives data that have

<sup>94</sup> Information about the third ESRB Annual Conference can be found on the [conference website](#).



become available through the European Market Infrastructure Regulation (EMIR) are an important step in the right direction, but more action is required.

Finally, the 2018 ESRB Research Prize in memory of Ieke van den Burg was awarded to Kilian Huber for his research paper entitled “Disentangling the effects of a banking crisis: evidence from German firms and countries”,<sup>95</sup> which was presented at the conference.

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<sup>95</sup> See the ESRB [press release](#) of 11 October 2018.



# Annex 1

## Publications on the ESRB's website from 1 April 2018 to 31 March 2019

### Opinions

**26/06/2018**

Opinion of the European Systemic Risk Board of 21 June 2018 regarding Swedish notification of a stricter national measure based on Article 458 of the CRR (ESRB/2018/4) and related report

### Occasional papers

**23/04/2018**

Occasional Paper No 15 entitled "From the horse's mouth: surveying responses to stress by banks and insurers" by Jeroen Brinkhoff, Sam Langfield and Olaf Weeken

### ESRB reports

**18/03/2019**

The cyclical behaviour of the ECL model in IFRS 9

**31/01/2019**

CCP interoperability arrangements

**28/01/2019**

Macroprudential approaches to non-performing loans

**16/01/2019**

Expected credit loss approaches in Europe and the United States: differences from a financial stability perspective

**26/11/2018**

Report on vulnerabilities in the EU commercial real estate sector

**26/11/2018**

Macroprudential provisions, measures and instruments for insurance

**10/09/2018**

EU Shadow Banking Monitor, No 3, September 2018

**25/04/2018**

A Review of Macroprudential Policy in the EU in 2017



## Working papers

**22/03/2019**

Working Paper No 90 entitled “Effectiveness of policy and regulation in European sovereign credit risk markets: a network analysis” by Rebekka Buse, Melanie Schienle and Jörg Urban

**14/03/2019**

Working Paper No 89 entitled “The effect of possible EU diversification requirements on the risk of banks' sovereign bond portfolios” by Ben Craig, Margherita Giuzio and Sandra Paterlini

**04/03/2019**

Working Paper No 88 entitled “What drives sovereign debt portfolios of banks in a crisis context?” by Matías Lamas and Javier Mencía

**07/02/2019**

Working Paper No 87 entitled “Pockets of risk in European housing markets: then and now” by Jane Kelly, Julia Le Blanc and Reamonn Lydon

**15/11/2018**

Working Paper No 86 entitled “Systemic illiquidity in the interbank network” by Sam Langfield, Zijun Liu, Tomohiro Ota and Gerardo Ferrara

**15/10/2018**

Working Paper No 85 entitled “Structural credit ratios” by Benedetta Bianchi

**18/09/2018**

Working Paper No 84 entitled “Reconstructing and stress testing credit networks” by Amanah Ramadiah, Fabio Caccioli and Daniel Fricke

**16/08/2018**

Working Paper No 83 entitled “Bank resolution and public backstop in an asymmetric banking union” by Anatoli Segura and Sergio Vicente

**16/08/2018**

Working Paper No 82 entitled “A profit-to-provisioning approach to setting the countercyclical capital buffer: the Czech example” by Lukáš Pfeifer and Martin Hodula

**02/08/2018**

Working Paper No 81 entitled “The role of contagion in the transmission of financial stress” by Miguel C. Herculano

**02/08/2018**

Working Paper No 80 entitled “Implications of macroeconomic volatility in the Euro area” by Niko Hauzenberger, Maximilian Böck, Michael Pfarrhofer, Anna Stelzer and Gregor Zens

**19/07/2018**

Working Paper No 79 entitled “Lending standards and output growth” by Divya Kirti



**19/07/2018**

Working Paper No 78 entitled “Analyzing credit risk transmission to the non-financial sector in Europe: a network approach” by Christian Gross and Pierre Siklos

**02/07/2018**

Working Paper No 77 entitled “Cyclical investment behavior across financial institutions” by Yannick Timmer

**02/07/2018**

Working Paper No 76 entitled “Evaluating macroprudential policies” by Claudia M. Buch, Edgar Vogel and Benjamin Weigert

**18/05/2018**

Working Paper No 75 entitled “Insurers as asset managers and systemic risk” by Andrew Ellul, Chotibhak Jotikasthira, Anastasia Kartasheva, Christian T. Lundblad and Wolf Wagner

**15/05/2018**

Working Paper No 74 entitled “Regulating the doom loop” by Spyros Alogoskoufis and Sam Langfield

**13/04/2018**

Working Paper No 73 entitled “Sovereign risk and bank risk-taking” by Anil Ari



## Annex 2

# Review of the Capital Requirements Regulation and Directive

**The EU Council and the European Parliament agreed in December 2018 on the “banking package”, which encompasses amendments to the macroprudential provisions in the Capital Requirements Regulation and Directive (CRR/CRD).** These changes reflect the priorities outlined in the ESRB’s response to the European Commission’s public consultation on the review of the macroprudential policy framework and in its Opinion to the European Commission on structural macroprudential buffers.<sup>96</sup> The new CRR II/CRD V package<sup>97</sup> entered into force on 27 June 2019. A review clause requires the Commission to assess the macroprudential framework by mid-2022 and every five years thereafter.

**The amendments strengthen the ESRB’s role in the transmission of information on planned macroprudential measures.** The ESRB becomes the notification “hub” responsible for the dissemination of notifications to the Commission, the EBA and the competent and designated authorities of the Member States concerned, and its role in the coordination of macroprudential measures is accentuated.

**The main changes relating to macroprudential instruments are the following:**

- **The notification procedure for the CCyB has been simplified.** An official notification will only be required when the buffer rate is effectively changed during the quarterly assessment of the CCyB rate.
- **For G-SIIs, a leverage ratio buffer has been introduced** (equivalent to 50% of the risk-based G-SII buffer level) in line with the Basel III framework. The buffer is applied on top of the binding 3% leverage ratio requirement. Regarding the G-SII score methodology, an additional overall G-SII score has been introduced, which excludes the activities across the banking union in the cross-jurisdictional activity indicator. This may lead to the allocation of a G-SII to a lower bucket. This change reflects the advances in the cross-border bank resolution framework within the banking union.
- **With regard to the O-SII buffer, the caps on the rates for institutions and subsidiaries of O-SIIs have been raised.** Institutions can have an O-SII buffer of up to 3% (raised from 2%

<sup>96</sup> **ESRB response to the European Commission’s Consultation Document on the “Review of the EU Macro-prudential Policy Framework”**, ESRB, 24 October 2016; **Opinion to the European Commission on structural macroprudential buffers**, ESRB, December 2017; and **European Commission’s public consultation on the review of the EU macro-prudential framework**, European Commission, July 2016.

<sup>97</sup> **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) and **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, and Regulation (EU) No 648/2012** (OJ L 150, 7.6.2019, p. 1).



previously),<sup>98</sup> which may be exceeded under certain conditions if duly justified and approved by the Commission, taking into account the ESRB's opinion. The cap has also been raised for subsidiaries.<sup>99</sup>

- **The SyRB can be used more flexibly.** It can now be applied to four separate sectors (residential real estate, commercial real estate, exposures to NFCs excluding real estate and exposures to households excluding real estate) and specific subsets thereof.<sup>100</sup> Besides this, it remains possible to apply the SyRB to all exposures or just to domestic or foreign exposures, and multiple SyRBs are allowed to target different systemic risks. Flexibility has been increased by no longer referring to “long-term non-cyclical” systemic risks. The cumulative SyRB rate applicable to a subset of exposures can only exceed 5% if authorised by the Commission, taking into account the ESRB's and potentially also the EBA's opinion. At the same time, the SyRB's scope has been narrowed, excluding its application to risks that stem from systemically important institutions, to avoid overlap with the G-SII/O-SII buffers. This also justifies abolishing the “higher of” rule, so that G-SII/O-SII buffers and the SyRB become additive. As a safeguard, an overall cap of 5% for the cumulative SyRB and O-SII/G-SII buffer rates has been introduced, which can be exceeded with the approval of the Commission, also taking into account the ESRB's opinion. The notification procedure for the SyRB has been simplified, with only an information requirement if it is reduced. If the SyRB is increased, authorisations and additional coordination requirements only apply above certain thresholds. The “pecking order” for the activation of the SyRB, which is due to its residual nature, has been simplified. It has been clarified that the SyRB cannot be used to address risks which the CCyB can cover, nor can it cover risks specific to systemically important banks. The reciprocation mechanism has been clarified and the reciprocated SyRBs are cumulative with any domestically activated SyRB, if they address different risks. The higher buffer applies if the same risk is addressed.
- **The application of measures to address real estate risk (Articles 124 and 164 of the CRR) has been facilitated by clarifying the roles and responsibilities of competent and designated authorities.** Their scope has been made more flexible, with the possibility to apply them to one or more property segments located in one or more parts of a Member State's territory. Reflecting the macroprudential nature of these measures, the ESRB has been given a stronger role, with the EBA and the ESRB both being able to issue opinions on planned measures. An ESRB recommendation is foreseen regarding how to assess the adequacy of risk weights and loss-given-default parameters from the perspective of financial stability. The EBA will continue to develop regulatory technical standards on the assessment of risk weights and loss-given-default parameters. The aim is to ensure consistency across the EU without creating undue activation costs.
- **It is no longer possible to use Pillar 2 measures for macroprudential purposes,** as their institution-specific nature has been specified and their application has been streamlined.

<sup>98</sup> After having consulted the ESRB, the EBA shall report to the Commission by the end of 2020 the appropriate methodology for the design and calibration of O-SII buffer rates.

<sup>99</sup> The cap at the subsidiary level will be the lower of the parent O-SII buffer + 1% and 3% or a higher buffer rate authorised at the parent level.

<sup>100</sup> To be defined in future EBA guidelines and to be developed in cooperation with the ESRB.



- **Regarding national flexibility measures under Article 458 of the CRR, the prolongation of temporary measures has been facilitated**, by allowing an extension of up to two additional years each time. The scope for reciprocity has been clarified, explicitly including direct cross-border exposures of banking groups located in a different Member State to the activating Member State.



# Imprint

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