3

SYSTEMIC RISK AND PRUDENTIAL POLICY

Contemporaneous indicators of systemic financial stress have fallen significantly since the turmoil in the banking sector in March, which had more impact in the United States than in the euro area. Meanwhile in Spain the volume of bank lending has continued to decline, as funding costs have risen following the interest rate hikes made by the European Central Bank (ECB). This, together with high nominal growth, has helped to keep the Spanish credit-to-GDP gap, which is now in negative territory, on its downward path. The other complementary indicators used to calibrate the countercyclical capital buffer (CCyB) have also behaved moderately. These developments are consistent with the absence of signs of cyclical imbalances in the Spanish economy. Accordingly, it has been considered advisable to hold the CCyB rate at 0%.

In the real estate sector, the decline in loans for house purchase has gathered pace and the narrowing of interest rate spreads on new loans has begun to reverse. These factors, together with a slight tightening of credit standards, have helped to reduce the real estate market alert identified in previous FSRs. Nevertheless, the fact that house prices rose somewhat in Q2 – growing at a slightly faster pace than the Consumer Price Index (CPI) in year-on-year terms – means that continued sector monitoring is required.

Notable among the latest European regulatory and supervisory developments are the incorporation of the Basel III framework into European legislation, which is now complete, and the legislative proposals on bank crisis management and deposit insurance and the development of the digital euro. In the United States, in the wake of the banking sector turmoil in March, a significant prudential banking review is under way. Also, the Basel Committee has published a report on the implications for banking regulation and supervision of the turmoil experienced in the spring.

3.1 Analysis of risk indicators and systemic vulnerabilities

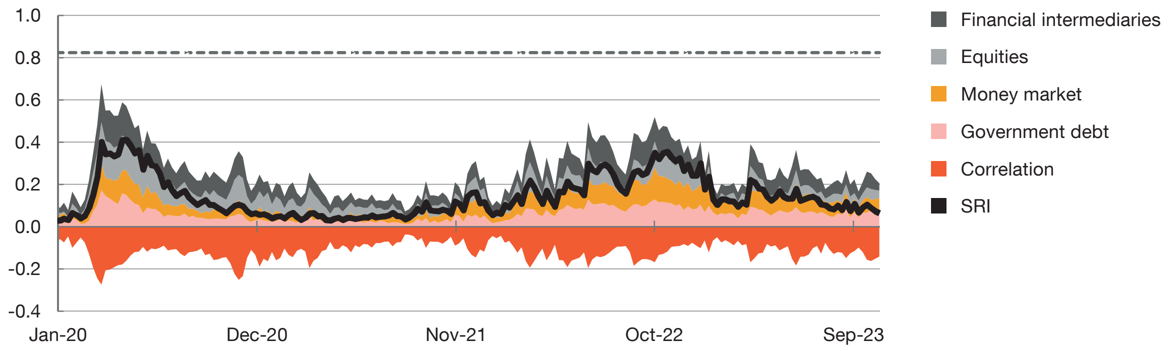
Following the global banking sector turmoil in March 2023, systemic stress in the financial markets has declined significantly. The Banco de España's systemic risk indicator (SRI), which draws on Spanish financial market information,[1] has fallen sharply since the spring and currently stands at levels similar to those seen before

1 This indicator comprises information on the four most representative segments of Spain's financial markets (the money, government debt and equity markets and financial intermediaries) and is designed to increase in value when tensions arise simultaneously in these four segments. For a detailed explanation of the SRI calculation methodology, see Box 1.1 of Financial Stability Report 5/2013.

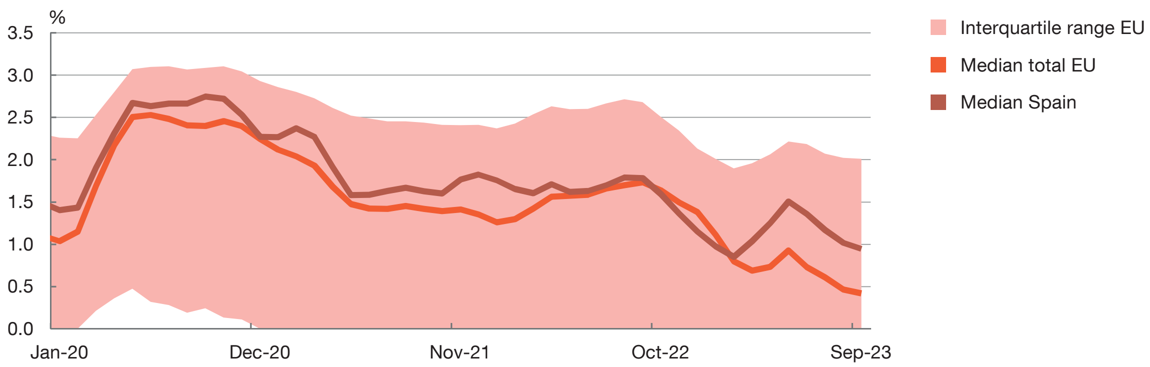
Chart 3.1

Financial market stress has declined since March 2023

3.1.a Systemic risk indicator (a)



3.1.b SRISK systemic risk indicator distribution (b)



SOURCES: Datastream, SNL Financial, INE and Banco de España.

a The systemic risk indicator (SRI) aggregates 12 individual stress indicators (including volatilities, interest rate spreads and maximum historical losses) from four segments of the Spanish financial system. The effect of cross-correlations is taken into account to calculate the SRI, such that it registers higher values when the correlation between the four markets is high and lower values when the correlation is low or negative. For a detailed explanation of this indicator, see Box 1.1 of the May 2013 FSR. The dotted line represents the SRI's historical maximum. Data updated as at 18 October 2023.

b The SRISK indicator is expressed as a percentage of each bank's total assets. The parameters used are 4.5% for capital requirements, 10% for the decline in the European equities index and 22 business days for the period over which the hypothetical market decline occurs; for more details see Carmen Broto, Luis Fernández Lafuerza and Mariya Melnychuk. (2022). "Do buffer requirements for European systemically important banks make them less systemic?". Documentos de Trabajo - Banco de España, 2243. The SRISK indicator for the months of 2023 Q3 is calculated based on 2023 Q2 assets and liabilities values, drawing on the stock price data of the corresponding month. The series have been smoothed using a three-month moving average. The interquartile range is defined as the difference between the 75th and 25th percentiles of the SRISK distribution for EU banks. Data updated as at 30 September 2023.

the start of the war in Ukraine (see Chart 3.1.a). All four financial segments captured by the SRI show lower stress levels. The systemic risk indicator (SRISK) has also declined,[2] after moving significantly higher in March (more so for Spanish banks than in the EU overall), and now stands below its end-2019 pre-pandemic levels (see Chart 3.1.b).

2 Christian Brownlees and Robert F. Engle. (2017). "SRISK: A Conditional Capital Shortfall Measure of Systemic Risk". *The Review of Financial Studies,* Vol. 30, pp. 48-79. This indicator measures the market value of the regulatory capital shortfall of an individual bank or the banking sector overall following a significant correction in the equity market. It is, therefore, a systemic risk metric, since the high cost of making up a capital shortfall for the banking sector could distort financial intermediation.

Liquidity risk in the banking sector has risen worldwide. Although the general systemic risk indicators suggest no alert, the present environment of tightening financial conditions entails greater liquidity risk. Indeed, the financial system shocks observed in recent quarters revealed stress in both market liquidity and funding liquidity.[3] For instance, the sovereign bond market stress in the United Kingdom in late 2022 exemplified market liquidity risk, while the runs on deposits at a number of US regional banks in March 2023[4] exemplified funding liquidity risk.

Spanish banks also face higher funding liquidity risk, in line with the European financial system overall. The Banco de España has developed a composite indicator to monitor this liquidity metric, covering three key dimensions: margin risk, redemption risk and rollover risk.[5] The last two are currently the most important ones, as they are more directly impacted by the effect of the interest rate hikes. Indeed, they are the main drivers of the recent deterioration in this indicator (see Chart 3.2).

The Spanish credit-to-GDP gap has moved into negative territory and remains on a downward path. This is on account of the growth in nominal GDP and the decline in lending. The credit-to-GDP gap thus continues to move further below the 2 percentage point (pp) reference threshold that signals the possible existence of credit cycle imbalances (see Chart 3.3). The output gap, which measures the difference between the actual level of economic activity and its potential growth, has been relatively steady in the recent periods, although it has moved closer to positive values. The worsening of global financial conditions is already having an adverse impact on economic growth in many European countries. Ultimately this will foreseeably also affect the Spanish economy, keeping the credit-to-GDP gap on its downward path and the output gap potentially around zero.

Nor do the indicators for monitoring sectoral credit cycles show signs of imbalance.[6] However, since the start of the monetary policy rate hiking cycle, both the volume and the intensity of households' consumer credit have risen slightly, although they remain below pre-pandemic levels.

The indicators of imbalances in house prices remain moderate and close to their equilibrium value, despite a slightly upward trend (see Chart 3.4). Despite

3 Liquidity can be defined in terms of "funding liquidity", related to banks' ability to obtain market funding, and "market liquidity", which is the ease with which financial assets can be sold on the markets with no significant impact on their price.

4 Some of these funds were captured by larger banks and by money market funds, so they remained in the financial system.

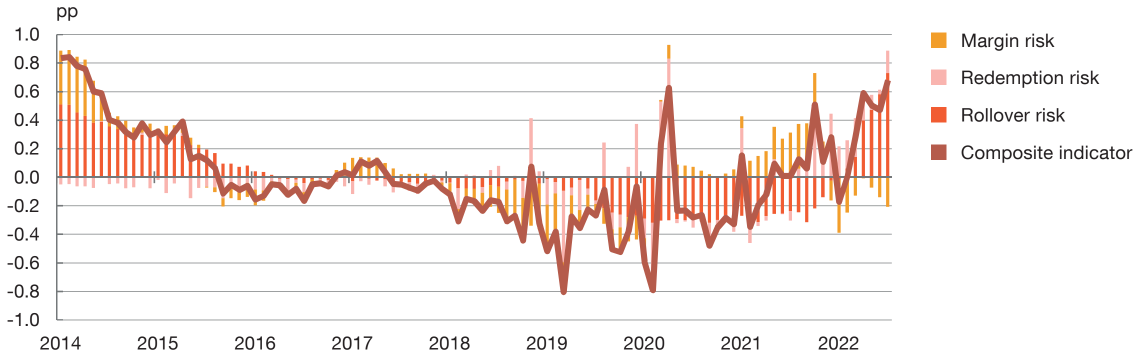
5 Margin risk is the risk of a change in value of the collateral provided and, therefore, in the haircut or margin; redemption risk is the risk of depositors withdrawing their funds; and rollover risk is the risk of maturing short-term funding being replaced or rolled over at a higher cost.

6 For a detailed description of the indicators used to monitor sectoral credit cycles, see Carmen Broto, Esther Cáceres and Mariya Melnychuk. (2022). "Sectoral indicators for applying the Banco de España's new macroprudential tools". *Financial Stability Review,* 42. Also, Box 3.1 of the Spring 2022 *Financial Stability Report.*

Chart 3.2

The interest rate rises are putting pressure on banks' funding liquidity risk

3.2.a Composite indicator of funding liquidity (a)



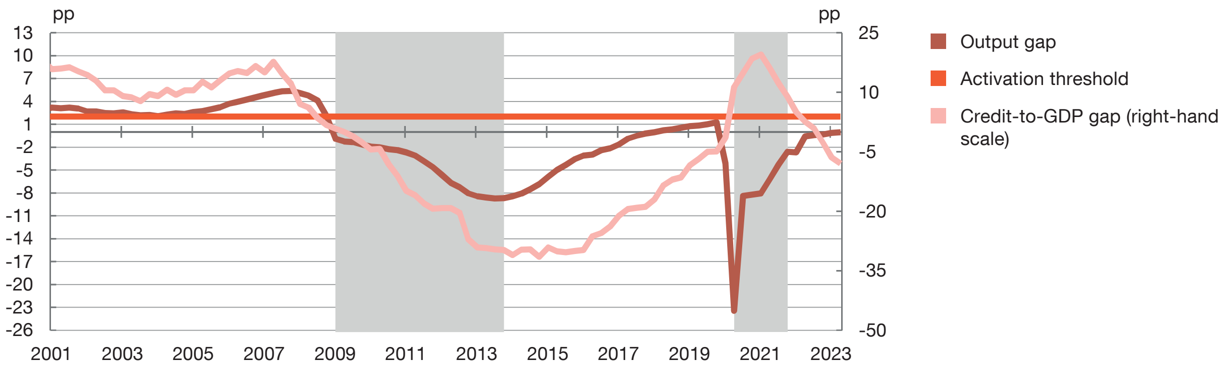
SOURCE: Banco de España.

a The funding liquidity indicator draws on thirteen indicators grouped into three dimensions: (i) margin risk (encumbered assets ratio, re-use of collateral); (ii) redemption risk (monthly change in deposit rates for households and firms); and (iii) rollover risk (level of deposit rates for households and firms, percentage of market funding, EURIBOR-OIS spread). The composite index measures the number of standard deviations from the mean of the indicators that make up each of the three dimensions (all the dimensions have the same weight). Higher composite indicator levels denote lower liquidity. The chart also shows the contribution that each dimension makes to the composite indicator. Data available up to June 2023.

Chart 3.3

The credit-to-GDP gap continues on its downward path, while the output gap remains steady

3.3.a Credit-to-GDP gap and output gap (a)



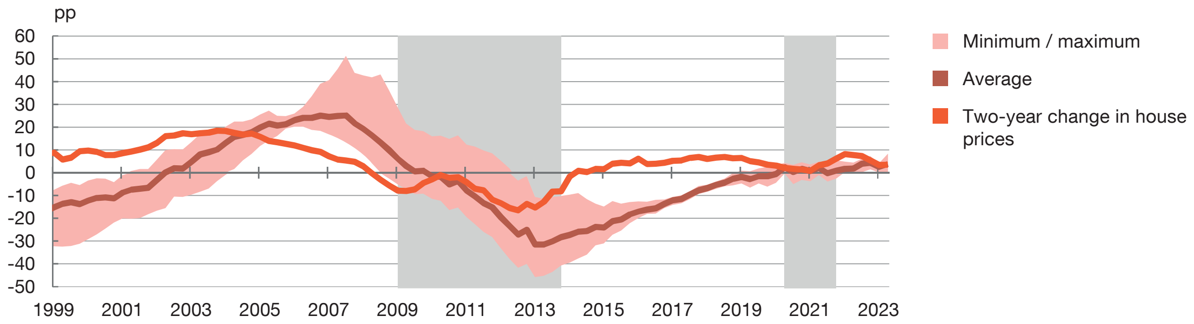
SOURCES: Banco de España and INE.

a The output gap represents the percentage difference between observed GDP and its quarterly potential level. Values calculated at constant 2010 prices. See Pilar Cuadrado and Enrique Moral-Benito. (2016). "Potential growth of the Spanish economy", Documentos Ocasionales, 1603, Banco de España. The credit-to-GDP gap is calculated as the percentage point difference between the observed ratio and its long-term trend calculated by applying a one-sided Hodrick-Prescott filter with a smoothing parameter of 25,000. This parameter is calibrated to the financial cycles historically observed in Spain. See Jorge E. Galán. (2019). "Measuring credit-to-GDP gaps. The Hodrick-Prescott filter revisited", Documentos Ocasionales, 1906, Banco de España. Data available up to June 2023. The grey shaded areas show two financial crisis periods identified in Spain since 2009: the systemic banking crisis (2009 Q1 to 2013 Q4) and the crisis triggered by the COVID-19 pandemic (2020 Q1 to 2021 Q4). The orange horizontal line denotes the reference threshold for activation of the CCyB, equal to 2 pp for the credit-to-GDP gap.

slowing sharply compared with 2022, house price growth headed up again in 2023 Q2, outpacing the CPI in year-on-year terms. House price developments will, therefore, have to be closely monitored, until there is more evidence of the degree of persistence of this upturn. In this respect, activity indicators are experiencing a

Chart 3.4
The indicators of house price imbalances remain close to a neutral value

3.4.a Indicators of house price imbalances (a)



SOURCES: Banco de España and INE.

a The pink shaded area denotes the minimum and maximum values of four indicators of house price imbalances: (i) the real house price gap; (ii) the house price-to-household disposable income ratio gap; (iii) the ordinary least squares (OLS) model that estimates house prices based on long-term trends in household disposable income and mortgage rates; and (iv) the error correction model that estimates house prices based on household disposable income, mortgage rates and fiscal effects. The long-term trends for indicators (i) to (iii) are calculated using a statistical one-sided Hodrick-Prescott filter with a smoothing parameter equal to 400,000. All four indicators have an equilibrium value of zero. The vertical grey shaded areas denote two periods of financial crisis in Spain since 2009: the last systemic banking crisis (2009 Q1 to 2013 Q4) and the crisis triggered by the COVID-19 pandemic (2020 Q1 to 2021 Q4). Data updated as at June 2023.

significant loss of momentum. Specifically, as shown in Chapter 1, house purchases and new mortgage loans are down sharply on last year.

The supply of new lending to firms and households has shrunk in recent quarters and there are also signs of greater demand weakness. The data obtained from the bank lending survey (BLS) and the econometric models developed by the Banco de España to decompose credit growth into supply and demand factors point to a significant contraction in the supply of credit to households and non-financial corporations (NFCs) in 2023 (see Box 3.1). According to the BLS, this is primarily on account of tighter credit standards and conditions as a result of banks' increased risk perception, higher funding costs and balance sheet constraints.[7] Moreover, demand for new lending has also weakened in 2023, especially among households, whose contribution to credit growth is now estimated to be negative.

There are signs of lower leverage among households and firms in 2023 H1. The average loan-to-value (LTV) ratio on new mortgages arranged with households has fallen, as has the share of new mortgage loans with an LTV ratio over 80% (i.e. those that pose greater credit risk) (see Chart 3.5.a). The role of mortgage lending in house purchases has also declined: 43.3% of all house purchases were made with a mortgage in June 2023, compared with almost 50% a year earlier. In the case of firms, since 2021 the net credit flow has been most concentrated on those with a

7 See Banco de España Nota de Prensa Estadística (available only in Spanish) of 24 October 2023, and ECB press release also of 24 October 2023.

lower level of leverage at the start of the rate hiking cycle. Specifically, the debt-to-asset (DTA) ratios of NFCs that held bank credit in 2021 (the most recent date for which this information is available)[8] are taken. These DTA values are then averaged by the bank credit held by each firm in 2021, 2022 and 2023, which enables assessment of the extent to which credit shifted to firms with higher or lower DTA levels before the start of the present rate hiking cycle. The results point to a gradual decline in the average DTA ratio (see Chart 3.5.a). The decrease is also patent if the proportion of firms receiving credit with a DTA ratio over the 75th percentile in the period 2000-2023 is considered.

Signs are also emerging of a reversal of the squeeze on interest rate spreads on loans to households and firms observed since the start of the monetary policy tightening cycle (see Chart 3.5.b). Indeed, interest rate spreads on loans to firms actually widened in 2023 Q1, whereas so far the narrowing in mortgage spreads has simply steadied. However, a more granular analysis suggests that interest rate spreads on fixed-rate mortgages are now widening. All these signs are consistent with a more forceful transmission of monetary policy tightening to interest rates on lending.

The indebtedness of households with new mortgages has eased slightly. The Banco de España has developed new loan-to-income (LTI) indicators that measure the ratio of the principal of new mortgages in its Central Credit Register (CCR) to borrowers' income at the time the loan is granted. As the CCR still lacks solid granular data on household income, average household income in the same postcode area is used as a proxy.[9] The results show that the average LTI ratio estimated using this method has been steady since 2021 (see Chart 3.6.a). Also, the estimated percentage of new mortgage lending granted in the highest LTI brackets (LTI>5) has fallen slightly, from 32% in December 2021 to 28.6% in June 2023.

The cost of servicing new mortgage debt is increasing on account of the interest rate rises, although for most households it remains moderate. The loan service-to-income (LSTI) ratio, which measures the relationship between the cost of servicing new mortgage debt and borrowers' income at the time the loan is granted, is estimated using a similar procedure to that described above for calculating the LTI ratio. The available estimates, based on the CCR's credit information and the data on average income by postcode, show that the LSTI ratio is rising (see Chart 3.6.b). This increase, seen in both 2022 and 2023 H1, largely reflects the effect of the interest rate rises on the affordability of mortgage debt. Nevertheless, the estimates

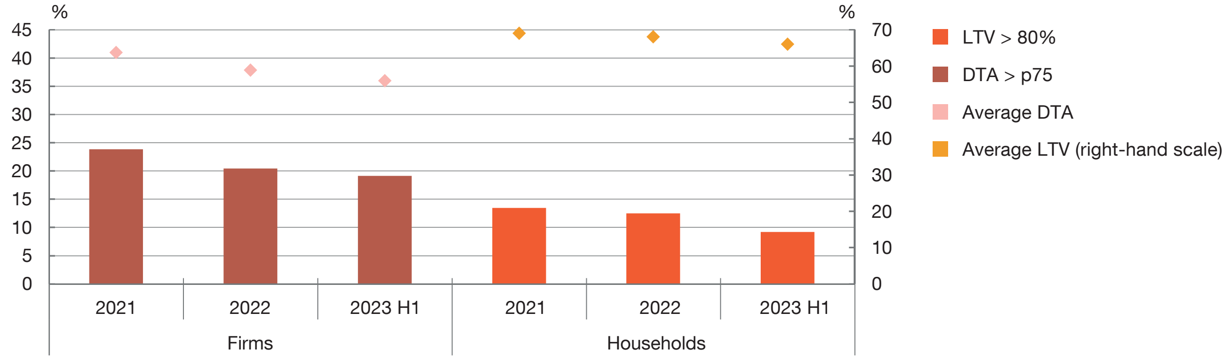
8 Data on firms' assets (the denominator of the DTA ratio) are taken from the Central Balance Sheet Data Office which still lacks comprehensive data for 2022 and thereafter.

9 Given the proxy used, increases in the LTI ratio should be interpreted as a higher level of debt vis-à-vis the average income in the geographical area of the borrowers. Accordingly, the real LTI ratio may deviate somewhat from this value, as the income of new mortgagors may differ from the average values by postcode.

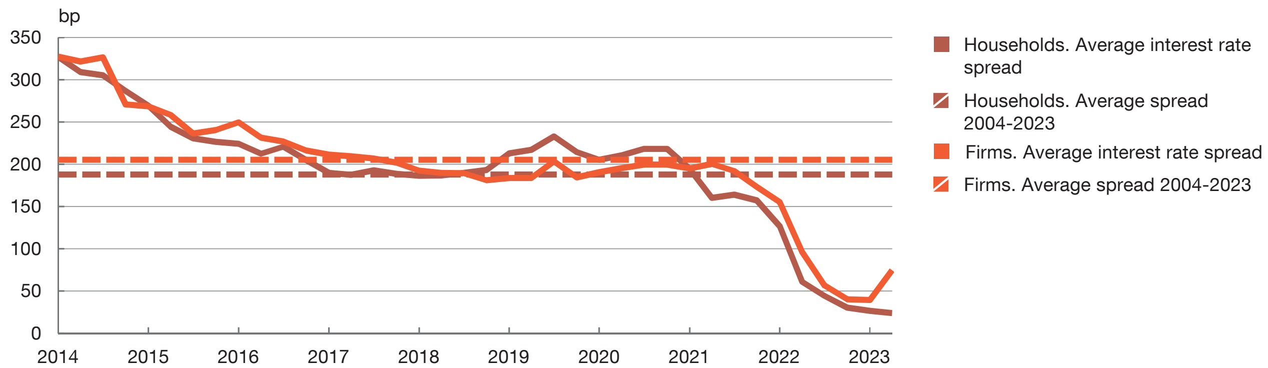
Chart 3.5

There are signs of lower leverage among households and firms, and of an easing of the squeeze on interest rate spreads

3.5.a Leverage in lending to households and NFCs (a)



3.5.b Interest rate spreads on new loans (b)



SOURCES: Banco de España and Colegio de Registradores.

a The LTV ratio is the amount of the mortgage principal relative to the appraisal value of the property. The average values in the LTV are weighted by the capital of each mortgage and calculated for new mortgages. The DTA ratio is the amount of a firm's bank debt relative to its total assets. For 2021, debt refers to the total bank debt of the firms with new loans in that year, and total assets refer to the value at end-2020. For 2022 and 2023, the DTA value for each firm is the 2021 value. The average value and proportion of the DTA over the 75th percentile (p75, calculated for the period 2000-2023) are weighted by the total bank debt of each firm in the year indicated. Data up to 2023 Q2.

b Average spread, weighted by the loan capital, of the interest rate of new mortgages in each quarter over the euro IRS swap curve. For floating rate mortgages, the 1-year IRS rate is used to calculate the spread; for fixed rate mortgages, the term equivalent to the mortgage term is selected. For firms, the spread is calculated based on loans in six maturity intervals (floating and initial rate fixation period of up to 3 months, between 3 months and 1 year, between 1 and 3 years, between 3 and 5 years, between 5 and 10 years, and over 10 years). Each interval is compared with the midterm IRS rate (1 year for floating rate and a fixation period of under 1 year, and 20 years for fixation periods of over 10 years). Data up to 2023 Q2.

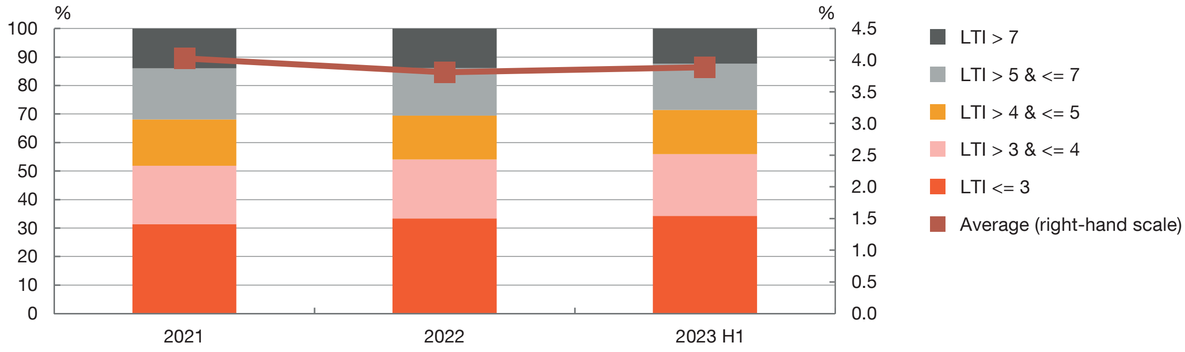
indicate that, for 74.3% of new mortgage volume, the LSTI ratio is still below 30%, which is deemed a prudent level.

In view of these macro-financial indicators and the still high uncertainty, the Banco de España has decided to hold the CCyB rate at the minimum level of 0%. The war in Ukraine and the fresh conflict in the Middle East continue to pose significant risks for economic activity and inflation in the coming quarters. In addition, the monetary policy tightening, which has still not been fully passed through to the different agents, will foreseeably have to last for longer, to correct in full the excess of persistent inflation, with the resulting negative impact for borrowers' real income

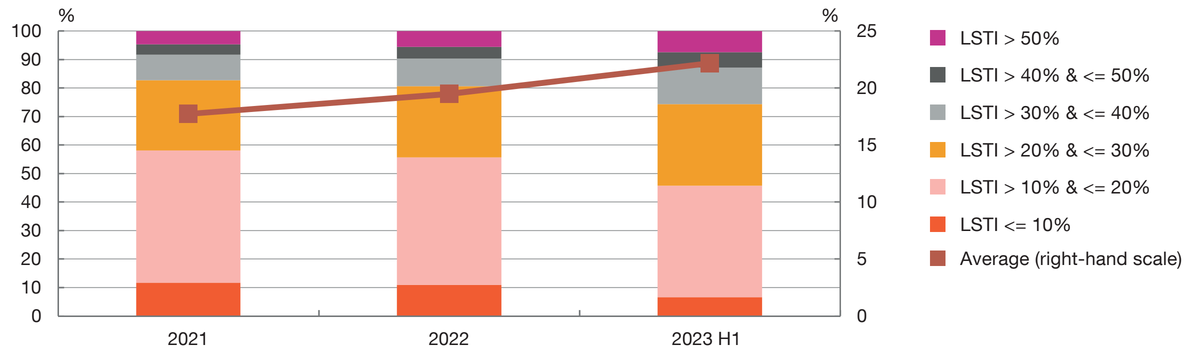
Chart 3.6

The indebtedness of households with new mortgages has eased slightly, but the cost of servicing new mortgage debt has increased

3.6.a LTI ratio of new mortgages (a) (c)



3.6.b LSTI ratio of new mortgages (b) (c)



SOURCE: Banco de España.

a The LTI ratio for each new mortgage is estimated as the ratio of the initial mortgage amount to average annual gross household income in the postcode area where the main (eldest) mortgagor resides.
b The LSTI ratio for each new mortgage is estimated as the ratio of the mortgage instalments over the next 12 months to average annual gross household income in the postcode area where the main (eldest) mortgagor resides.
c The average value of the LTI and LSTI ratios (right-hand axis) are calculated, respectively, as the weighted average of the value of the ratios in each mortgage divided by their relative weight in the total mortgage portfolio for which the information needed to calculate the ratio is available.

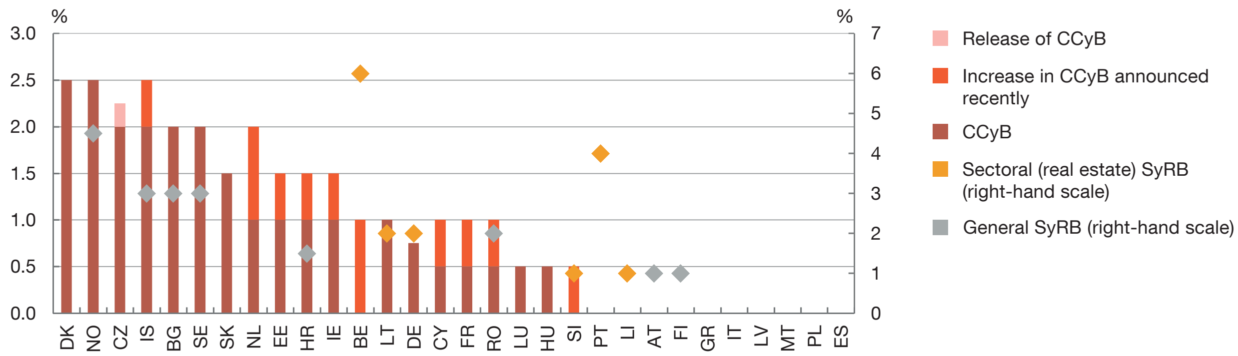
and financing conditions. In this setting, holding the CCyB rate at 0% is considered the correct macroprudential response.

Despite the macro-financial uncertainty and the incipient signs of a credit contraction in the euro area overall, a number of European countries have decided to raise their CCyB rates. Belgium has announced that it will activate its CCyB rate at 1%, while other countries have continued to raise their CCyB rates (see Chart 3.7). Indeed, since the last FSR was published, six EU/European Economic Area (EEA) national authorities have announced decisions to raise their CCyB rates and expect these increases to come into force shortly. By contrast, the Czech Republic has released part of its CCyB – reducing its buffer rate by 25 basis points – as cyclical risks

Chart 3.7

A growing number of European countries are raising their macroprudential capital buffers

3.7.a Macroprudential capital buffers in European countries (a)



SOURCE: ESRB.

a The chart includes the latest CCyB rates announced by European countries (EU/EEA). The recently announced increases correspond to: (i) the announcements made by six countries (the Netherlands, Croatia, Ireland, Cyprus, Belgium and Slovenia) since the Spring 2023 FSR was published on 19 April 2023, and (ii) the earlier announcements made by four countries (Iceland, Estonia, France and Romania) still pending entry into force (CCyB rate increases are applicable 12 months after being announced). It also shows the general and real estate sector-specific SyRB rates of the countries that have activated them. The values of the general SyRB rates of Austria and Romania refer to the maximum of the ranges established (0.25 to 1 and 0 to 2, respectively). Data at September 2023.

Table 3.1

Spanish systemically important institutions and their capital buffers

Legal Entity Identifier (LEI)	Institution	Designation (a)	Capital buffer rate in 2023 (%)	Capital buffer rate in 2024 (%)
5493006QMFDDMYWIAM13	Banco Santander, SA	G-SII and O-SII	1.00	1.25
K8MS7FD7N5Z2WQ51AZ71	Banco Bilbao Vizcaya Argentaria, SA	O-SII	0.75	1.00
7CUNS533WID6K7DGFI87	CaixaBank, SA	O-SII	0.50	0.50
SI5RG2M0WQQLZCXKRM20	Banco de Sabadell, SA	O-SII	0.25	0.25

SOURCE: Banco de España.

a G-SII: global systemically important institution; O-SII: other systemically important institution.

have eased. Meanwhile, systemic risk buffers (SyRBs) have been activated in some countries, including most recently in Finland and Portugal. In many cases, the sectoral SyRB is being used to address real estate market vulnerabilities.[10]

In September 2023 the Banco de España announced that it was raising the minimum capital buffers required in 2024 for two of the four banks designated as other systemically important institutions (O-SIIs) (see Table 3.1). Box 3.2

10 Noteworthy is the case of Belgium, which has reduced its sectoral SyRB on retail exposures secured by residential real estate from 9% to 6% as a result of the improvement in LTV ratios and the decline in housing overvaluation.

describes in detail the Spanish regulatory framework for setting O-SII buffers, how it has been adapted to the new ECB framework and the implications for systemic risk in the Spanish banking sector.

3.2 Regulatory and supervisory developments relevant to financial stability

3.2.1 European and domestic arena

The European Parliament and the Council reached a provisional agreement in June to incorporate the Basel III reforms that were still pending into European law,[11] and to implement other measures to strengthen the European prudential framework and ensure that the banking sector can adequately withstand new challenges.[12] This agreement includes amendments to the Capital Requirements Directive (CRD) and the Capital Requirements Regulation (CRR). The reforms will boost the resilience of EU banks and will also contribute to the green transition. The reforms aim, among other things, to ensure that banks using internal models to calculate their capital requirements measure risks in a more consistent way. Among other things, the reforms establish:

(i) technical improvements in the measurement of credit, market and operational risk;

(ii) greater proportionality when applying the rules;

(iii) changes to improve banks' management of environmental, social and governance (ESG) risks;

(iv) harmonisation of the minimum requirements applicable to branches of third-country banks and to the supervision of their activities in the EU.

This package of regulatory changes, known as "CRR III/CRD VI", will be phased in from 2025, subject, as regards the Directive (CRD VI), to its transposition into the national law of the EU Member States.

11 Council of the EU press release "Banking sector: Provisional agreement reached on the implementation of Basel III reforms", 27 June 2023.

12 On December 2022 data, the European Banking Authority (EBA) estimates that the impact of implementing the Basel III agreement in Europe – applying the discretion of not taking historical losses into account when calculating the minimum requirements for operational risk – would be an average increase of 12.6% in Tier 1 minimum required capital across European banks. Also, implementation of the Basel III framework taking into account the most significant shortfalls in European banks, in addition to the aforementioned discretion, would have a lower impact of 9% (see EBA Report on Basel III Monitoring (data as of 31 December 2022) and Annex – analysis of EU specific adjustments).

Figure 3.1
Regulatory developments relevant to financial stability

European legislation

The European Commission has published a proposal for a regulation to review and strengthen the bank crisis management and deposit insurance framework. More recently, the European Parliament and the Council reached an agreement to incorporate the Basel III reforms that were still pending into European law

Digital euro

The digital euro project is moving forward: the ECB has announced its decision to launch the preparation phase, and the European Commission has approved two legislative proposals to establish its legal framework and regulate its legal tender status

Basel Committee

The Basel Committee on Banking Supervision has published a report on the lessons learnt from the March 2023 banking turmoil. It has also issued public consultations on revisions to the core principles for effective banking supervision ("Basel Core Principles") and on the new Pillar 3 crypto-asset standards

United States banking system

The federal banking authorities are seeking to increase the banking system's capital requirements, following the events of this spring

The European Commission published in the spring a proposal to review and strengthen the existing bank crisis management and deposit insurance framework. This Crisis Management and Deposit Insurance (CMDI)[13] proposal aims to ensure that medium-sized banks that are resolved through the total or partial sale of their business have sufficient funds to undertake such resolutions. Accordingly, the proposed amendments allow for deposit guarantee schemes, which are funded entirely by banks, to be used in such resolution proceedings. Specifically, they establish that, in the event of insolvency, losses be absorbed by all deposits, whether or not they are covered by these schemes. Moreover, the proposal also broadens the scope of bank resolution to the detriment of liquidation.

13 European Commission press release "Commission proposes reform of bank crisis management and deposit insurance framework", 18 April 2023.

The EU continues to work towards a climate-neutral economy, as envisaged by the "Fit for 55" package of proposals.[14] In July,[15] EU co-legislators adopted the recast Energy Efficiency Directive[16] which addresses, along with other proposals, the energy aspects of the EU's green transition. In addition, the launched a public consultation on draft templates for preparing a climate risk scenario analysis.[17] These templates will be used to collect climate risk-related data from EU banks, to inform the one-off "Fit for 55" scenario analysis to be conducted by the EBA, the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA), with the support of the ECB and the European Systemic Risk Board (ESRB). This analysis seeks to assess the resilience of the financial system using a micro (bottom-up) and macroprudential (top-down) approach.[18] The climate scenarios (one baseline and two adverse[19]) have been calibrated by the ESRB and the exercise will be conducted throughout 2024.

Meanwhile, a public consultation[20] was launched in Spain on the draft royal decree regulating the content of disclosures on the financial impact of climate risks on financial institutions, listed companies and other large corporations. Article 32 of Law 7/2021 of 21 May 2021 on climate change and the energy transition (LCCTE) includes a series of disclosure requirements for firms, for the purpose of collecting data on their exposure to climate risk and their carbon emissions, and on the mitigation strategies and targets they have adopted. The LCCTE, which includes financial institutions within its scope (including credit institutions supervised by the Banco de España and the ECB), aims to safeguard the proportionality and regulate the content of the information to be provided. The draft royal decree defines the content of the disclosures required under the LCCTE, which cover aspects relating to corporate governance, the strategic approach for climate risk management, the estimated impact of physical and transition risks and the climate risk methodologies (metrics and scenarios) and management and control processes. Box 3.3 describes

14 "Fit for 55" refers to the target of reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

15 Press release "European Green Deal: Energy Efficiency Directive adopted, helping make the EU 'Fit for 55'", 25 July 2023.

16 Directive of the European Parliament and of the Council on energy efficiency and amending Regulation (EU) 2023/955. The recast directive is available here.

17 EBA press release "The EBA consults on draft templates and template guidance to prepare its one-off Fit-for-55 climate risk scenario analysis", 20 July 2023.

18 In Spain, AMCESFI's first *Biennial Report on Climate Change Risks to the Financial System* published in September 2023, presents the results of the different top-down analyses conducted by the Spanish authorities to measure the resilience of different financial segments to the materialisation of various physical and transition risk scenarios.

19 The baseline scenario assumes implementation of the measures envisaged in the "Fit for 55" package. The first adverse scenario assumes delays in the adoption of those measures, thus requiring them to be more drastic to meet the 55% target for reducing greenhouse gas emissions. The second adverse scenario assumes that the late implementation takes place amid the materialisation of systemic risk in the financial sector.

20 Public consultation on the draft royal decree regulating the content of disclosures on the estimated financial impact of climate change-related risks for financial institutions, listed companies and other large corporations.

in greater detail these disclosures required of credit institutions under Pillar 3 (market transparency).

The European Markets in Crypto-Assets Regulation (MiCA)[21] **was finally approved in May.** It defines a harmonised framework for crypto-asset markets, issuers of crypto-assets and crypto-asset service providers across the EU, and aims, inter alia, to protect crypto-asset holders and preserve financial stability, and to support innovation. Issuers of crypto-assets will be subject to disclosure and transparency requirements on entry into force of the MiCA regulation, which also requires the authorisation and registration of crypto-asset service providers, the implementation of security measures and compliance with anti-money laundering rules.[22] The regulation will apply from 30 December 2024, with the exception of some provisions which will become applicable earlier. Within that time, the EBA will need to complete the implementing regulations at the second level (regulatory and implementing technical standards) and third level (guidelines). In Spain, the responsibility for authorising and supervising these entities will fall to the Banco de España (in the case of the issuance of crypto-assets backed by other assets, unless they are deemed significant, in which case the EBA will assume supervisory responsibility) and the Spanish National Securities Market Commission (CNMV) (all other crypto-assets and crypto-asset service providers).

In addition to the progress made by European regulators, the ESRB has analysed the systemic implications of crypto-asset markets and has proposed policy options to address the risks stemming from crypto-assets and decentralised finance (DeFi).[23] In a recent report, the ESRB concludes that, while this past year has been turbulent for crypto-assets and DeFi, the impact on the financial system is limited, since the crypto-asset market is currently very small and has few interlinkages with the traditional financial sector and the real economy. However, given the exponential growth potential of crypto-assets and their high volatility, they must be monitored as they may pose systemic risks in the future. In this context, the ESRB proposes that the EU's capacity to monitor possible contagion channels be improved by promoting standardised reporting and disclosure requirements.

The digital euro project has moved forward significantly in 2023. In June, the European Commission issued[24] two legislative proposals to set out a legal framework

21 Regulation (EU) 2023/1114 of the European Parliament and of the Council of 31 May 2023 on markets in crypto-assets, and amending Regulations (EU) No 1093/2010 and (EU) No 1095/2010 and Directives 2013/36/EU and (EU) 2019/1937.

22 See Box 3.2 of the Spring 2023 FSR for a more detailed description of the MiCA regulation and, at the global level, of the development of prudential standards on banks' exposures to crypto-assets by the Basel Committee on Banking Supervision (BCBS).

23 Press release "ESRB publishes report on cryptos and decentralised finance", 25 May 2023.

24 European Commission press release "Single Currency Package: new proposals to support the use of cash and to propose a framework for a digital euro", 28 June 2023.

for the digital euro, as a complement to euro banknotes and coins, and to regulate its legal tender status.[25] Once this legal framework for the digital euro is adopted by the European Parliament and the Council, it will be for the ECB to decide if and when to issue the digital euro. The ECB recently announced the conclusion of the investigation and design phase and its intention to move to the so-called "preparation phase", which will last two years and will involve working on the digital euro rulebook and selecting providers that could develop the necessary platform and infrastructure.[26]

3.2.2 International arena

The BCBS has issued public consultations[27] on the revision to the Basel Core Principles for Effective Banking Supervision (BCPs) and on the new standard for banks' disclosure of crypto-asset exposures.[28] BCPs are the global standards for the design and implementation of the prudential supervision of banks, and are used by the International Monetary Fund to evaluate the supervisory frameworks of domestic financial systems. The BCBS aims to adapt the BCPs to reflect the lessons learnt and the structural changes affecting the banking system since the last update in 2012. The revision to the BCPs encompasses, among other topics, macroprudential supervision. Specifically, the BCBS proposes amending the following principles:

(i) Principle 3 – Cooperation and collaboration and Principle 13 – Home-host relationships, to emphasise the importance of close cooperation, both domestically and internationally, between supervisors;

(ii) Principle 8 – Supervisory approach and Principle 9 – Supervisory techniques and tools, to clarify the role of the supervisor in assessing and mitigating risks; and

(iii) Principle 16 – Capital adequacy, to give supervisors the ability to require banks to maintain additional capital.

Moreover, the BCBS has presented a proposed standard for the Pillar 3 disclosure of banks' crypto-asset exposures (the prudential treatment for which was developed in 2022). The new standard is expected to be implemented in 2025.

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25 For an explanation of what the digital euro is and what it means for the Eurosystem if adopted, see the Banco de España Blog post. "The digital euro: what is it and what's in it for us", 19 October 2023.

26 ECB press release "Eurosystem proceeds to next phase of digital euro project", 18 October 2023.

27 "Basel Committee consults on revisions to the Core principles for effective banking supervision", 6 July 2023.

28 "Disclosure of cryptoasset exposures – BCBS Consultative Document", 17 October 2023.

The BCBS has also studied the banking turmoil that arose in March, to assess the regulatory and supervisory implications. Considered the most significant episode of banking stress since the great financial crisis, the failure of banks such as Silicon Valley Bank and Credit Suisse eroded trust in the financial system worldwide and required the deployment of urgent public support measures to stop the instability from spreading to other banks and even other jurisdictions. The BCBS has recently released a report assessing the main implications for banking regulation and supervision of this crisis, which was particularly marked by shortcomings in liquidity and interest rate risk management practices in some banks and jurisdictions. The aspects highlighted in this report include:

(i) Banks' own risk management practices and governance arrangements, as the first and most important source of resilience;

(ii) The importance of strong and effective supervision, with an appropriate quantity and quality of resources and a willingness not only to identify weaknesses, but also to take prompt corrective action;

(iii) The need to continuously monitor structural changes to the banking sector and adapt supervisory approaches to overseeing risks, especially for banks that are rapidly growing in size or adopting novel business models;

(iv) The need to maintain effective and timely cross-border supervisory cooperation;

(v) The importance of a full and consistent implementation of Basel standards;

(vi) The importance of a robust design and calibration of regulatory standards for internationally active banks, without forgetting that other banks focused on domestic business can also pose cross-border contagion risks;

(vii) The need for a balanced approach between Pillar 1 and Pillar 2 standards, which should be pursued as complements, and not substitutes, and for proportionate regulatory approaches commensurate with a bank's risk profile and systemic importance.[29]

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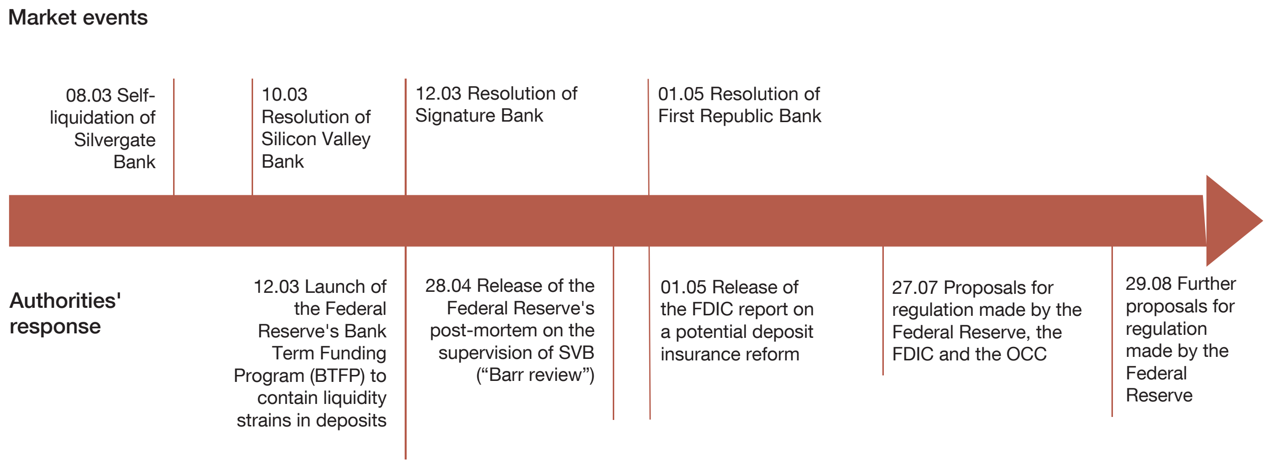
29 *BCBS Report on the 2023 banking turmoil,* 5 October 2023. For an insight from Banco de España authors, see J. Alonso Olmedo, R. Anguren, M. C. Manzano and J. Mochón. (2023). "Las crisis bancarias de 2023: causas y papel de los gestores bancarios, supervisores y reguladores". *Revista de Estabilidad Financiera - Banco de España,* forthcoming.

Figure 3.2

Timeline of events following the tensions in the US banking sector in 2023



SOURCE: Devised by authors.

The events of March have led the US federal banking authorities to launch a review of the regulatory and supervisory framework. The circumstances surrounding the turmoil at Silicon Valley Bank, Signature Bank and First Republic Bank have been subject to study by the Federal Reserve, the Federal Deposit Insurance Corporation (FDIC) and the Office of the Comptroller of the Currency (OCC) (see Figure 3.2). According to the Federal Reserve's post-mortem on Silicon Valley Bank (dubbed the "Barr review"[30]), the key factors behind the crisis were the bank's failure to manage its risks; the difficulty, on the part of the supervisors, to gauge the possible impact of the vulnerabilities; and the fact that, when they did identify vulnerabilities, they did not take sufficient steps to ensure that the bank addressed those problems soon enough. The report finds that the regulations and stance of supervisory policy prevailing in recent times impeded effective supervision of these banks by reducing requirements, allowing complexity and promoting a less assertive supervisory approach. For its part, the FDIC released a report[31] on Signature Bank, in which it identified that the root cause of the bank's failure was poor management, owing to the pursuit of rapid growth without developing and maintaining risk management controls appropriate for its size, complexity and risk profile. Signature Bank also failed to be responsive and timely in addressing the supervisory recommendations.

30 "Federal Reserve Board announces the results from the review of the supervision and regulation of Silicon Valley Bank, led by Vice Chair for Supervision Barr", 28 April 2023.

31 "FDIC Releases Report Detailing Supervision of the Former Signature Bank, New York, New York", 28 April 2023.

Against this backdrop, the US banking authorities have made several proposals for regulation aimed at strengthening capital requirements for the banking system.[32] A public consultation has been launched on a proposal to increase the strength and resilience of the banking system, which would implement the final components of the Basel III agreement. The proposal would modify large-bank capital requirements to better reflect underlying risks and increase the consistency of how banks measure their risks. Thus, it seeks to further strengthen the banking system by applying a broader set of capital requirements to more large banks (those with $100 billion or more in total assets) and standardising aspects of the capital framework related to credit risk, market risk, operational risk and financial derivative risk. The Federal Reserve has also proposed adjustments to the calculation of the capital surcharge for global systemically important banks (G-SIBs).

A further proposal, again in the United States, has been submitted for public consultation that would require large banks to maintain a minimum amount of long-term debt.[33] The requirement would apply to banks with total assets of $100 billion or more but that are not G-SIBs, and would help improve financial stability by increasing their resolvability and resiliency. Maintaining a minimum amount of long-term debt to absorb losses would increase the funds available in the event of bank failure and, by reducing the risk of losses for uninsured depositors, it could reduce the speed and severity of bank runs and limit the risk of contagion. Additionally, the proposal would prohibit large banks from engaging in certain activities that could complicate their resolution, and would disincentivise them from holding long-term debt issued by other banks, to reduce interconnectedness and contagion in the banking system.

The Bank of England has announced updates on the timetable to implement the remaining elements of the Basel III standards in the United Kingdom.[34] Following a consultation paper published by the Prudential Regulation Authority (PRA), the implementation date of the final Basel III elements has been postponed by six months, to 1 July 2025. As a result, the transitional period will be reduced to ensure full implementation by 1 January 2030. The PRA intends to split the publication of the near-final Basel III policy statements into two: the policies on market risk, credit valuation adjustment risk, counterparty credit risk and operational risk will be published by the end of 2023, while those on credit risk, the output floor and reporting and disclosure requirements will be published in 2024 Q2.

32 "Agencies request comment on proposed rules to strengthen capital requirements for large banks", 27 July 2023.

33 "Agencies request comment on proposed rule to require large banks to maintain long-term debt to improve financial stability and resolution", 29 August 2023.

34 "Timings of Basel 3.1 implementation in the UK", Bank of England news release of 27 September 2023.