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SYSTEMIC RISK AND PRUDENTIAL MEASURES IN RESPONSE TO COVID-19

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This chapter reviews developments in systemic financial vulnerabilities since the onset of the COVID-19 crisis and assesses the measures introduced by the prudential authorities aimed at stimulating the flow of credit to real activity and shoring up bank solvency. First, the effects of the pandemic on various systemic risk indicators are assessed, focusing particularly on those used by the Banco de España in its decisions regarding the countercyclical capital buffer (CCyB). The chapter goes on to review the measures adopted to date by prudential supervisors and assesses, from a normative standpoint, the pros and cons of implementing certain additional measures. These measures may be activated should the risks identified materialise or if the deterioration of the financial system proves more marked than expected.

3.1 Analysis of financial vulnerability indicators and their relevance in the environment generated by COVID-19

The outbreak of the COVID-19 pandemic initially gave rise to heightened stress in the financial markets. These tensions have diminished considerably following intervention by economic and, in particular, monetary authorities. The systemic risk indicator (SRI) accurately reflects these changes in systemic stress in the financial markets (see Chart 3.1). This is a composite indicator comprising information on the four most representative segments of the financial markets (monetary markets, government debt, equity and financial intermediaries). The indicator is designed such that its value increases when tensions occur simultaneously in these four segments, thus ensuring that the SRI effectively identifies systemic tensions that affect them all.

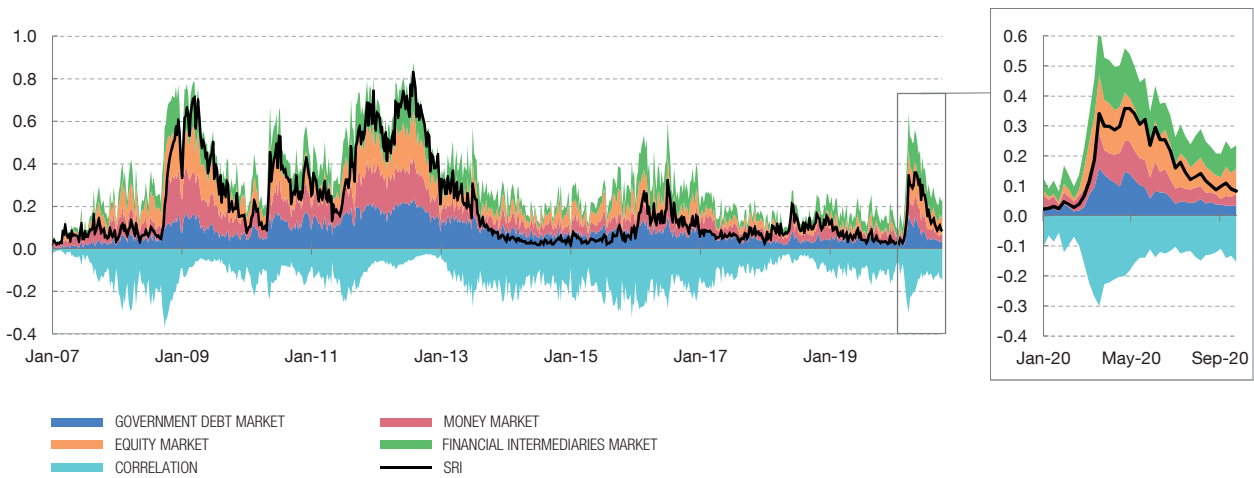
The indicator rose sharply between February and May 2020, coinciding with the increase in volatility in the financial markets associated with the COVID-19 outbreak. This drove the indicator above the levels observed in 2016 H2 following the Brexit referendum. In fact, during the spring of 2020 the SRI rose at a similar pace to that witnessed at the onset of the 2008 global financial crisis. Since May, the indicator has shown a steady improvement which continues to this day. This improvement has coincided, *inter alia*, with the measures adopted by the various authorities to mitigate the effects of the pandemic. Nonetheless, the SRI remains at higher levels than those seen prior to the outbreak of the pandemic.

Moreover, the onset of the COVID-19 crisis has caused some leading indicators of systemic vulnerabilities to send equivocal signals. These indicators have responded to the stimulus policies implemented and the sharp impact of the shock to

Chart 3.1

SYSTEMIC RISK IN THE SPANISH FINANCIAL SYSTEM GRADUALLY DECLINED BETWEEN LATE APRIL AND LATE SEPTEMBER, BUT REMAINS SOMEWHAT ABOVE PRE-CRISIS LEVELS (a)

The systemic risk indicator (SRI), which rose sharply at the onset of the COVID-19 pandemic, showed a gradual decline in levels of tension from late April onwards. Since late September the level of stress in the financial markets has held relatively stable, albeit at values somewhat higher than those observed prior to the outbreak of the pandemic.



SOURCES: Datastream and Banco de España.

a The systemic risk indicator (SRI) aggregates 12 individual indicators of stress (volatilities, interest rate spreads, maximum historical losses, etc.) from different segments of the Spanish financial system (markets for money, government debt, equity and financial intermediaries). In calculating the SRI, the effect of cross-correlations is taken into account, whereby the SRI registers higher values if the correlation between the four markets is high, in particular where there is a high level of stress in the four markets at the same time. By contrast, the value is lower where there is less or negative correlation (i.e. situations in which the level of stress is high in some markets and low in others). For a detailed explanation of this indicator, see Box 1.1 of the Banco de España's *May 2013 Financial Stability Report*.

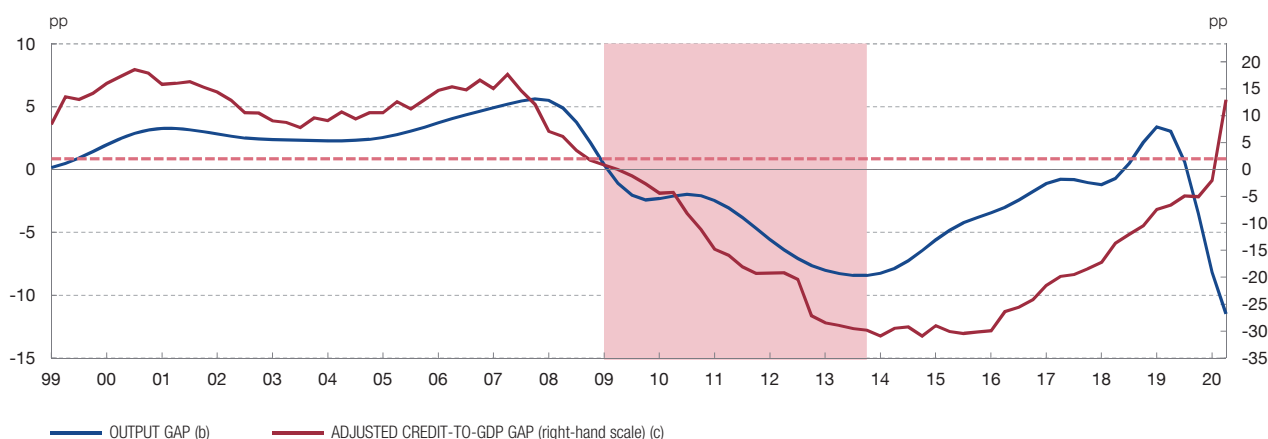
activity, rather than to any new financial imbalances that could be addressed by activating countercyclical macroprudential tools. This has been the case for the adjusted credit-to-GDP gap, which is one of the main indicators guiding activation of the CCyB during expansionary phases of the credit cycle (see Chart 3.2). In the years leading up to the outbreak of the pandemic, the credit-to-GDP gap held constantly well below 2 pp, the threshold above which the credit-to-GDP gap is taken to signal imbalances. However, the current crisis has given rise to the paradox of this indicator surpassing the alert threshold in June 2020. This sharp increase in the credit-to-GDP gap should not be interpreted as a systemic warning requiring the activation of the CCyB. On the contrary, it simply demonstrates that this indicator is intended for expansionary phases of the credit cycle, rather than situations, such as the present, involving a sharp and very deep fall-off in GDP on account of factors exogenous to the financial system. As indicated in the guidelines provided by the Basel Committee on Banking Supervision, it is not appropriate to adhere to the automatic CCyB activation guide when the credit-to-GDP gap increases due to an abrupt decline in GDP,¹ which is exactly what occurred in the first two quarters of 2020.

¹ Basel Committee on Banking Supervision (2010). *Guidance for national authorities operating the countercyclical capital buffer*. See Principle 3 (“Risk of misleading signals”).

Chart 3.2

ON PROVISIONAL DATA FOR JUNE, THE CREDIT-TO-GDP GAP EXCEEDED THE STANDARD CCyB ACTIVATION THRESHOLD. THIS DOES NOT CONSTITUTE A SYSTEMIC WARNING SIGNAL SINCE IT IS EXPLAINED BY THE SHARP DECLINE IN GDP (a)

The credit-to GDP gap exceeded the CCyB activation threshold in 2020 Q2. However, this owed to the sharp reduction in GDP during the period, which is likewise reflected in changes in the output gap. Therefore, at present this should not be interpreted as a systemic risk warning. Although the indicator will be corrected to some extent over the coming quarters, it will have to be monitored over the next few years to assess the degree to which the increase in leverage is absorbed by economic agents.



SOURCE: Banco de España.

- a The shaded area shows the last period of systemic banking crisis (2009 Q1-2013 Q4). The horizontal dashed line represents the CCyB activation threshold equal to 2 pp.
- b The output gap is the percentage difference between observed GDP and potential GDP. Values calculated at constant 2010 prices. See P. Cuadrado and E. Moral-Benito (2016), *Potential growth of the Spanish economy*, Occasional Paper 1603, Banco de España.
- c The adjusted credit-to-GDP gap is calculated as the difference, in percentage points, between the observed ratio and the long-term trend calculated using a one-sided Hodrick-Prescott filter with a smoothing parameter equal to 25,000. This value is more in line with the financial cycles historically observed in Spain.

Admittedly total bank lending has increased, spurred by the guarantee and moratorium schemes aimed precisely at mitigating the steep fall-off in GDP; however, it is the slump in GDP in the ratio's denominator that has been the driving factor behind the changes in the adjusted credit-to-GDP gap. This ratio will have to be tracked closely over the coming quarters, given the possibility of the increased level of leverage as a proportion of GDP consolidating over time.

Against the backdrop of the current crisis, it is preferable to use in CCyB decision-making indicators that inform of the degree of macroeconomic stress in the economy. Following a shock of this nature, financial markets tend to respond before the impact is felt on the real economy. Accordingly, the indicators based on such information react immediately. This is attributable to their more forward-looking, but also volatile, nature, since they include agents' expectations as to what may happen in the future. For the same reason, the financial markets and the corresponding indicators likewise respond rapidly to the implementation of measures to mitigate the crisis. This has led the indicators to ease in recent months. By contrast, macroeconomic variables tend to react more slowly and usually display greater inertia in the recovery. However, on this occasion, the special nature of the shock has caused

the macroeconomic variables to reflect the negative impact more quickly than in previous crises. In any event, the economic recovery is expected to be slow and uneven. In fact, a greater slowdown in this improvement in growth represents one of the main risks at present. Accordingly, these macroeconomic indicators are increasingly relevant to macroprudential decision-making. For example, the output gap stood below -10% in 2020 Q2 (see Chart 3.2) but will foreseeably recover partially over the coming quarters. Although it is difficult to estimate potential growth in the current uncertain environment, this indicator represents a more informative guide for CCyB decision-making than the credit-to-GDP gap in the present circumstances.

Against this backdrop, the econometric approach known as growth-at-risk is another potentially useful analytical option. This method can be used both to assess the intensity of the crisis and the benefits of macroprudential policy (see Box 3.1).

Taking this set of macrofinancial indicators into account, the Banco de España has maintained in its quarterly decisions the CCyB rate at 0% and stated its intention not to increase the rate until the Spanish economy has recovered from the impact of the crisis.² The scale of the exogenous adverse shock inflicted by the pandemic on real activity has seen special consideration given to the output gap criterion and the uncertainty surrounding growth, measured, for example, using the growth-at-risk approach. As in the previous FSR, the Banco de España maintains its view that banks must remain unburdened by this capital buffer so as to sustain the flow of credit and mitigate negative pressure on economic growth.

3.2 Prudential measures adopted in response to the crisis and other alternative measures

The coordinated action of macroprudential, microprudential and accounting policies remains geared towards supporting the financial intermediation function as a key mitigator of the pandemic's economic impact. Chapter 3 of the previous FSR³ covered a broad spectrum of measures adopted as an immediate response to the crisis, which largely remain in force.

In Europe, the ESRB has issued a series of recommendations and reports that are relevant to assessing both the measures adopted and the areas of the financial sector that require closer attention. These ESRB publications are

² See the press release of 25 September 2020 "The Banco de España holds the countercyclical capital buffer at 0%".

³ See FSR Spring 2020.

grounded on a pool of research works conducted in crisis mode following the onset of the pandemic. These measures are detailed in Box 3.2.

Turning to solvency requirements, banks can still in general terms make full use of the countercyclical capital buffer and temporarily operate below the levels set for certain requirements. In Europe, banks have been allowed to operate below the level of capital defined by the Pillar 2 Guidance (P2G), the capital conservation buffer and the liquidity coverage ratio. Further, the authorities have sought to overcome banks' reluctance to use these buffers by providing greater certainty as to their future rebuilding, emphasising that there will be a lengthy and sufficient timeframe in which to rebuild the buffers once the main effects of the pandemic have been absorbed. Likewise, the rules concerning the composition of capital instruments to meet Pillar 2 Requirements (P2R) have been relaxed. As regards macroprudential requirements, the countercyclical capital buffer was released swiftly in most jurisdictions as part of the initial response and remains available for use. This came alongside the reduction or postponement of other requirements addressing the cross-sectional dimension of systemic risk, such as the systemic risk buffer (SyRB) and the buffer set for other systemically important institutions (O-SIIs).

It is likewise important to recall the BCBS' decision to postpone until 2023 implementation of the revised methodology for the identification of global systemically important institutions and certain pending aspects of the new Basel III regulatory framework. The BCBS has also delayed to 1 January 2028 the conclusion of the transitional arrangements for the output floor to internally modelled capital requirements. In any event, all jurisdictions remain committed to the full and consistent transposition of the Basel III framework under the new timetable.

For its part, the Single Resolution Board (SRB) has maintained a forward-looking approach to the application of minimum requirements for own funds and eligible liabilities (MREL requirements), taking into account the impact of the measures implemented by the authorities on bank balance sheets and the forthcoming transposition of the new European Bank Recovery and Resolution Directive (BRRD2), such that the effects of easing the prudential requirements are not curtailed.

As part of the European response to the COVID-19 crisis, the Capital Requirements Regulation (CRR) was also subject to quick fix amendments in June 2020 with a view to maintaining banking sector support to businesses and households. This CRR quick fix combines transitional and permanent arrangements so as to smooth banks' absorption of the shock and strengthen their solvency ratios, thereby helping to avoid potential credit constraints that might hinder the economic recovery. Relevant aspects of this initiative include the revised SME supporting factor in the calculation of risk-weighted assets (RWAs), the application of a prudential filter to changes in the value of sovereign debt instruments

and the revised temporary prudential treatment of credit risk impairment. Box 3.3 details these measures and approximates their potential effects on regulatory capital ratios, which are expected to rise as a result of the amendments.

It remains possible to make appropriate use of the flexibility provided in prudential regulation, preventing a mechanistic and procyclical application of accounting standards while at the same time recognising actual impairment.

The supervisory guidelines clarify, among other aspects, that loans past due by more than 30 days do not require immediate classification to Stage 2. They also clarify the need to differentiate between borrowers' liquidity and solvency problems and the recognition of public guarantees when they are applied. At the same time, the supervisory guidelines consider that this flexibility should not hamper the identification and appropriate coverage of actual impairment and that adequate standards should be maintained. Accounting reporting requirements have also been streamlined during the period, prioritising information that is especially relevant for monitoring the pandemic (e.g. launch of the moratorium scheme) and relaxing the schedule for information considered to be secondary.

Provision also continues to be made for a degree of operational flexibility in supervision, although the pressures on business continuity have diminished following the end of the strict lockdown periods. Among the measures aimed at promoting smooth operational functioning, the postponement of the EBA's stress test of European banks until 2021 is particularly noteworthy; a new target timeline for this exercise has been defined and the list of participating banks has been determined.⁴

Similarly, the ECB and other national authorities, among them the Banco de España, maintain their recommendation to refrain temporarily from dividend distributions and apply prudent criteria with regard to variable remuneration for employees. These recommendations, aimed at reinforcing organic capital generation and strengthening European banks' solvency position, were initially applicable until October 2020 and have been extended until January 2021.⁵ On a general basis, all Spanish banks that could legally suspend or defer dividends on their 2019 earnings have followed these recommendations.

This response to the crisis, together with those from monetary and fiscal authorities, has enabled to absorb the initial impact of the shock. This has thus prevented the materialisation of a systemic risk in the financial system that would have exacerbated the crisis and made it more persistent. However, in the current context of uneven and uncertain recovery, it is possible that the additional risks

⁴ See [EBA press release \(July 2020\)](#).

⁵ The ECB reiterated the recommendation on dividend distribution and variable remuneration on 28 July 2020. On the same day, the Banco de España extended this recommendation to less significant institutions under its supervision. See [Banco de España press release of 28 July](#).

identified materialise and that their impact is greater and longer-lasting than expected, especially in some productive segments. In the face of such uncertainty, a detailed assessment must be made of the measures already in place, retaining those that have proven most effective for as long as the recovery is not sufficiently self-sustaining, and adjusting them to accompany the growth in activity and avoid artificially propping up activities and firms that show little sign of viability. Further, consideration must be given to additional measures that can contribute to sustaining economic activity under the scenarios considered or that allow for reactions to more unfavourable than expected short-term economic developments.

In this respect, greater easing of the macroprudential and microprudential banking capital requirements could foster lending to the economy, but it could also reduce loss-absorbing capacity under certain conditions. Indeed, lower capital requirements free up additional funds for banks to lend to customers and thereby stimulate the economy, which could also curb losses for the banks themselves. However, using capital buffers reduces the banking sector's loss-absorbing capacity when defaults occur, although such defaults would be smaller. There is a clear trade-off, and determining which to prioritise at any given time is therefore an empirical question.

The implementation of this type of measure must also take into account the related impact on the financing conditions of financial intermediaries, in particular on those of the banking sector. Maintaining relaxed capital requirements and using capital buffers in the most adverse macroeconomic scenarios could increase banks' risk perception and trigger a rise in financing costs, going against the objectives of preserving solvency and the flow of credit.

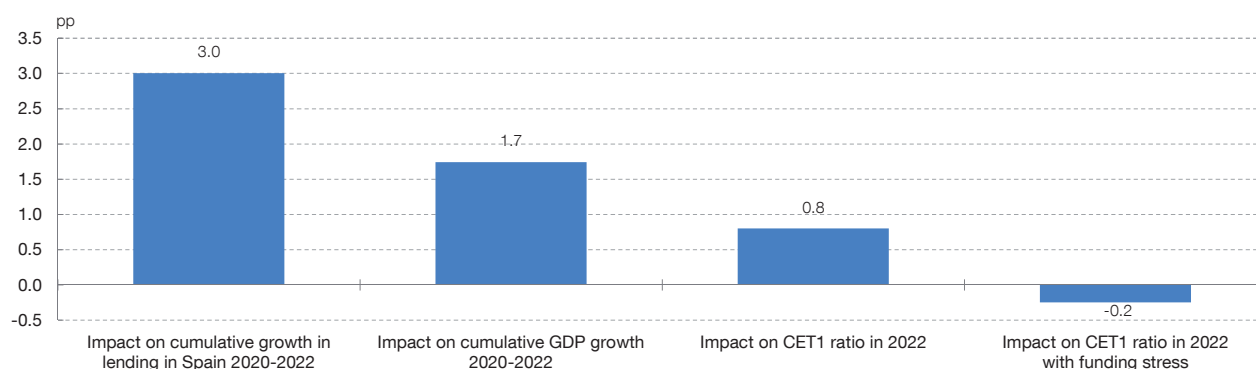
Recommendations and rules on restrictions to dividend distributions also pose a similar trade-off as they allow for greater loss-absorbing resources to be built up at present, but they could subsequently lead to issuance difficulties or drive up the cost of capital instruments. The adverse effects of these measures would be curbed by a proper regulatory policy assuring investors that such restrictions are conditional on the persisting uncertainty about the duration of the crisis and that they are applicable to all institutions and jurisdictions, given the global nature of the crisis.

In this context, the simulation exercises conducted by the Banco de España for the Spanish banking sector suggest that an additional credit stimulus would have a positive impact on economic growth, improving solvency expectations. Specifically, a simulation has been performed of Spanish banks making further use of their capital buffers to achieve higher growth in lending to Spanish firms and households than that considered in the stress test baseline scenario presented in Chapter 2. It envisages a general increase of 3 pp in cumulative growth in lending to households and firms, derived from the use of banks' capital buffers, in the 2020-2022 period compared with the original baseline scenario. This would lead to an

Chart 3.3

THE USE OF CAPITAL BUFFERS TO STIMULATE CREDIT CAN CONTRIBUTE TO BANKS' SOLVENCY, IF THERE IS NO SIGNIFICANT DEVIATION FROM THE FUNDING CONDITIONS UNDER THE BASELINE SCENARIO (a) (b)

The use of existing capital buffers would stimulate the supply of credit in Spain and therefore mitigate the contraction in GDP, impacting bank solvency through channels of the opposite sign. The higher growth in lending also entails greater RWAs, reducing the CET1 ratio, but the best-case macro scenario envisages smaller losses. Applying the FLESB model, a positive net effect of 0.8 pp is estimated on the macro path of the baseline scenario in the solvency exercise; this effect would become slightly negative if the use of these buffers caused a significant deterioration in funding conditions.



SOURCE: Banco de España.

- a The positive shock to the supply of credit in Spain in 2020 is introduced into the baseline scenario (see Table 2.1) of the macro model, providing complete alternative paths for lending and all macro variables in the 2020-2022 horizon; these in turn are applied to the FLESB framework to assess the impact on the CET1 ratio in this horizon, considering all the factors affected.
- b Under the funding stress assumption, it is assumed that the use of capital to stimulate the supply of credit increases the required returns in other forms of financing, introducing a shock of 1 pp to interbank funding, consistent with the increase in this rate continuing in 2020 at the pace recorded in the months of heightened stress, and to the cost of issued securities, which spreads to loan and deposit interest rates based on the historical relationship observed.

improvement of 1.7 pp in cumulative GDP growth in the same period (see Chart 3.3). Such an improvement in the macroeconomic scenario would mean smaller losses for banks, thereby reducing capital consumption. This effect would outweigh the increase in risk-weighted assets entailed by greater lending. Under these assumptions, the CET1 ratio of the banking sector as a whole would increase by 0.8 pp in 2022. However, it should be borne in mind that this credit expansion could be less favourable for banking sector solvency if a more adverse economic scenario were to materialise.

Furthermore, such improvement in banks' solvency owing to the boost to lending in operations in Spain could peter out if the use of the capital buffers is accompanied by a sufficiently significant worsening of financing conditions. To assess how the markets' reaction could have a bearing on the results of this exercise, the impact of an increase of 1 pp in interbank reference rates passed through to operations in Spain (to the cost of wholesale funding for banks and to retail deposit and loan rates) is analysed. This would naturally dampen the improvement in banks' results associated with a more favourable macroeconomic scenario. Chart 3.3 shows that the impact on the CET1 ratio would be -0.2 pp. Overall, the reassessment of credit stimulus policies based on the use of capital buffers should therefore consider

both developments in the most likely macroeconomic scenarios and the possible market reaction in the form of an impact on financing conditions.

Other types of measures, such as those aimed at completing the EU Banking Union, would shore up the banking system's capacity to absorb the economic impact of the crisis triggered by the outbreak of COVID-19. Specifically, the establishment of a fully pooled European Deposit Guarantee Scheme (DGS) or the further implementation of resolution legislation, in particular its adaptation to systemic crises or its application to cross-border institutions, would help smooth bank funding and reduce the regulatory obstacles to cross-border corporate transactions.

The consolidation of the banking sector may also be a further mechanism for enhancing banks' efficiency, provided it enables revenue and cost synergies to be harnessed. These synergies would include those associated with the diversification of credit risk in banks' portfolios. However, the cost-benefit analysis of consolidation calls for the case-by-case analysis of these synergies, and their impact on competition in the sector. Corporate operations are the responsibility of bank management teams and owners, but it is for bank supervisors to analyse the viability of potential merger projects. That means assessing the solvency of the resulting bank, studying its impact on financial stability as a whole and overseeing the execution of the operation in order to measure the effective harnessing of synergies.

Here, European transnational operations would help deepen the Banking Union and incorporate greater diversification possibilities. These operations would also improve the incentives for digitalising banking business. They would allow more extensive customer bases to be formed across which to distribute the cost of technological investments, although they would have a lesser immediate impact on cost-cutting. In any event, for banks to gain much-needed efficiency, under the different possible levels of consolidation of the sector, they will have to invest in the digitalisation and optimisation of their physical networks. The SSM has submitted to public consultation a review of the supervisory guidelines on bank mergers. This envisages making the formal supervisory requirements associated with such mergers more straightforward, and reviewing the criteria for the calculation of the P2R and P2G requirements made of merged banks.⁶

The possible adverse effects of bank mergers would be associated with less competition or with the incentives for bigger banks to take on excessive risk. The existing theoretical and empirical evidence indicates that an increase in concentration above certain thresholds may have destabilising effects on the banking

⁶ The SSM proposal considers the weighted average of these requirements and recommendations for the individual entities as a criterion for setting the initial levels of P2R and P2G applicable to the merged banks; this average could be adjusted upwards and downwards based on the characteristics of the business combination. See [Draft ECB Guide on the supervisory approach to consolidation in the banking sector \(July 2020\)](#).

system.⁷ In Spain, the sector appears some way off this situation; there is an effective transmission of changes in interest rate levels to bank margins, denoting the presence of effective competition. However, as the degree of concentration grows, more caution becomes necessary, and possible excessive risk-taking by banks that acquire systemic status and whose resolution poses challenges will be more of an issue.

Prudential tools can correct possible biases in risk-taking by merged banks.

Such mitigation would be through both microprudential requirements, which are sensitive to the individual risk profiles assumed by each bank, and through macroprudential measures such as the capital surcharge for systemic, global and local banks. Bank resolution regulations, which assume the use of internal funds in this type of situation, also contribute to banks internalising in their decision-making the externalities entailed for the financial system as a whole.

In the European setting, discussions have also begun on the need to set in place additional measures, should more adverse scenarios than those envisaged to date materialise.

Firstly, these alternative European responses include the possibility of extending or modifying the guarantee and moratorium schemes, countenancing the option of applying a more selective approach for these policies. Other potential responses include measures encouraging corporate or household deleveraging, either through an increase in corporate capital or through a restructuring of households' and firms' debt in the medium term. Such measures would be geared to fostering the restructuring of productive activities, in response to a more permanent worsening in some segments, and to underpinning the financial situation of households and firms with sound long-term solvency prospects. Adoption of these measures should be governed by caution and detailed analysis, with the benefits of maintaining activity and repayment incentives properly weighed against the costs that they could entail for the banking sector and their possible tax consequences for general government.

More broadly, these Europe-level discussions also envisage other measures that are more hypothetical in the current situation, such as strengthening banks' solvency position and creating or adapting asset management companies ("bad banks"). Once again, a cost-benefit analysis should govern discussions about the hypothetical implementation of such measures.

⁷ See, for example, Martínez Miera, D., and R. Repullo (2010) "Does competition reduce the risk of bank failure?", Jiménez, G., López, J. A., and J. Saurina (2013) "How does competition affect bank risk-taking?" and the thematic analysis "Market power, competitiveness and financial stability of the euro area banking sector" of Huljak, I., Reghezza, A., and C. Rodríguez d'Acien, ECB FSR, November 2019.

