BANCA D'ITALIA
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THE INTERPLAY BETWEEN LARGE BANKS' PRUDENTIAL AND RESOLUTION FRAMEWORKS: DO WE NEED FURTHER IMPROVEMENTS?

by Maurizio Trapanese (Coordinator)*, Sabrina Bellacci**, Marcello Bofondi***, Giuseppe De Martino**, Sebastiano Laviola****, and Valerio Vacca*

Abstract

This paper explains the essential features of the too-big-to-fail regulatory framework finalized after the financial crisis of 2007-08 and explores whether the current prudential and resolution frameworks for large banks work as originally intended and whether there is room for further improvements. The aim is to identify the policy areas whose effectiveness could be enhanced through greater integration between prudential and resolution policies. We focus on the banks of the European Banking Union classified as significant. We find that there is substantial integration between the prudential and resolution frameworks. However, some further improvements could be achieved in terms of: 1) consistency between the assessments of a bank's systemic importance and its resolvability; 2) coordination between the recovery and resolution plans; 3) interaction between capital buffers and minimum requirements; 4) information sharing between micro-prudential and resolution authorities, on one side, and macro-prudential authorities, on the other side. In our analysis, we also make reference to recent banking crises and to the efforts under way at the international level to draw initial lessons from these episodes.

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Contents

1. The policy issue of this paper (Introduction) [1]

This paper examines how the reforms finalized after the global financial crisis (GFC) of 2007-08 to address the problems posed by large and systemically important banks have worked in practice and assesses whether improvements can be envisaged.

After the GFC, the too-big-to-fail (TBTF) problem has been addressed through both minimum standards to reduce the likelihood of the failure of large banks and policy options other than normal insolvency proceedings in case these banks face serious difficulties. The TBTF reforms foresee the interplay between two systems of rules - the micro/macro prudential (going-concern) and the resolution (gone-concern) frameworks - designed to be closely interconnected, since their common objective is to shield the entire financial system and the real economy from the consequences of the failure of a large and systemic bank. The final objective was to make the expected costs of these failures lower than the costs of a public bail-out, including its long-term effects on moral hazard.

In exploring the essential features of the TBTF regulatory framework, we focus on the specificities emerged at the EU level. In the Banking Union (BU) context, we refer not only to the global systemically important banks (G-SIBs)[2] but to all large banks, that is those banks - defined as Significant Institutions (SI) - supervised directly by the European Central Bank (ECB).[3]

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[2] According to the Financial Stability Board (FSB), a global systemically important bank (G-SIB) is a bank whose systemic risk profile is deemed to be of such importance that the bank's failure would trigger a wider financial crisis and threaten the global economy. The Basel Committee on Banking Supervision (BCBS) has developed a methodology for determining which banks are G-SIBs. G-SIBs are subject to stricter prudential regulation such as higher capital requirements and extra surcharges, or more stringent stress tests. The FSB, in consultation with the BCBS and national authorities, has identified G-SIBs since 2011. The list of G-SIBs is divided into 'buckets' corresponding to the required level of additional loss absorbency.

[3] In the BU, for a credit institution to qualify as 'significant', it must meet one of the four following criteria; it must either (i) be a global systemically important institution (G-SII); (ii) be identified as "other systemically important institution" (O-SII), that is assessed to be systemic at the domestic level; (iii) be one of the three largest institutions in terms of total assets in the Member State in which it is established; or (iv) have total assets on an individual or consolidated basis equal to or greater than €30 billion.

In particular, we explore how the large banks' prudential and resolution frameworks in the BU have worked as part of an integrated approach in the following policy areas: definition of a bank's systemic importance and resolvability assessment; recovery and resolution planning; and interactions between capital buffers and going/gone concern minimum requirements. Further progress in these areas stress the importance of an integrated policy response, that considers multiple risks with a long term view in order to avoid the negative effects of unsound crisis management policies and preserve financial stability in the years to come.

The episodes of financial distress of March-May 2023 occurred in the United States (US) and Switzerland have revived the attention on the adequacy of the framework defined in the post-GFC years and on its correct implementation, to address the crises of banks of different sizes.[4] Moreover, there has been a renewed focus on the negative financial stability implications arising when the domestic implementation of the post-GFC internationally agreed rules follows divergent patterns across jurisdictions in a number of key prudential requirements.

These episodes have stimulated a number of reflections by regulators and policy-makers on important issues concerning banks' governance and risk management, as well as the prudential and resolution framework.

Both the Basel Committee on Banking Supervision (BCBS) and the Financial Stability Board (FSB) have announced a review of the March 2023 market developments and actions undertaken by the authority. es, with a view to draw lessons in the prudential and resolution fields.[5] While it is too early to draw concrete lessons, some reflections have been made by several commentators and international regulators, and some reforms have been put in place or recommendations formulated at national level.

It is important to underline that the overall regulatory (micro/macro prudential and resolution) framework is not aimed at having a zero-failure banking system; rather, its final objective is to reduce the probability and the impact of banking crises, while ensuring sound conditions for financial intermediation and economic growth.

The recent bank failures have stressed the importance of a full and consistent implementation of the internationally-agreed prudential standards for the internationally-active banks, and the need

[4] See: Spitzer et al. (2023); Carrascosa (2023a) and (2023b); Turner (2023); Smith and Palma (2023); Wilkes (2023); Legras (2023); Ackerman (2023); Felberg (2023a) and (2023b).

[5] See: BCBS (2023); and FSB (2023a).

to develop an appropriately balanced regulatory and supervisory approach for banks which are not internationally active, but are in a condition to pose a systemic risk at the level of individual jurisdictions. While it is not possible at this stage to draw fully-fledged lessons, a few issues are already being discussed by regulators and central banks concerning the effectiveness of the post-GFC resolution tools and mechanisms, including effective public backstop arrangements, greater optionality in implementation of resolution strategies, a better understanding of the potential impact of bail-in on financial markets in line with the systemic assessment described in the FSB Key Attributes, the scope of resolution planning and loss-absorbing capacity requirements, the role of deposit insurance in resolution arrangements[6] .

That said, what happened shows the importance of having an efficient regulatory framework for the management of crises affecting also banks not considered systemically important. In this regard, the Crisis Management and Deposit Insurance (CMDI) proposal adopted by the Commission on 18 April 2023 lays down the conditions to include more mid-sized banks under the resolution framework, providing at the same time the funding means which are needed to overcome the potential gap in the availability of bail-inable liabilities different from deposits before the intervention of the Single Resolution Fund, where needed.[7]

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This paper is organized as follows: paragraph 2 outlines the main elements of the post-GFC financial regulatory repair, with a focus on the assessment of the TBTF reforms, the state of their implementation across the G20 jurisdictions, and explains the main features of the banking turmoil of March 2023; paragraph 3 addresses the main features of the prudential and resolution frameworks applicable to the EU large banks, with a focus on the processes leading to a bank's definition as systemically important and the resolvability assessment, and the interaction among the EU and national authorities, signalling the improvements achieved so far and those that are deemed necessary; paragraph 4 is about recovery and resolution plans and information sharing among authorities in crisis

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[6] See: FSB (2023a); and FSB (2023b). On the potential impact of bail-in on financial markets (contagion risk), see Swiss Federal Department of Finance (2023), "The need for reform after the demise of Credit Suisse", Report of the Expert Group on Banking Stability, where it says:' Impacts on the financial market are unavoidable if a G-SIB collapses. Whether these upheavals have the potential to trigger a global financial crisis cannot be reliably predicted and may therefore be assessed differently by different decision-makers. The SNB and the FDF have emphasised the risk of a financial crisis. Most persons interviewed by the expert group (representatives of foreign authorities and private institutions) consider this risk to be considerably less serious'.

[7] See EU Commission (2023).

preparedness and execution in the EU context, with a special consideration of the procedures in place for enhanced cooperation among the EU authorities (namely the SRB and the SSM); paragraph 5 recalls the key role played by capital buffers within the post-GFC financial regulatory repair, above all with respect to the banks having a significant size. It highlights the essential features of the on-going debate regarding the buffer usability and the overlap between capital buffers and minimum prudential and resolution requirements, indicating some possible way-outs; Paragraph 6 underlines the reasons of the policy proposals and options raised in this paper for a greater integrated approach for going and gone concern regulations of large banks. Paragraph 7 concludes.

2. The assessment of the post-GFC reforms

2.1 The multi-polar regulation of large banks and the implementation of the reforms

The distinctive features of the GFC contributed to build consensus that financial markets and institutions could become safer through a significant change of the (then) existing financial regulation.[8] Understanding the regulatory and supervisory failures that contributed to create the environment leading to the GFC was seen as the most important step to prevent future crises.[9] Thus, the reform of the banking and financial regulation was the centerpiece of the post-GFC internationally coordinated financial repair.

The GFC has forced central banks and regulators to reconsider the scale of systemic risk and its contagion mechanisms, triggering a fundamental revision of financial regulation, which includes more stringent risk management tools, stricter regulation on key elements of finance and banking,

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[8] The GFC stands out among the financial crises of the past, given the magnitude of its cross-border spill-over effects and the impact on the real economy at the global and national levels. This conclusion stems from a large variety of empirical research, which has used different estimation methods, created several samples of individual countries, political regions, or economic areas, and selected varying dependent and independent variables in their regressions. As an example of these strands of literature, see the following papers: Ollivaud and Turner (2014); Otker-Robe and Podpiera (2013); Furceri and Mouougane (2009); IMF (2009); and Cerra and Saxena (2008).

[9] These shortcomings have been illustrated in the years during or immediately after the crisis. According to IMF (2009), the market failures observed during the crisis occurred – after a long period of high growth, low real interest rates, and low volatility – mainly because financial regulation and macro-economic policies were not equipped to identify the growing risk concentrations in some specific economic sectors and could not take into account the build-up of systemic risks in the financial system and in the housing markets. On these issues, see also: Borio et al. (2020); Allen et al. (2018); Claessens and Kodres (2014); Claessens et al. (2010); and Obstfeld and Rogoff (2009).

and an increased number of regulators. These reforms are aimed at reducing the likelihood of similar crises in the future. [10]

The wave of reforms finalized after the GFC represents a shift towards a multi-layered system with a higher number of constraints at play.[11] It has been recognized that a regulatory framework mainly centred upon a single measure (i.e., risk-based capital adequacy requirements for banks) may not succeed in dealing with the externalities/frictions stemming from the financial system.

Micro-prudential regulation, centred upon the response of an individual bank to exogenous risk, has been complemented by macro-prudential regulation, which incorporates endogenous risk and takes into account the systemic importance of individual institutions, through factors such as their size, leverage, and interconnectedness with the rest of the system.[12]

The post-GFC reforms have allowed the international banking system to significantly increase on average its solvency and liquidity conditions, thus enhancing markets' expectations regarding its resilience and capacity to withstand unexpected shocks, as it proved to be the case with the COVID-19 emergency situation. Recent analyses show that the real economic sectors (firms, and household) would have borne higher costs in the absence of the post-GFC regulatory reforms, and that the jurisdictions most affected by the pandemic shock have been those where the implementation timeline of these reforms had suffered more delays.[13]

One of the distinctive features of the GFC was its design in order to be applicable to large financial institutions, whose failure posed a threat to the global financial system. The impossibility to apply normal insolvency proceedings (often lengthy and value-destroying) to deal with the failure of

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[10] The recurring of banking crises across centuries has been studied by Reinhart and Rogoff (2008). They offer a detailed quantitative overview of the history of financial crises in the last six centuries. They find that episodes of serial defaults and high inflation are almost universally spread in Asia, Africa and until recently in Europe. Global debt crises have often radiated from the centre through commodity prices, capital flows, interest rates, and shocks to investor confidence. The US sub-prime crisis is hardly unique, as capital flow/default cycles have been around since at least 1800.

[11] Limiting the analysis to the main tools for banks in going concern, in addition to the risk-weighted capital ratio, the post-GFC prudential framework includes a leverage ratio, large exposure limits, two liquidity standards (i.e., the Liquidity Coverage Ratio and the Net Stable Funding Ratio); and supervisory stress testing, which plays an increasingly important role across jurisdictions. See Haldane (2015).

[12] The regulatory toolkit has been widened in order to respond also to the growing role of the non-bank financial intermediation sector. For an extensive analysis of the post-GFC regulatory repair see: Visco (2013); Hellwig (2018); Signorini (2018); Trapanese (2022).

[13] See BCBS (2021).

the these large financial institutions, coupled with the absence of a viable alternative, forced governments and central banks to undertake public bail-outs, in order to avoid more serious consequences.[14] In other words, the pre-GFC legal frameworks proved to be inadequate and revealed the need for rules that were better adapted to the special nature of bank insolvencies, particularly of those banks having a systemic footprint.

The TBTF problem materializes in case of financial institutions - banks, non-bank financial institutions, market infrastructures - whose disorderly failure may have a systemic and cross-border impact, and their creditors and counterparties are incentivized to take higher risks (moral hazard).[15] This because of their expectations that governments will bail them out (implicit state support), with taxpayers paying for the losses.

After the GFC, the G20 and the FSB finalized a multi-pronged regulatory framework to address the systemic and moral hazard risks associated with large players. The failure of systemically important financial institutions (SIFIs) has the potential to pose a threat on the global financial system, given the extension of their networks of direct and indirect linkages with the other market participants.[16] In particular, these policies provide:

1) a new international standard, defining responsibilities, tools, and powers for all national resolution regimes, with the objective to allow authorities to resolve failing financial institutions in an orderly manner and without implying the use of tax-payers' money (see "FSB Key Attributes of Effective Resolution Regimes");
2) requirements for resolvability assessment and for recovery and resolution planning for global SIFIs, and for the development of institution-specific cross-border agreements between home and host authorities, in order to enhance resolvability of banks, crisis

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[14] Of course, the debate regarding the necessity of special rules for banks and their failures has not started in the aftermath of the GFC. It is underway at least from the beginning of the last century, when public authorities had to address the consequences of the wave of banking crises in the US and Europe. This issue has emerged over the decades and the regulatory toolkit has been constantly updated at each episode of banking crisis. For extensive references about the debate on the applicable regime for failing banks (above all the largest ones) before the GFC, see Hupkes (2002).

[15] See FSB (2010a).

[16] The FSB post-GFC policy framework has been defined through a building-block approach consisting of a high number of reports/documents/recommendations spanning from 2010 to 2019. For an overview, see the following: FSB (2010a and b); FSB (2011); FSB (2013); FSB (2014); FSB (2015); FSB (2019). Details on the assessment methodology for SIFIs and the higher loss absorbency requirement can be found in BCBS (2018).

preparedness and international coordination (see "FSB Recovery and Resolution Planning for SIFIs);

3) requirements for banks labelled to be systemically important on a global scale (G-SIBs), in order to reinforce their loss-absorption capacity, through capital surcharges and total loss-absorbing capacity (TLAC) (see "FSB Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution");
4) more intensive and effective supervision of all SIFIs, including through stronger supervisory mandates, resources and powers (see "FSB Intensity and Effectiveness of SIFI Supervision").

The advancement of the post-GFC reforms across G20 jurisdictions has been assessed annually by the FSB, with the objective to promote their consistent implementation, prevent regulatory arbitrage, and ensure cross-border coordination.

According to the evidence published in November 2022, the implementation of the policy framework for global systemically important financial institutions has advanced the most in the case of banks. Almost all G-SIBs' home and key host jurisdictions have in place comprehensive bank resolution regimes aligned with the FSB's Key Attributes of Effective Resolution Regimes for Financial Institutions. In particular, the implementation of higher loss absorbency as well as of the related reporting and disclosure requirements for G-SIBs is proceeding according to the agreed timeline.[17] However, the implementation of the Key Attributes is still incomplete in some FSB jurisdictions (often authorities lack the power to impose bail-in or a temporary stay on the exercise of early termination rights).[18]

Work is still ongoing to close gaps in the operationalisation of resolution plans for SIBs. G-SIB resolution planning is well advanced and the focus is shifting to fine-tuning and testing resolution preparedness. Funding in resolution remains an area of attention for firms and authorities and more progress is needed to address issues on the cross-border mobilisations of collateral and liquidity. The

[17] All relevant G-SIBs met the final 2022 minimum external Total Loss-Absorbing Capacity (TLAC) requirements and the issuance of external TLAC has continued. See FSB (2022).

[18] More work is needed to implement effective resolution regimes for insurance companies and central counterparties (CCPs). See FSB (2014), FSB (2021), and FSB (2022).

2022 review of disclosures of resolution-related information by G-SIBs and their resolution authorities showed substantial progress.[19]

In 2021, the FSB has published a comprehensive evaluation of the effects of the post-GFC reforms for systemically important banks. The exercise outlines significant progress in reducing moral hazard and systemic risk from G-SIBs without material side-effects, but there are still gaps to be closed.

This report underscores that if the international banking sector entered the pandemic crisis in a far more resilient position than before the GFC, this can be seen as a result of the post-crisis reforms, including the TBTF reforms.[20] G-SIBs have higher capital and loss-absorbing capacity to deal with future losses; new resolution frameworks have been established in order to provide authorities with more options for dealing with banks in distress; recovery and resolution planning have gained prominence within crisis management toolkits.[21]

Notwithstanding the positive elements underlined, the 2021 FSB report also points out that a number of gaps need to be addressed if the overall benefits of the TBTF reforms are to be fully reaped. In particular, the report concludes that: i) there are several key areas where improvements to the resolvability of systemic banks could still be made;[22] ii) there is a need to improve provision and availability of data and to consider the adequacy of current level of transparency for market participants; iii) there is scope for SIBs to improve their risk data aggregation and reporting frameworks, in order to assess all risks in an appropriate manner; iv) the residual gaps in the information available to public authorities, to the FSB, and to other standard setters reduce their

[19] It is worth recalling that resolution authorities have continued recovery and resolution planning consistent with the FSB Key Attributes, even during the pandemic. See FSB (2022).

[20] It is not without importance to stress that the banking systems that have been in a better position to withstand the shock – having higher on average levels and quality of prudential requirements – are those more advanced in the consistent implementation of the international standards as defined in the years after the GFC.

[21] See FSB (2021).

[22] The FSB report refers to the following: TLAC implementation; more clarity on resolution funding mechanisms; the evaluation of bank assets in resolution; operational continuity and continuity of access to financial market infrastructure (especially CCPs); and cross-border coordination.

ability to monitor and valuate;[23] v) further monitoring is needed of the application of the reforms to systemic banks at domestic level (D-SIBs).[24]

Finally, the FSB outlines that continued state support for failing banks has the potential to undermine the feasibility and credibility of resolution. Public funds continue to be used to support small or medium-sized banks, even in jurisdictions with well-developed resolution frameworks. One reason for such policies may be that resolution reforms have been implemented only recently and the system is still in transition. In other cases, state support has mostly facilitated the banks orderly restructuring or winding-up, after shareholders and (in some case) junior creditors have absorbed losses.

2.2 The banking turmoil of March 2023

In March 2023 there was the failure of three US regional banks (Silicon Valley Bank (SVB), Signature Bank, First Republic Bank) and the crisis of Credit Suisse, which was in the end merged with UBS.

In particular, as concerns the crisis of SVB, unrealised losses from concentrated bond exposures and liquidity and maturity mismatches during a period of significant monetary tightening, combined with a large proportion of uninsured deposits and social media influence, led to the deposit run on the bank. The crisis extended immediately to Signature Bank, which had a similar business model. Contagion effects spread to other US regional banks, including First Republic Bank, which was closed by the authorities and absorbed by JPMorgan. These episodes outlined how extreme business models, coupled with weak application of international prudential standards, can make banks' balance sheet particularly vulnerable to risks, such as interest rate and liquidity risks. The dynamics of the crisis has been exacerbated by the fact that mid-sized banks – like Silicon Valley Bank – have been partially or fully exempted from the liquidity requirements. Moreover, such banks have been subject to less frequent stress tests than larger ones and have been allowed not to reflect in their regulatory capital the unrealised losses on securities held in the balance sheet as "available for sale". Finally, the

[23] This includes for example information on who owns TLAC issued by G-SIBs, which is needed to assess the potential impact of a bail-in on the financial system and the real economy.

[24] Compared to G-SIBs, relatively little has been published by national authorities and at the international level about D-SIBs features and regulations More information and analysis could be used to compare prudential measures for these institutions and explore how the reforms have been applied to them.

preparation of fully-fledged resolution plans was very recent and not fully completed when the crisis outbroke. [25]

The spreading of the crisis has been contained by the prompt intervention of the US authorities, which committed to protect all uninsured deposits (i.e., those above the threshold of $250.000) of two of the three banks involved, and set up a central bank liquidity facility (Bank Term Funding Program) for eligible depository institutions aimed to ease the liquidity pressures on banks, by providing loans with maturity up to one year against the par value of high quality securities. [26]

As concerns instead Credit Suisse - a global systemically important bank - following a number of long-standing difficulties which triggered a complex refocusing of its business model, the bank experienced extreme episodes of liquidity stress in October 2022 and March 2023. In the context of the stress in the banking sector triggered by the failure of the US regional banks, there were some factors specific to the bank,[27] culminating with its final crisis on 19 March. In the end, the bank was acquired by another G-SIB (UBS), supported by a second-loss guarantee from the Swiss government, a dilution of its shareholders, a write-down of all the Additional Tier 1 (AT1) bonds and ample liquidity facilities. However, the decisions taken by the Swiss authorities on the hierarchy of claims have raised concerns. In particular, the joint press release of some EU authorities has clarified that in the EU regulatory framework common equity instruments are the first ones to absorb losses, and only after their full use would Additional Tier 1 be required to be written down. This approach has been consistently applied in past cases and will continue to guide the actions of the prudential and resolution authorities in crisis interventions.[28]

The direct and indirect effects of those events on EU banks have been limited. First, EU banks have a different business model compared to SVB, with a more diversified customer base on both sides of the balance sheet. Even during the market turmoil of March 2023, the liability side of the EU

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[25] For an in-depth examination of the US deregulation in 2018-2020, see: Trapanese (2020); Turner (2023); Smith and Palma (2023); and Wilkes (2023).

[26] For a review of the US crisis cases and the potential options for the US deposit insurance reform, see: Board of the Governors of the Federal Reserve System (2023); FDIC (2023a); FDIC (2023b); FDIC (2023c); and NYU Stern Business School (2023)

[27] The bank announced in mid-March the delayed publication of its full financial statements, plus there was a widely publicised statement by a large shareholder of the bank, announcing that it did not want to subscribe further capital increases.

[28] The joint communication of the SSM, EBA, and SRB on 20 March has outlined the importance of a consistent application of the EU framework as regards the hierarchy of claims, thus providing reassurance to the AT1 market.

significant banks has remained stable. Second, differently from the US, the EU legislators have applied the international regulatory standards to all the banks operating in the EU, irrespective of their size.[29]

The recent episodes of banking crises have stimulated a number of reflections by regulators and policy-makers on important issues concerning banks' governance and risk management, as well as the prudential and resolution framework. Both the Basel Committee and the Financial Stability Board have announced a review of the March 2023 market developments and actions undertaken by the authorities, with a view to draw lessons in the prudential and resolution fields.[30] While it is too early to draw concrete lessons, some reflections have been made by several commentators and international regulators, and some reforms have been put in place or recommendations formulated at national level.[31]

As concerns prudential supervision, the preliminary takeaways stemming from the turmoil include consideration of: the importance of supervisors analysing banks' business models and assessing a bank's governance and risk management in light of the crucial role exercised by its governance and risk management bodies for its resilience; the regulation and oversight of liquidity risk; the regulatory treatment of interest rate risk in the banking book; the treatment of held-to-maturity (HTM) assets; the importance of exercising supervisory judgment and reviewing the existing supervisory toolkit.

In the US, in the context of the implementation of Basel III published on 27 July 2023,[32] the US regulators[33] have proposed to extend some requirements to regional banks. In particular, the proposal would require to all banking organizations with $100 billion or more in total assets to calculate regulatory capital in a consistent manner, including by reflecting unrealized gains and losses on available-for-sale securities in regulatory capital to better reflect actual loss-absorbing capacity.

[29] Moreover, the EU supervisory authorities have started to monitor more in depth interest rate risk and credit spread risk as soon as the first signs of inflationary pressure emerged, triggering the normalisation of monetary policy, and included these risks in their supervisory priorities, along with liquidity and funding risks. See Enria (2023).

[30] See: BCBS (2023); and FSB (2023a).

[31] See: Barr (2023); Hernandez De Cos (2023); Gruenberg (2023); Laboureix (2023); FDIC (2023d and 2023e); Report of experts on banking stability set up by the Swiss Federal Department of Finance after the demise of Credit Suisse.

[32] See FDIC (2023d).

[33] The Board of Governors of the Federal Reserve System (Fed Board), the Federal Deposit Insurance Corporation (FDIC), and the Office of the Comptroller of the Currency (OCC).

Additionally, the proposal would require all banking organizations with $100 billion or more in total assets to meet the supplementary leverage ratio requirement and apply the countercyclical capital buffer, if activated.

As concerns the resolution framework, a number of issues to be considered have been highlighted, such as:[34] the expansion of the scope of resolution planning and loss-absorbing capacity requirements, in relation to the systemic effects determined by non-systemic banks upon their failure (US failures); the need for a credible public liquidity backstop to restore market confidence after a crisis; the need to better operationalize some tools that are available in a resolution (e.g., the sale of business or other transfer tools); the conduct of stress test and simulation exercises at the domestic and international level in peace times; the improvement of communication and coordination mechanisms among authorities regarding internationally-active banks; the consideration of how the behaviour of depositors can be influenced by digitalization and social media; the implications of recent events for the role of deposit insurance in resolution arrangements.

One might not rule out that these reflections might lead to envisage specific and ad hoc improvements of the framework and of its implementation, for example with reference to the adequacy of the level and the extension of the deposit insurance coverage and a more in-depth understanding of the impact of bail-in on banks and markets.

In the US, on 29 august 2023 the FDIC has deliberated a long-term debt requirement for banks with $ 100 billion or more in assets. This requirement will introduce an additional layer of loss absorption before uninsured depositors, thus lowering their incentive to run, reducing the cost for the Deposit Insurance Fund in case of failure, increasing the options in resolution.[35]

In Switzerland, the Report[36] of the Expert Group on Banking Stability - set up by the Government to assess the need for reform after the Credit Suisse demise - made four recommendations to strengthen the prudential, supervision and crisis management framework : a) enhancement of crisis management preparedness, through sharing of responsibilities among the three Swiss authorities (Finma, SNB, Federal Dept. of Finance) and jointly monitoring and evaluating the viability of resolution of global and domestic systemically significant banks; b) address gaps in access to liquidity, regarding both ELA and the temporary provision of public liquidity in resolution (public

[34] See also FSB (2023b).

[35] See: Gruenberg (2023); and FDIC (2023e).

[36] See Swiss Federal Department of Finance (2023).

liquidity support); c) additional and more effective tools for banking supervision; d) improvement of transparency by Finma on the capital quality, given the damage suffered by the Swiss AT1 bond market.

3. Prudential and resolution frameworks of the EU large banks

As mentioned in the previous paragraphs, the reforms put in place for large or systemic banks following the GFC cover three areas: a) more intensive prudential supervision; b) ensuring that systemic banks have a higher loss-absorbing capacity through capital buffers, which vary in amount according to an institution's systemic importance; c) establishing a resolution regime that ensures resolvability of banks when they are failing or likely to fail (gone concern).

The reforms have been implemented through micro-prudential supervision and resolution policies, and through macro-prudential measures. The three frameworks aim at reducing the expected loss to the financial system and to the real economy from the failure of a large bank by reducing both the probability of default (PD) and the loss given default (LGD).[37] The loss arises in the event of failure of an institution due to idiosyncratic reasons or to direct and indirect contagion. An increased loss absorbency capacity through the introduction of capital buffers as well as a more intense supervision are effective on the reduction of the probability that a bank defaults, while credible recovery and resolution plans are instead more effective in reducing the loss given the default of the bank.

However, capital buffers can also help reducing the LGD, assuming that the shareholders are better placed to absorb losses than creditors, thus decreasing the spread of contagion. By the same token, credible recovery and resolution plans can lower the PD by reducing moral hazard, and more intense supervision can mitigate the LGD if the institution is declared as failing or likely to fail on time.[38] Therefore, although the frameworks may have been developed and implemented separately, they need to be aligned and coordinated, otherwise systemic risks may not be reduced.

Turning now the attention to Europe, we take into consideration the banks deemed 'significant' in the Banking Union (BU), a concept which includes not only the globally systemic institutions but also all the banks belonging to countries participating to the BU and having assets at least equal to

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[37] In relation to the fact that there is no single solution to the externalities posed by a G-SIB, the global regulators followed a multiple approach, reducing the probability of default by increasing the going concern loss absorbency, and reducing the impact of a failure of a G-SIB by improving the recovery and resolution frameworks. See BCBS (2018).

[38] See Ebner and Westhoff (2023).

€30 billion, or being among the first three banks by assets in the respective country. Indeed, there are many banks that are not systemic or critical from a global perspective, but whose distress or failure could nevertheless have an important impact on their domestic financial system and economy.[39]

As mentioned in paragraph 2, we therefore explore how the prudential and resolution frameworks have worked as part of an integrated approach in the following policy areas: a) consistency between systemic importance / significance of banks and their resolvability assessment; b) recovery and resolution planning and the exchange of information in crisis preparedness and execution; c) interaction between capital buffers and going/gone concern requirements.

3.1 Significant size and resolvability assessment

The systemic importance of an institution is based on the effects of its failure on the financial system and the whole economy. In the EU framework, an institution is deemed resolvable if it can either be liquidated or resolved through resolution tools without significant adverse effects on the financial system and the real economy.[40] Both concepts refer to the minimization of the LGD.

In particular, the resolution authorities can place a bank under resolution if all of the following conditions are met: a) the bank is failing or is likely to fail; b) there are no alternative private measures or supervisory actions that can avoid the bank's failure; c) a resolution action is necessary in the public interest. A resolution action is deemed to be in the public interest if it is necessary for the achievement of the resolution objectives - these objectives being the continuation of critical functions, the avoidance of significant adverse effects on financial stability, the protection of public funds, covered deposits, client funds and client assets - and the liquidation of the bank under normal insolvency proceedings would not allow to fulfil these objectives to the same extent as resolution.

In this framework, a crucial criterion to decide whether a bank has to be earmarked for liquidation or resolution is the Public Interest Assessment (PIA) test (see Box No. 1).

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[39] Significant institutions could be considered at this stage as a proxy of banks that are systemically significant or critical in failure. The FSB guidance leaves it to individual jurisdictions to determine the approach to assess which financial institutions could be systemically significant or critical at domestic level if they fail (national authorities are usually best placed to make this kind of assessment).

[40] For the resolvability assessment, see art. 15 and 16 and Annex C of the Bank Recovery and Resolution Directive (BRRD).

Box 1: ***Public Interest Assessment in the Banking Union***

The public interest assessment (PIA) is a key safeguard in bank resolution. Both at the resolution planning stage as well as at the time of a failing or likely to fail (FOLTF) declaration, the PIA guides the resolution authority whether to take a resolution action or whether the bank can be liquidated under normal insolvency proceedings. In the BU, the Single Resolution Board (SRB) assesses whether a resolution would be necessary to ensure one or more of the resolution objectives mentioned in the Single Resolution Mechanism Regulation (SRMR), with the objectives identical to those included in the Bank Recovery and Resolution Directive (BRRD.[41] The PIA is bank and time specific. The assessment is carried out each year as part of resolution planning for each bank in the SRB remit.[42]

However, it is updated when a bank is failing or likely to fail, because the prevailing economic circumstances can trigger a different outcome. The results can change through good and bad times, and this is certainly even more relevant now, given the challenging economic circumstances of the last years.

Within the existing legal framework, in 2021 the SRB introduced an updated policy, to take into account that a bank's failure may take place not only under an idiosyncratic scenario, but also under broader financial instability or a system-wide event (SWE), as requested by art. 8.6 of the SRMR and 10.3 of the BRRD.[43]

The consideration of a bank failure under a SWE strengthens the choice of the best resolution strategy and increases the protection of European taxpayers and further safeguards financial stability in the EU. To allow for a transparent and consistent assessment, the SRB assumes the scenario underlying the EU-wide stress test performed by the European Banking Authority (EBA), in cooperation with the European Central Bank (ECB) and the European Systemic Risk Board (ESRB). The estimated impact on banks' capital reflects the effects of an underlying extreme, but plausible, macroeconomic deterioration affecting all banks simultaneously[44]. After having weakened all the non-failing banks with a depletion of CET1 in line with the outcome of the stress test, the public interest assessment looks at the direct and indirect contagion effects caused by the failing bank.

Consistently with the PIA policy applied since 2019, if there is a doubt between liquidation and resolution strategy, the SRB would prefer to prepare for a resolution scenario.

In 2022, the SRB has enhanced its approach to the assessment of the objective of deposit protection in the PIA. This policy enhancement strengthens the choice of the best resolution strategy to safeguard resolution objectives of financial stability and of protection of covered deposits. As from 2022, the SRB is also able to assess the contagion to the insurance sector stemming from a failure of a bank under its remit[45].

Finally, the SRB and National Resolution Authorities (NRAs) are also following the changes to the PIA approach which are included in the 2023 European Commission proposal on the review of the crisis management framework in order to be ready to implement them in a consistent way across the BU once approved by the EU co-legislators. The main changes concern the assessment of critical functions at regional level rather than only at national or EU level and the extension of the scope to classify into resolution small and mid-size banks with respect to liquidation making reference to the five objectives of the PIA[46].

In the BU the conditions for resolution are generally expected to be met in case of systemic or significant institutions; in particular, the set of institutions earmarked for resolution is much wider than the Global Systemically Important Institutions (G-SIIs)[47], because the PIA test shows that there is a public interest to be preserved. There are also a few banks classified as significant but for which the PIA test is negative, therefore they are earmarked for liquidation. The resolvability assessment is relevant only for the banks for which a resolution strategy is chosen by the competent authority. In the BU, according to an SRB report on resolvability, at the end of 2022 out of 103 significant banks there were 85, representing 97% of risk-weighted assets, for which the SRB had chosen a resolution strategy.[48]

Conversely, 15 significant banks were classified for liquidation, mostly made up of public development banks and smaller banks with a specific business model, accounting for only 3% of the risk weighted assets. Therefore, the majority of EU banks are too large or systemically important to go into liquidation without financial stability effects and/or provide banking services that are critical for the economy and not substitutable in an appropriate timeframe.

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41 See SRB (2019).

42 In the BU, the banks under direct responsibility of the SRB are the same as those of the SSM, except for cross-border Less Significant Institutions (LSIs), which are only in the remit of the SRB.

43 See Laviola (2021).

44 For the latest results of EU-wide stress tests, see EBA (2023), 28 July.

45 See Laviola (2022).

46 See EU Commission (2023).

47 According to the methodology and classification of the Basel Committee on Banking Supervision, in the BU there are only 8 significant banks that are also G-SIIs (G-SIBs in the global framework).

48 See SRB (2023b).

The 2021 SRB report shows that banks have made significant progress in the areas defined as a priority to achieve resolvability. However, consistently with the FSB approach, the report makes also clear that achieving resolvability is '*a marathon, not a sprint*'. The good progress shown is the result of a continuous and iterative process and an active dialogue between the SRB and the institutions under its remit. The SRB expects banks to achieve full resolvability by the end of 2023 – i.e. to meet the MREL targets according to the determined schedule and to put in place all operational capabilities supporting the execution of their strategy. Going forward, banks will be requested to undergo a structured program of resolvability testing, in order to ensure that they keep a satisfactory level of resolvability and address any shortcomings due the evolving nature of their business and the appearance of new risks in a satisfactory way[49].

3.2 A consistency assessment in practice

The classification of credit institutions according to their significance or systemic importance and the resolvability assessment of banks are carried out separately, on the basis of different sets of criteria and by different authorities – supervisory authorities, macro-prudential authorities, and resolution authorities - both at national and supra-national level. Nevertheless, at the EU level there seems to be a reasonable degree of consistency in the application and evolution of these frameworks.

In the first place, the enhancement of the Public Interest Assessment by the SRB in 2021 to take into account system-wide events allows to evaluate whether a bank's failure triggers a financial stability issue, indicating that resolution is in the public interest, or, in case of a bank already earmarked for resolution, affecting the choice of the most adequate resolution tool in the given circumstances.

Secondly, the EBA Guidelines on the Supervisory Review and Evaluation Process (SREP) envisage that the supervisory authorities include the MREL requirement in the list of key indicators subject to regular monitoring and assess the impact of institutions' stress tests also on their eligible liabilities; more in general, in assessing the viability of institutions' business models and strategic plans, the supervisors should also consider recovery and resolution plans, including the results of the resolvability assessment to be provided by resolution authorities in accordance with the BRRD.[50]

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[49] See SRB (2023b).

[50] See EBA (2022a).

Thirdly, the EBA Guidelines on the systemic importance of domestic banks (O-SIIs) have outlined the importance of resolvability, which can be a significant input to be used optionally to complement the prudential dimension. There is not specific evidence, so far, that this option has actually been used in any jurisdiction. [51] This may be related to the fact that no specific indicator is mentioned in the EBA GL, so more clarification in this regard may be useful. Furthermore, this may also depend on the fact that the achievement of resolvability is still on-going. In the near future, it may therefore make sense to incorporate it both in the classification of banks according to their systemic relevance and also in order to define consistent actions that could be taken at macro-prudential level[52]: for example, increasing the O-SII buffer may be an action undertaken in order to compensate for delays in/impediments to resolvability which may determine a higher impact on the real economy and the financial sector in case of failure of the institution.

Fourthly, recent changes in the methodology for the identification of systemic banks at global and European level point to the introduction of a more systematic interaction between systemic relevance and resolvability assessments. The BCBS[53] has recently carried out a targeted review of the treatment of cross-border exposures within the European Banking Union (BU) for the purposes of the methodology of identification of G-SIBs. So far the quality of the resolution framework was not considered in the methodology, not even in terms of possible supervisory judgement.

In its review, the BCBS acknowledges the progress made in the development of the Banking Union, including the resolution framework, and has agreed to give recognition in the G-SIB framework to this progress allowing for adjustments to be made according to supervisory judgment. In practice, a reduction of the score assigned to each G-SIB is allowed for BU banks, resulting from treating cross-border exposures within the Banking Union as domestic exposures. This effect is related to a possible change in the bucket allocation of the European G-SIBs and the magnitude of the associated capital buffer.

Finally, the review of the crisis management and deposit insurance framework (CMDI) in the EU aims at broadening the application of resolution tools at European and national level, including for smaller and medium-sized banks, as well as at clarifying and harmonising the application of the

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[51] The EBA analysis undertook an in-depth examination of the current arrangements in some key EU countries (e.g., NL, DE, AT, FR, PL, IT), and also UK, in order to identify possible best practices. See EBA (2014).

[52] At micro-prudential level, the current framework already envisages an incentive/disincentive mechanism in the face of progress on resolvability in terms of calibration of the subordination MREL requirement.

[53] See BCBS (2022a).

PIA.[54] This may be particularly relevant for the LSIs, where the PIA criteria have been applied in different ways. In particular, the recent proposal of the EU Commission incorporates the performance of critical functions at regional level, not any longer at national level only, thus paving the way for a greater consistency between the assessment of resolvability for the banks earmarked for resolution and the classification of banks at local level in relation to the impact of their failure on the real economy.

4. Recovery and resolution plans and information exchange in crisis preparedness and execution in the EU

4.1 Consistency and interplay between recovery and resolution plans

The 2014 FSB Key Attributes of Effective Resolution Regimes assign a specific role to recovery and resolution plans to reduce the likelihood of a bank's failure and limit the impact of a bank's failure on the rest of the financial system and the real economy. These two regulatory tools have the objective to identify options to restore the viability of a bank in going concern situations (recovery plan) or facilitate the activation of resolution powers, once a bank enters resolution (resolution plans).

Recovery plans are developed by banks and assessed by prudential supervisors, whereas resolution plans are defined by resolution authorities. Although formally separated under the BRRD, in principle recovery and resolution should constitute a continuum, it is thus essential that both plans are part of an integrated planning approach, given that inconsistencies between the two plans could undermine the effectiveness of the framework. In the BU, recovery plans written by the banks are assessed by the Single Supervisory Mechanism (SSM) of the ECB for significant institutions, and are consulted with the SRB. Resolution plans, once written by the SRB staff, are in turn consulted with the ECB-SSM.

In 2020, the EBA concluded that in this field more progress could be achieved, since the various steps of the two plans should be more closely aligned and there is the need to assess the implications of recovery options on resolvability and the impact of resolution plans on recovery plans and ongoing supervision.[55]

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[54] See Eurogroup (2022).

[55] See EBA (2020a).

In 2021, the EBA published a progress report, which reviewed the minimum list of recovery indicators including, *inter alia*, those linked to MREL and TLAC, as important regulatory requirements and fundamental to ensuring resolvability of institutions.[56] In addition, a sound and holistic policy framework would entail that the same requirements, MREL and TLAC, are fully integrated in the recovery framework, contributing to the assessment of the overall recovery capacity of institutions in the context of the evaluation of the institution's risk profile within the SREP.[57]

4.2 Information exchange for resolution planning and execution

The integration and convergence of the prudential and resolution frameworks hinge also on the efficiency of the information exchange between different authorities. Cooperation between prudential supervisors and resolution authorities is essential to ensure a smooth resolution process of institutions. The FSB Key attributes for effective resolution regimes recommend jurisdictions to ensure that an appropriate exchange of information between supervisory and resolution authorities is possible, both in normal times and during a crisis, at a domestic and a cross-border level.

As first and second pillars of the Banking Union, the ECB-SSM and the SRB have close cooperation arrangements in place which range from going-concern times to crisis times. On the basis of Article 30(7) and 34(5) of the SRMR, the ECB and SRB concluded the first Memorandum of Understanding (MoU) in 2015. After a minimal revision in 2018, such agreement was substantially reviewed in 2022 [58] to account for the lessons learnt from recent crises, reflect the provisions included in the revised legislation on capital adequacy and crisis management approved in 2019 (CRR II -CRD V and BRRD II) and formalise current practices (see Box No. 2 below).

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[56] See EBA (2021a). The threshold calibration for MREL should be agreed by the competent authority in consultation with the resolution authority when making their assessment of the recovery plan. Given the importance of swift cooperation and coordination, upon being notified by the institution of a breach of the MREL indicator, the competent authority should inform the resolution authority and collaborate with it, considering the importance of MREL to the resolution objectives.

[57] See EBA (2022b).

[58] See SRB (2022).

Box 2: ***SRB-SSM cooperation and information exchange***

Against the background of their different responsibilities, the ECB-SRB revised MoU of December 2022 enhanced cooperation and led to strong convergence between the two authorities. Since the creation of the SRB, the SRB and the ECB cooperate closely in resolution planning, early intervention and resolution phases. The SRB is responsible for resolution planning, including the assessment of resolvability and the determination of MREL, while the ECB is in charge of assessing institutions' recovery plans and remedy the deterioration of an institution's financial and economic situation (early intervention measures) before that institution reaches a point at which the SRB has no other alternative than to resolve it by applying the resolution tools. The revised MoU reinforced and expanded many aspects of such cooperation.

As concerns the *cooperation in crisis times*, following the lessons learnt from the last crisis cases, in Early Intervention (EI) the MoU reinforces the principle by which the ECB shares with the SRB its assessment on EI conditions and the potential measures to be taken at the same time they are submitted to the supervisory decision-making body, to enable the SRB to swiftly prepare for resolution. In addition, on the failing-or-likely-to-fail condition (FOLTF), the ECB liaises with the SRB sufficiently in advance in the process, so that the timeline and steps are clearly defined and the relevant information is exchanged for the necessary consultations and the SRB's preparatory work for valuation and resolution. Similar provisions are also included in the proposed revision of the crisis management framework presented in April 2023 by the European Commission[59].

With reference to the criteria for *information exchange*, the information is shared between the ECB and SRB: (i) automatically (without request); or (ii) upon simple written request; or (iii) upon formal request. The MoU has enhanced automatic information sharing both in normal and crisis times. This includes, for entities approaching crisis, information on loan tapes and the draft FOLTF assessment. The revision reflects also the ECB-SRB cooperation on liquidity, which involves cooperation on the development of a joint liquidity template and the automatic exchange of data based on this template. The MoU also encompasses the exchange of some data on Less Significant Institutions (LSIs).

Finally, as concerns *the consolidation of other cooperation arrangements,* the MoU specifies and formalizes ECB-SRB cooperation in many other areas. Some derive from the application of the revised banking legislation, such as the clauses related to the cooperation on the potential suspension of dividend distributions for banks in resolution (M-MDA), the cooperation on the authorization to banks to redeem liabilities eligible for the minimum resolution requirement (MREL) according to art. 78a of the CRR, or on breaches of this requirement. Other arrangements reflect current practice such as those on the ECB consultation on draft resolution plans and MREL, and the SRB consultation on recovery plans.

The revised MoU can be considered a milestone in the ECB-SRB cooperation, as it enhances almost every aspect of the cooperation and sharing of information between the two authorities, especially on crisis management and information sharing. It also shows how SSM and SRM are not just two single pillars of the Banking Union, but their work is more integrated.

In addition to supervisory information, there is however other information, collected by the central banks for statistical and monetary purposes, which is crucial for the tasks of resolution authorities, like the Securities Holding Statistics (SHS) and AnaCredit databases.

The analysis underpinning the PIA is dependent on having a regular and timely as well as highly granular access to relevant data, in order to fully meet the objectives to deliver on key tasks as required in the EU legislation, and to allow horizontal consistency both in resolution-planning phase and in crisis cases.

The SHS statistics include information on the cross-holdings of securities by banks, therefore it is important to assess the potential indirect contagion effects of a resolution tool, such as the bail-in tool, when applying the PIA test in resolution planning and at the time of failure. The AnaCredit database is instead useful to conduct potential valuations of a failing bank's balance sheet in case of urgency and to assess the relevant sectoral concentration of banks' exposures during resolution planning and crisis preparedness.

The resolution authorities have not generally access to this information, that is why the SRB has finalised in August 2023 a Memorandum of Understanding with the ECB (monetary side) on this aspect[60]. The access to this information will allow to reach a much greater consistency between prudential and resolution authorities in the analysis and conclusions on the state of health of banks.

Finally, another area where a greater efficiency would be beneficial concerns the integration of statistical, supervisory and resolution reporting from intermediaries. Since 2018, the SRB has partnered with the EBA in developing the technical standards for resolution reporting. The main benefits for banks would be their ability to use a single Data Point Model (DPM) for both their prudential and resolution reporting obligations[61]. In practice, this collaboration between the SRB and

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[59] See EU Commission (2023).

[60] See SRB (2023a).

[61] Under Regulation (EU) 575/2013 article 20.8, the EBA is entrusted with elaborating the implementing technical standards for prudential reporting.

the EBA has also resulted, where feasible, in more harmonised data definitions between resolution and prudential reporting.

More recently, in December 2021, as requested by art. 430c of the CRR, the EBA[62] published a feasibility study on integrated reporting[63] for the development of a consistent system for collecting statistical, resolution and prudential data. The aim of this initiative is that supervisors "define once" and banks "report once".

This initiative takes into account the findings of the Cost of Compliance study[64] published by the EBA in June 2021. In practice, integrated reporting will focus on the development of a common data dictionary and a central data collection platform for reporting. The initiative proposes governance through the creation of a Joint Bank Reporting Committee (JBRC), linked to the industry via a reporting contact group. The EBA, ECB, SRB and the European Commission are collaborating on draft proposals for the roll out of this initiative, and provided an update on the progress to date to national authorities and the industry at end-2022.

The next steps on the implementation of the integrated reporting initiative will be the validation of the proposals by the EBA and ECB decision making bodies with the aim of formalising a Joint Bank Reporting Committee as of 2024. Notwithstanding the fact that the initiative will necessarily take some time for its completion and it will be completed step by step and by milestones, it has the potential to decrease substantially the reporting burden for reporting entities, improve the efficiency and security of the use of the data, contribute to the integration of the prudential and resolution frameworks.

Finally, closer cooperation between resolution authorities and macro-prudential authorities may also be beneficial. This may help to gauge the macro-prudential effects of micro-prudential measures, and to use effectively resolution tools in a systemic crisis. The EU framework does not explicitly envisage this cooperation, but does not prevent it either. ECB and ESRB support to enhance exchange of information among the different types of authorities. It can usefully be put in place in different ways (MoUs; exchange of info; joint products, etc.). In this regard, it is worthwhile to mention that the proposed revision of the crisis management and insurance framework presented by the Commission in April 2023 envisages a modification of art. 30 and 34 SRMR to enhance the exchange

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[62] EBA Mandate under Article 430c of the Regulation (EU) 575/2013

[63] See EBA (2021b).

[64] See EBA (2021c).

of needed information among authorities.The exchange of information may help to deal with different aspects, such as the distribution restrictions when buffers are breached in the MREL framework or with the overlap of capital buffers with minimum requirements, which are dealt with in the next section.

5. Capital buffers and minimum requirements: how to improve the current framework?

5.1 Buffer overlaps from the large banks' perspective

Capital buffers play a key role within the post-GFC regulatory reform, to the extent that they allow banks to tackle risks more effectively in going-concern situations.[65] If buffers overlap with minimum prudential or resolution requirements, their effectiveness in increasing the overall loss absorbency in the banking system might be to some extent overestimated.[66]

The buffer overlapping issue is relevant from a TBTF perspective under several respects. First, since a specific strengthening of capitalization for large banks was one of the avenues envisaged to address the TBTF problems after the GFC, any regulatory inconsistency that potentially reduces these safeguards weakens the envisaged solution to the TBTF. A large bank is asked to hold comparatively more capital than smaller peers, with a view to having a sufficient leeway to absorb losses as a going concern in case of crisis; if this leeway is actually smaller than intended, the benefit from enforcing special capital rules on large banks is also reduced.

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[65] To perform an anti-cyclical function, buffers should be accumulated in good times and released in downturns In principle, banks should be capable to effectively use their accumulated buffers to absorb losses, without breaching any minimum requirement by doing so. These capital cushions, however, are not fully usable if the same instruments are simultaneously used to meet different requirements, such as minimum leverage ratios or risk-weighted or unweighted TLAC/MREL requirements. See: BCBS (2011); and FSB (2015).

[66] The issue of buffer usability has become relevant during the COVID-19 pandemic, in 2020. To mitigate the risks of a credit crunch, authorities allowed banks to dip into their accumulated buffers. The allowance however resulted in a lower-than-expected usage of his opportunity from the part of many lenders. Banks' behaviour can be traced back to several causes. First, fiscal, monetary and supervisory support measures reduced the banks' capital needs for lending. Second, perceived market pressures encouraged banks to stick to high capital ratios to avoid stigma, irrespective of milder supervisors' requests. See: BCBS (2022b); and Behn et al. (2020).

Second, since buffer usability impairment is asymmetric across banks, and stronger for large lenders, the regulatory capital structure would exacerbate, rather than counter, the TBTF.[67] At the same time, the wide heterogeneity in the materialization of buffer overlaps complicates the solution of the issue, since potential remedies would have asymmetric effects for banks using the IRB models or not, from different regions, and with different business models or sizes.[68]

In spite of a general acknowledgement of the issue, the exact quantification of the buffer overlapping and the consequent reduction in buffer usability is subject to technical aspects and underlying assumptions. Moreover, the quantification is jurisdiction- and bank-specific, depending on heterogeneous requirements and instruments to comply therewith.[69] The reason behind the less-than-complete usability of capital buffers is that most regulatory frameworks envisage such buffers as an additional cushion with respect to risk-weighted minimum requirements (Pillar 1 and Pillar 2 requirements), but not with respect to other requirements.

Therefore, the capital instruments used to accumulate risk-weighted buffers can at the same time fulfil the minimum leverage ratio or the TLAC/MREL requirement. This prevents banks from exploiting, in case of need, these accumulated buffers without breaching other requirements. The capital double counting also creates inconsistencies between the purpose of macro-prudential buffers, which is mainly to counter systemic risk, and that of capital requirements, which mainly protect banks form the realization of idiosyncratic risks. Finally, as said above, the amount of capital that could be concretely reduced without incurring in sanctions for breaching parallel requirements appears lower than intended by regulators.[70]

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[67] Under this respect, it is noteworthy that ESRB (2021) points out that, for example, the leverage ratio buffer imposed on G-SII simply exacerbates the overstatement of buffer usability, given its overlap with the TLAC framework, and finds that the buffer usability is lower for the largest banks and for those banks adopting the internal ratings based approaches to calculate risk-weighted assets. See also Box No. 4 for a comparison of the relevance of the buffer overlapping issue across jurisdictions.

[68] In some cases, buffers could help large banks in transmitting monetary policy in crisis times but that could be hindered if buffers are not to be bridged.

[69] Several studies quantify to what extent the ability to use buffers in bad times is restricted due to the 'allowed' simultaneous use of capital for buffers and minimum requirements. See Cornacchia and Guerra (2022) for an in-depth analysis of this issue.

[70] Another lesson learnt from the COVID-19 crisis is that a rebalancing of buffers could be needed, to reinforce the room of manoeuvre against cyclical shocks, while reducing the structural buffers. Such a rebalancing would of course make the CBR more volatile, and the implicit lower bound to the amount of actually releasable buffers would emerge more frequently.

5.2 Possible options to improve the current framework

Regulators have paid an increased attention to an effective buffers' usability by banks. In Europe, potential solutions could be usefully framed within the wider possible review of the EU macro-prudential framework. The responses to the consultation on this review launched by the EU Commission acknowledged the materiality of the issue of interaction between micro-prudential, macro-prudential and resolution frameworks along with lack of coordination between authorities, that can result in conflicting policy measures or double counting.[71]

A possible remedy to an insufficient amount of usable buffers could be that macro-prudential authorities impose higher levels of releasable buffers This option would have the advantage to be implemented with unchanged regulation and to increase *de facto* the banks' resilience.

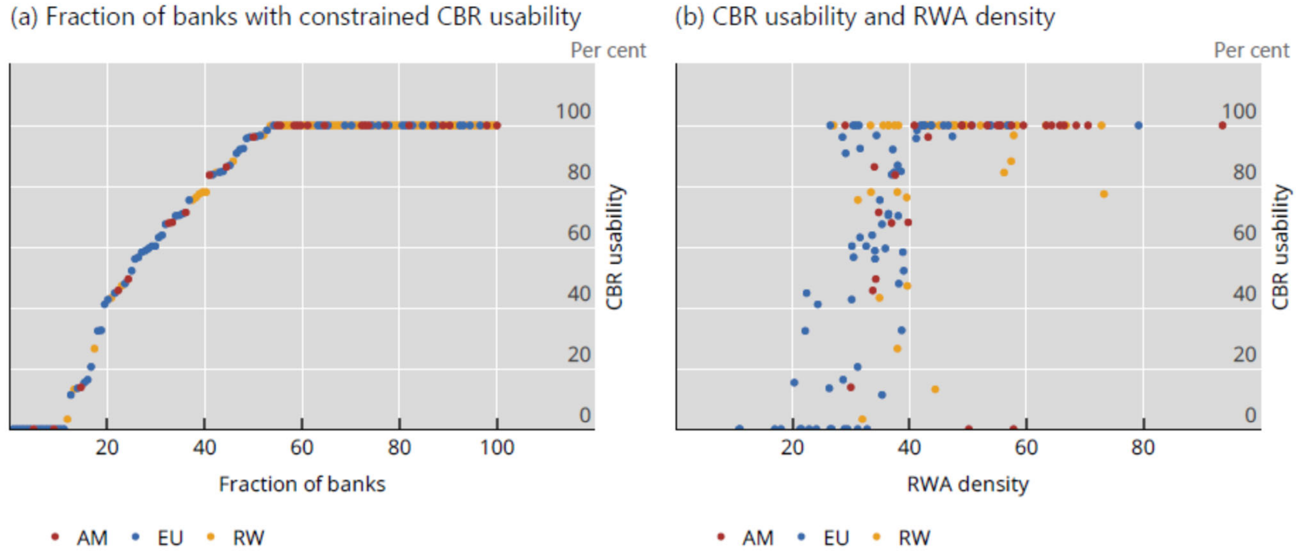
However, the tightening of the framework would be asymmetric, since its concrete impact on banks would depend on the quality of instruments that banks use to fulfil their requirements. As double counting applies to selected, not all, capital instruments, the impact on overall usability from higher buffers would be minor for banks that largely rely on instruments not subject to double counting (e.g., AT1 or T2 liabilities).

Finally, the adjustment costs to comply with higher capital buffers would also differ across jurisdictions that currently implement heterogeneous buffer levels, with a larger catching-up effort imposed on banks from low-buffer jurisdictions and a subsequent modification of the level playing field.[72]

[71] See: EU Commission (2021b); EBA (2022c); ECB (2022c); and ESRB (2022).

[72] For instance, in mid-2021, BCBS (2022) documents that about 10 per cent of international banks had no room at all to use their CBR, and close to half sample had a partial capability to dip into their accumulated buffers, due to parallel requirements. The distribution of these banks was uneven across jurisdictions and across business models. In particular, almost all the cases of imperfect usability were found at banks with low RWA density (below 40 per cent), i.e. typically banks with more sophisticated IRB models, often the largest ones. This lends support to the conclusion that usability issues are also TBTF issues.

CBR usability across 144 banks in H1 2021 (leverage ratio interaction) Graph 5



The sample includes 144 banks from the following regions: AM = America, EU = Europe, RW = Rest of the world. CBR usability of European banks might be slightly underestimated as AT1 and T2 shortfalls of pillar 2 minimum requirements are not taken into account.

Source: BCBS.

Alternatively, the regulatory framework could be changed, with a view to making it more symmetric across prudential and resolution purposes, and across risk-weighted and unweighted (leverage/MREL) requirements. This would have the advantage to reduce the room for cross-usages of the same capital instruments that exploit the loopholes in differently defined requirements. Concretely, leverage buffers could be imposed that mirror all risk-weighted buffers, for both prudential and resolution purposes. However, such a measure would be very conservative, it would be equivalent to a generalized increase in the buffer requirements, which would imply significant additional costs for institutions.

Regulatory changes should minimise the risk that new buffers and capital definitions lead to a growing complexity and rigidity of the overall framework. This should be assessed against the current debate on these issues, which has been given renewed attention with the EU public consultation. In fact, this option would possibly make the capital framework even more complex than it currently is, whereas several proposals from academic and policymakers have advocated radical changes to streamline the design of capital buffers.[73]

[73] See: ESRB (2021); and Woods (2022).

The revision of the regulatory framework would require a very close coordination among authorities, both ex-ante and ex-post. Ex-ante, i.e. when authorities set the level of desired capitalization, macro-prudential, micro-prudential and resolution purposes would be enshrined in a clearer and more coherent structure of requirements and buffers, against both nominal and risk-weighted exposures.[74] Ex-post, formal mechanisms should be established to push authorities to share information with each other about the level of requirements, possible breaches and supervisory actions. Such mechanisms are often missing in some jurisdictions.

For example, EU micro-prudential or resolution authorities currently are not obliged to inform macro-prudential authorities about their supervisory measures or about detected breaches. This lack of information has the potential to challenge buffers' calibration. The involvement of macro-prudential authorities through timely information flows, both on capital breaches and the envisaged recovery plans, is particularly crucial when the largest banks are concerned, since the potential macro-prudential impact of their capital weakness is larger.

An additional solution to – at least partly - tackle the issue would entail changing the composition of the capital instruments through which the recapitalization amount of the MREL requirement must be fulfilled. At the moment there is no explicit requirement in the EU regulation for banks to use MREL eligible liabilities or capital instruments other than CET1 for such purposes.

Such a prescription, that we specifically refer to the recapitalization amount of the MREL requirement (in order not to touch supervisory ratios) would help reduce the buffer overlap, on one side, and make a FOLTF bank recapitalization easier, on the other: in fact, CET1 absorbs losses automatically, so in the theoretical case a bank met the MREL recapitalization amount only with CET1 instruments, the risk is that if and when that bank approaches the FOLTF, that capital has already disappeared and the recapitalization amount is not available exactly at the moment it is more needed. This option assumes the capacity for banks to tap the institutional market for meeting the MREL recapitalisation requirement with instruments other than CET1.

The current debate has oscillated between leaning towards the first option and calling for solutions that do not contradict capital neutrality, i.e. do not trigger an overall increase in required capital. While the different opinions concur in calling for closer coordination among authorities and

[74] Ebner and Westhoff (2023) also remark that closer cooperation among authorities is a key ingredient of what they label 'an integrated approach' to capital buffers, which however entails, in their view, a generalized increase in required buffers.

greater transparency in setting the buffers and the requirements, the views are split on how to eventually amend the current framework.

From the TBTF point of view, the extension of G-SII leverage buffers to O-SIIs has been put forward as a way to de facto reduce overlaps for some medium-size lenders. ESRB (2021) and Ebner and Westhoff (2023) mainly envisage an increase in capital requests from authorities to limit buffer overlapping, while such a generalised tightening has been opposed by the banking industry and also by some authorities in response to the EU public consultation.

It must also be taken into account that the current debate takes place at a moment when the finalisation of Basel 3, to be completed in 2028, has the potential to reduce the buffer overlapping for at least some lenders, by introducing an output floor which will affect in particular (large) banks using the most advanced IRB models, thus reducing the differences in RWAs density across banks.

Box 3: *Minimum requirements and capital buffers: evidence from the EU banks*

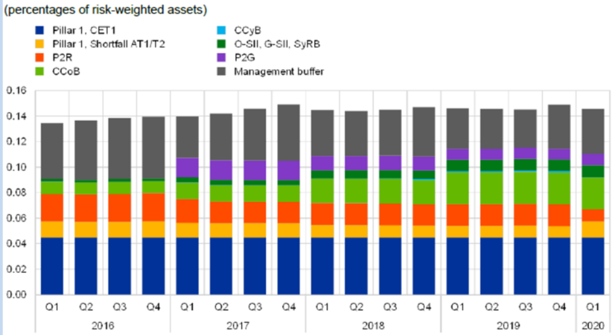
Preliminary evidence is available about how the available capital to comply with minimum requirements and capital buffers is distributed across EU jurisdictions and how it evolved over time.

An example, with reference to risk-weighted requirements and buffers, is provided by Behn et al., 2020.[75] The authors show that the usage of capital ratios in the Euro area changed over time: for example between early 2016 and early 2020, the amount of both Pillar 2 requirement (P2R) decreased by around 1.5 percentage points of RWAs (see Chart 1). The gradual phasing in of the Capital Conservation Buffer, by contrast, increased its weight to above 2.5 per cent. Within an overall increase of the total capital ratios, the rise in the requirement and combined buffers led to a reduction in management buffers over the period.

Chart 1

Evolution of bank capital ratios and their components in the euro area

(percentages of risk-weighted assets)

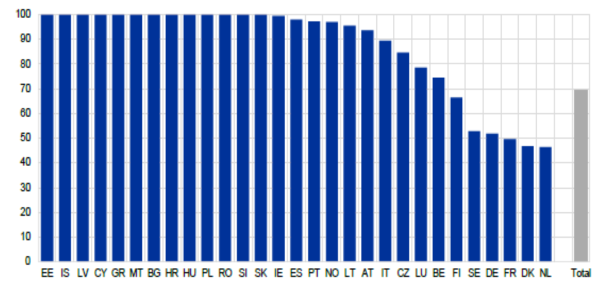


Sources: ECB supervisory statistics and ECB calculations.
Note: Based on requirements and CET1 capital ratios of a sample of around 500 significant and less significant institutions reported at the highest level of consolidation. The reduction in P2R observed for 2020 is due to a change in the composition of capital that can be used to fulfil these requirements.

Chart 2

Mid-2021: Leverage ratio interaction: CBR usability by country

(percentages)



Notes: Sample includes 163 banks. Aggregate buffer usability per country is calculated based on the sum of the weighted bank-specific buffer usability in each country. The bank-specific weightings are given by the ratio of a bank's nominal CBR to the total amount of CBR in each country. The leverage ratio interaction is based on banks' CET1 component of the leverage ratio requirement, which is defined as the nominal Tier 1 leverage ratio requirement minus the stock of available AT1.

ESRB (2021) provides an appraisal of the heterogeneous extent to which buffers can actually be used in the different Euro area jurisdictions. According to the methodology employed in that analysis to quantify the concrete usability of buffers, as at mid-2021, in the European economic area the overall room to exploit accumulated capital cushions ranged from full usability (100 per cent) to less than 50 per cent, with a cross-country average close to 70 per cent (Chart [2]). In particular, the combined buffer requirement (CBR) usability is lower in northern and western Europe compared with southern Europe (18-19 against 54 per cent).

More importantly from our point of view, actual usability also differs across other dimensions: it is lower for systemically important banks (26 per cent, against 73 per cent for other banks) and for Advanced-IRB banks compared with SA banks (27 against 67 per cent). These findings confirm that a limited possibility to concretely offload available buffers exacerbates, rather than reducing, TBTFI issues.

It is important to keep in mind that, since the buffer overlapping stems from the interaction across complex frameworks, the concrete methodology employed to estimate them is crucial. For example, the ESRB in its report considers the buffer usability only from the perspective of the Combined Buffer Requirement (CBR) in the risk-weighted capital stack.

A recent study[76] for Italy points out that the measure of overlaps is subject to revision according to possible alternative methodologies, which mainly depend on the thorough consideration of the different frameworks at play, as pointed out in the Box 2 of ESRB (2021). These authors investigate in detail the interaction between minimum requirements and buffers. To this end, they develop a comprehensive methodology with the objective to measure the usability of the combined buffer requirement (CBR). They consider all four EU regulatory requirements simultaneously, that is the risk-weighted one (RW), the leverage ratio (LR), the risk-weighted MREL (MREL- RW), and the leverage-ratio-based MREL (MREL-LR).

They find that the overlap between minimum requirements and capital buffers affects about one fourth of Italian banks and reduces the CBR's usability to 74 per cent of its theoretical value, which compares with 27 per cent when the CBR placed on top of the MREL-RW is not accounted for. When the CET1 absorbed by the MREL-RW is higher that the CET1 absorbed by the RW one, the CBR may be more usable than is apparent from the approach based solely on the RW requirements. This explains why – by also considering the regulatory requirements from the resolution framework - the usability of the CBR increases.

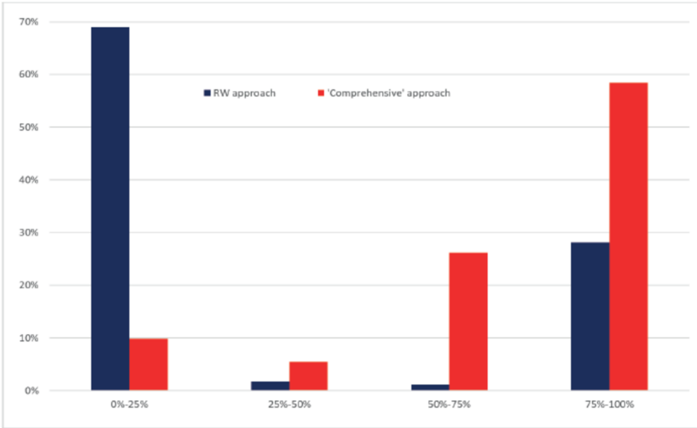
In particular the figure below shows for Italy how the difference between the two approaches in measuring the CBR's usability (the one focused on the risk-weight framework alone vs. a more comprehensive approach that also considers the CBR on top of the MREL-RW framework) emerges from the distribution of the banking system RWAs by bucket of CBR usability. Very similar results to the Italian ones were also found for SRB banks (i.e. all the resolution groups under the Single Resolution Board's remit)[77], as further confirmation that the issue of overlap and its measurement is relevant at a European level.

[75] See Behn et al. (2020).

[76] See Cornacchia and Guerra (2022).

[77] See De Bosio and Loiacono (2023).

Figure 5 - Distribution of Italian banking system RWAs according to CBR usability
(share of banking system RWAs by bucket of CBR usability; data as of December 2020)



Source: Supervisory and resolution reporting.

6. Policy options for more integrated going and gone concern regulations

The implementation of the FSB TBTF reforms falls into the remit of different types of authorities (micro-prudential, macro-prudential, resolution authorities) at the national and supra-national levels. This is particularly true in the case of the EU BU.[78] This institutional set-up involves that each authority has been assigned distinct competences and instruments. Such an institutional architecture including different layers of authorities could in principle make more challenging the adoption of an integrated approach among the going and gone-concern two regulatory frameworks.[79]

To ensure smooth cooperation mechanisms, specific arrangements have been established to foster information-sharing among these different authorities on a regular basis and in specific areas, with additional provisions to strengthen and speed-up coordination in crisis prevention and management.

We have shown how systemic importance and resolvability are two key – closely linked - tools of the post-GFC regulatory framework aimed at addressing the problems posed by large and systemically important banks.[80] The assessments of systemic importance and resolvability fall under the respective competences of supervisors[81] and resolution authorities[82], and are carried out separately.

Since resolution and supervisory authorities use different methodologies and indicators to frame their decisions, there is the potential to deliver different outcomes. However, our analysis of the EU current arrangements shows an overall consistency between these two frameworks, while not excluding the possibility of improvements, by introducing for example a more structured interaction between banks' classification for systemic importance purposes and resolvability. Recent signals at

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[78] At the national level, all these functions may be under the remit of a single authority, often the central bank. However, even in this case, they have to be functionally separated and have different reporting lines.

[79] See: FSB (2021); and Fender et al. (2016).

[80] In the EU, the national insolvency laws are still not harmonized, and their features have a role in determining whether resolution or liquidation should be pursued. For the resolvability assessment in the EU, if there are impediments to resolvability, they should be removed (either by the institution or by the resolution authority) See: World Bank, (2017); De Groen (2019); and Majnoni et al. (2021).

[81] See: FSB (2010a); FSB, (2010b); and BCBS (2018).

[82] This decision is built upon the following main criteria: bank's critical functions, its interconnectedness, substitutability, corporate structure, and IT system. See: FSB (2013); and FSB (2014).

the global and the EU levels recognize the importance of an integrated approach across these two frameworks.

We have made reference to the following: the treatment allowed by the BCBS of the cross-border exposures within the Banking Union as domestic exposures for BU banks, which means a reduction in their bucket allocation for loss absorption [83]; the enhancement by the SRB of its public interest analysis (PIA) since the 2021 resolution planning cycle, to take into account broader system-wide events.[84] They represent a significant step towards a more integrated approach between the prudential and resolution frameworks.

Differently from the global framework, in the EU, national macro-prudential authorities can include a bank's degree of resolvability when assessing its systemic importance at the domestic level (O-SIIs). Moreover, the upcoming reform of the EU crisis management framework, with a view to increase consistency and effectiveness of the framework for managing banks in distress, is aimed at clarifying and harmonising the PIA and broadening the application of resolution tools in crisis management at EU and national level.

The 2014 FSB Key Attributes of Effective Resolution assign a specific role to recovery and resolution plans to reduce the likelihood of a bank's failure and limit the impact of a bank's failure on the rest of the financial system and the real economy. One of the main issues is to ensure that both plans are part of an integrated planning approach, in which the different options are fully aligned with each other, given that inconsistencies between the two plans could undermine the effectiveness of the entire system.[85] In the EU, the 2020 EBA report has concluded that in this field more progress could be achieved, since the various steps of the two plans should be more closely aligned and there is the need to assess the implications of recovery options on resolvability.[86]

Another aspect pertains to the need to ensure that all the (potentially) involved authorities dispose of the relevant information necessary to purse their institutional mandate. In the EU, it seems that at the moment the coordination and the information sharing on recovery and resolution plans is

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[83] See: BCBS, (2018); BCBS (2022); and SRB, (2022).

[84] Such financial stability analysis evaluates whether a bank's failure triggers a financial stability issue, meaning resolution is in the public interest, or, if the bank is already earmarked for resolution, it could affect the choice of resolution tool.

[85] See FSB (2013).

[86] See EBA (2020a).

mainly limited to micro-prudential and resolution authorities, which are requested by law to consult each other.

Macro-prudential authorities are not consulted on a regular basis, given that EU rules seem to provide for such an involvement only in the case of systemic events. However, in order to further enhance the integrated approach, mechanism of information sharing including the macro-prudential authorities could be put in place. In this regard, the CMDI proposal adopted by the Commission introduces changes to art. 30 and 34 of the SRMR, envisaging that the SRB Board, the ESRB, the ESAs shall cooperate closely and provide each other with all the information necessary for the performance of their respective tasks. MoUs may be drawn setting up a procedure governing the exchange of information.[87]

With reference to the issue of overlap between capital buffers and minimum requirements, a solution would entail considering the relevance of the specific composition of the capital instruments through which the recapitalization amount of the MREL requirement must be fulfilled. Explicit provisions for banks to use MREL eligible liabilities or capital instruments other than CET1 to meet the recapitalization amount of the MREL requirement would contribute to address the issue.

Finally, we argue that the potential revision of the macro-prudential framework should also support better information-sharing and systematic cooperation among micro-prudential and resolution authorities, on one side, and macro-prudential authorities, on the other.

7. Conclusions

In exploring the essential features of the FSB TBTF regulatory framework finalized after the global financial crisis, this paper draws the attention on the specificities and possible improvements at the EU level. The scope of our investigation goes beyond the FSB framework, to include all banks that are classified as 'significant' within the EU BU.

We have shown how the post-GFC G20-FSB TBTF reforms foresee two independent but closely linked policy areas, affecting going and gone concern situations. In this respect, the current EU arrangements have taken into account the interplay between the prudential and resolution regulatory frameworks and their relevant tools, which have become increasingly consistent over the years, even if there is room for further improvement.

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[87] See EU Commission (2023).

In developing our analysis, we have made reference to the recent market events in the US and Switzerland, with some initial reflections. In this regard, work is under way at national and international level to draw potential implications for a more adequate implementation of the post-GFC prudential and resolution frameworks.

We have identified policy areas where, while substantial progress has been made with respect the pre-GFC years, some further improvements could still be achieved: 1) bank's systemic importance and resolvability assessment; 2) crisis preparedness; 3) calibration of capital buffers and their interaction with minimum requirements.

As we have reported in the previous paragraph, in these areas a more integrated approach could be envisaged, as the boundaries between going and gone concern tools need to be managed with flexibility. It is important to ensure coordination and information sharing across all authorities involved in order to adopt a comprehensive approach that avoids creating a rigid differentiation between the going and gone concern policies.

To achieve this objective, the first condition is that the different authorities should share the information considered to be necessary for their respective mandate/tasks. In practice, this means for example that macro-prudential authorities when deciding the systemic importance of a bank should consider all relevant aspects, including those stemming from the resolvability assessment. Moreover, interactions between going and gone concern requirements should be taken into account to avoid any impact on their effectiveness and loss-absorbency capacity.

The current juncture might be the right time to consider how to effectively improve the interplay between going and gone concern regulatory frameworks, with the objective to further address the TBTF problem. In this regard, the BCBS is currently undertaking an in-depth assessment of the lessons from the implementation of the post-GFC standards and the EU Commission has presented a legislative proposal to improve the crisis management frameworks, while it should also review the macro-prudential framework in the near future.

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