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## Buffer usability in a complex world

Interactions between macroprudential regulation and the resolution framework

No 374

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# Abstract

This paper explores the interplay between the risk- and leverage-based prudential and the resolution frameworks within the EU banking system. The prudential framework is designed to enhance the resilience of both individual banks and the banking sector as a whole. It does so by imposing minimum capital requirements and capital buffers that can absorb losses during periods of financial stress. Conversely, the resolution framework focuses on ensuring that banks have adequate loss-absorbing and recapitalisation capacity to facilitate an orderly resolution process, thereby safeguarding public funds. The simultaneous use of capital across and within these two frameworks can have an impact on the effectiveness of capital buffers, presenting various challenges for macroprudential authorities. Our analysis shows that overlaps between risk-based and leverage-based requirements within the prudential framework reduce buffer usability to around 65% to 74% of the overall combined buffer requirement. When the resolution framework is also considered, buffer usability further declines to an average of 40% to 50%, depending on the analytical approach employed. Our simulations of buffer usability under different regulatory options discussed in the literature suggest that implementing the final Basel III standards in the EU would significantly increase buffer usability. The paper also analyses the impact of other options that could reduce or eliminate overlaps between capital buffers and other parallel requirements and quantifies the trade-offs between increased buffer usability and the costs of implementation. As resolution requirements are fully phased in as of 2024, the future evolution of buffer usability and the potential challenges for macroprudential authorities will also depend on how banks set their capital targets relative to the parallel frameworks and how they adapt their balance sheet structures to meet prudential and resolution requirements.

**Keywords:** macroprudential policy, capital requirements, buffer usability, banking regulation

**JEL codes:** G21, G28, G32

# Non-technical summary

The primary objective of prudential regulation is to enhance the resilience of banks, enabling them to withstand losses and remain solvent and fully operational on a "going-concern" basis. These prudential measures address both systemic (macroprudential) and idiosyncratic (microprudential) dimensions of risks. The prudential framework is complemented by resolution requirements designed to ensure an orderly resolution of failing banks without resorting to costly public bailouts, thus making the system more resilient on a "gone-concern" basis. As a result, credit institutions in the European Union must comply with a number of – somewhat overlapping - regulatory requirements that operate in parallel.

Within the prudential framework, banks are subject to risk-based requirements, including capital buffers, which are expressed in terms of risk-weighted assets and reflect the risk profile of a bank's balance sheet, as well as leverage ratio requirements, which are non-risk-weighted measures to prevent the build-up of excessive leverage. In terms of resolution requirements, EU banks are subject to the Minimum Requirement for Own Funds and Eligible Liabilities (MREL), expressed both in risk-weighted and non-risk-weighted terms, with additional Total Loss-absorbing Capacity (TLAC) requirements for EU-headquartered globally significant institutions.

These requirements affect banks' capital levels, as well as their liabilities in relation to their assets. Prudential requirements generally require banks to hold own funds, i.e. Common Equity Tier 1 (CET1), Additional Tier 1 (AT1) or Tier 2 (T2) instruments. Capital buffers must be met with CET1 capital alone, while resolution requirements allow for a broader range of instruments, including senior debt, thus offering banks additional flexibility in how they choose to comply. Notably, CET1 capital, being the highest-quality instrument, can be simultaneously used by banks to satisfy all parallel requirements, leading to complex interactions and overlaps among the frameworks.

For macroprudential policy, the effective functioning of capital buffers is crucial, as they are a key instrument in the toolkit and essential components of the risk-weighted prudential framework. These buffers aim to capture both the structural and the cyclical dimensions of systemic risks. Some buffers can be released by the authorities, while others are more permanent in nature. Overall, they are intended to preserve CET1 capital, which can be used to absorb losses in times of stress, enabling banks to continue operating without having to cut back on lending, thereby also limiting the (pro)cyclicality of the financial system. Breaching the relevant buffers under the prudential framework triggers automatic restrictions on distributions until they are replenished again. Capital buffers are also part of the risk-weighted resolution requirements but are not, or only partially, incorporated into the leverage-based prudential and resolution requirements. Notably, capital buffers that aim to address cyclical risks are not included in any of the leverage-based frameworks.

Current regulation prohibits the simultaneous use of CET1 capital to meet buffers and minimum requirements within the risk-weighted capital stacks, but allow for the

parallel use of CET1 between risk-weighted and leverage-based stacks. Such simultaneous use of CET1 across parallel frameworks may hinder banks' ability to draw down their buffers, as by dipping into their buffers, banks may breach their leverage-based prudential and/or resolution requirements.

This paper investigates the phenomenon of limited buffer usability due to interactions between parallel requirements and quantifies the potential impact of various regulatory options that could enhance buffer usability. Importantly, the paper focuses on banks "ability" to use capital buffers but does not assess their 'willingness'[1] to do so, even when buffers are not, or are only partially, constrained by parallel requirements. It should be noted in this regard that assessing banks' 'willingness' to use buffers is subject to various assumptions regarding banks' behaviour and capital planning practices, making it more complex and less straightforward to quantify.

Using different analytical approaches, our study reveals that the usability of buffers in the risk-weighted capital stacks is constrained by other parallel requirements. More precisely, as of the second quarter of 2024, certain overlaps between risk-weighted and leverage ratio requirements in the prudential framework reduce buffer usability to around 65% to 74% of the combined buffer requirements. When the resolution framework is also considered, buffer usability further declines to an average of 40% to 50% of the combined buffer requirements, depending on the analytical approach employed. To note, there are other analytical approaches used in the literature, which focus specifically on the usability of releasable buffers, rather than considering all buffers. By definition, these approaches will always result in the same or higher usability.

Additionally, our analysis shows that most banks in the Single Supervisory Mechanism (SSM) area subject to both frameworks use more CET1 capital in meeting their resolution requirements than they do in meeting their prudential obligations. This indicates that the resolution framework can sometimes be a more binding constraint than the prudential framework. It also implies that the level of excess capital that banks maintain above regulatory requirements (i.e. the "capital headroom") could be lower in the resolution stack than in the prudential stack.

The interactions between the prudential and resolution frameworks pose various challenges for macroprudential authorities. Concretely, actions traditionally within the purview of prudential authorities, such as restrictions on distributions, can be triggered by a breach of buffers under the risk-weighted resolution framework, which may happen earlier and at a higher level of overall capitalisation than expected under the prudential framework. Furthermore, the heavy use of CET1 capital to meet their resolution requirements may influence how banks react to the implementation of CET1-based macroprudential measures, such as capital buffers. Notably, if the macroprudential authorities activate or increase capital buffers, banks that have no – or only limited – capital headroom in the resolution stacks can comply with the higher buffers by adjusting their MREL-eligible liabilities instead of altering their capital levels. This is because issuing eligible liabilities allows banks to free up capital that

[1] For a discussion on banks' willingness to use buffers, see, for example BCBS (2019), Andreeva et al (2020) and Behn et al (2020).

was previously being used to meet resolution requirements, which can then be used to meet the higher buffers. While this mechanism does not necessarily affect financial stability, macroprudential authorities should be aware of this “liability channel” that can help banks meet changing capital buffer requirements.

The above-mentioned challenges also imply that macroprudential authorities need detailed information about the capital headroom in the prudential and resolution stacks to be able to assess the impact of potential buffer increases on banks. In particular, they need information on the size of resolution requirements, including how banks meet them, and on any actions taken by the resolution authorities to address any actual or expected breaches of capital buffers.

The implementation of the finalised Basel III standards in the EU will make the framework more adept at capturing risks. If authorities do not offset the impact of the new rules by adjusting existing requirements, the implementation of Basel III is expected to increase risk-weighted requirements within the prudential framework. Consequently, our analysis shows that Basel III may significantly increase the usability of capital buffers as well, though heterogeneity among banks will persist. This underscores the benefits of the implementation of Basel III in increasing buffer usability, the effectiveness of macroprudential tools, and the ability of the banking sector to cope with stress. Meanwhile, the complex interaction between risk-weighted capital buffers, leverage ratio, and MREL/TLAC requirements will persist.

This paper also quantifies the impact of possible regulatory options to improve buffer usability that have been mentioned in previous studies. Among the regulatory options discussed, setting minimum requirements for eligible debt instruments in the resolution framework could enhance buffer usability with respect to resolution requirements but would not address limited buffer usability arising from interactions with the leverage ratio. This option may pose challenges for smaller institutions to issue eligible debt due to lack of market access and may also lead to the partial replacement of equity with debt instruments, which have lower loss-absorbing capacity than equity. Alternatively, eliminating interactions by prohibiting the simultaneous use of buffer capital across all parallel frameworks would ensure full buffer usability. However, this would lead to higher regulatory requirements overall.

While this paper provides a detailed analysis of the complex interactions between prudential and resolution frameworks and their impact on the usability of banks’ capital buffers, it should be acknowledged that the regulatory landscape and banks’ balance sheets are continuously evolving. In this regard, further analysis and longer time series are needed to fully understand the interactions in the long term and explore potential options to address these issues. We also need to gain a better understanding of the interaction between banks’ “ability” and “willingness” to use buffers and their impact on the overall loss-absorbing capacity of the banking system.

# 1 Introduction

**Risk-weighted (RW) capital requirements, leverage ratio (LR) requirements and minimum requirements for own funds and eligible liabilities (MREL)[2] are cornerstones of the European regulatory framework for banks, interacting in complex ways that necessitate a comprehensive assessment from a macroprudential perspective.** The risk-weighted and leverage ratio requirements are parts of the so-called "prudential framework". Both requirements are designed to enhance banks' ability to absorb losses, meet their financial obligations and continue operating in the foreseeable future. These requirements are therefore commonly referred to as "going concern" requirements. Under the prudential framework, banks are obliged to maintain specified amounts of high-quality capital to comply with minimum regulatory requirements (Pillar 1 and Pillar 2 requirements), as well as capital buffers.[3] Importantly, banks are required to meet their capital buffer requirements with common equity, which is the highest quality capital. In contrast, MREL is designed to ensure that banks hold a certain amount of own funds, including common equity, and eligible liabilities to enable them to absorb losses and be recapitalised in the event of resolution. As such, MREL is commonly referred to as a "gone concern" requirement.

**A key feature of the regulatory design is that the same unit of capital can simultaneously be used to meet "going concern" and "gone concern" requirements.** While risk-weighted and leverage requirements have been in place for several years, MREL requirements have been gradually phased in more recently and became fully applicable only as of January 2024. With the full implementation of these three parallel requirements, we can now assess their interactions and quantify the amount of capital – particularly common equity – that banks simultaneously use to meet them.

**If banks predominantly use common equity to meet these parallel requirements, it can enhance their resilience, but may also affect the functioning and effectiveness of the capital buffer framework.** Within certain regulatory limits on capital composition, banks have some leeway in determining how to fulfil RW, LR and MREL requirements. This allows banks to allocate different amounts of common equity to satisfy prudential and resolution requirements. Consequently, institutions that use more common equity to meet "gone concern" MREL requirements, as opposed to "going concern" risk-weighted or leverage ratio requirements, will be relatively more constrained by the former framework. Since common equity has the highest quality in terms of loss absorption, meeting resolution requirements predominantly with common equity could improve a bank's resilience. Conversely, the simultaneous use of common equity to meet parallel

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2 In 2015 the Financial Stability Board introduced the Total Loss-absorbing Capacity (TLAC) standards, as part of the Principles on Loss-absorbing and Recapitalisation Capacity of Global Systemically Important Banks (G-SIBs) in Resolution. The scope of TLAC covers only G-SIBs, while MREL, as implemented in the EU, covers a wider range of banks. For European G-SIBs, TLAC and MREL requirements apply simultaneously.

3 See Annex 1 for a more detailed overview.

requirements creates overlaps between these frameworks, which may affect the functioning and effectiveness of the prudential framework, including capital buffers. This calls for a detailed assessment of the relative bindingness of the prudential and resolution frameworks and their implications for the functioning of the capital buffers.

**This paper evaluates the interactions between prudential and resolution frameworks and aims to draw several conclusions that may be relevant for macroprudential authorities when exercising their powers.** The paper is organised as follows: first, it provides an overview of the key elements of the prudential and resolution frameworks in the EU, highlighting the key differences from a macroprudential perspective. Second, it examines the challenges that macroprudential authorities face due to interactions between these parallel frameworks. Third, the conceptual discussion is complemented with an empirical analysis that quantifies the interactions between the MREL and capital buffer frameworks. Fourth, the paper uses the buffer usability simulation tool (USIT) to assess various regulatory options outlined in previous studies. Lastly, several conclusions are drawn regarding the implications of MREL for the functioning of the macroprudential regulatory framework.

# 2 Overview of the EU prudential and resolution frameworks

**The prudential and resolution frameworks are designed to achieve different objectives.** The primary goal of the prudential framework is to ensure the resilience of individual banks, and of the banking sector as a whole, against idiosyncratic and systemic financial shocks. To achieve this, the framework includes minimum capital requirements (Pillar 1 and Pillar 2), along with buffer requirements, which provide an additional layer of capital above the minimum requirements. Banks must meet their minimum capital requirements at all times, while buffers enable them to absorb losses without the need to deleverage or reduce their lending to the real economy. During periods of financial stress, banks are supposed to dip into the buffers if their losses exceed their capital headroom.[4] In such cases, banks become subject to automatic restrictions on distributions and must calculate the Maximum Distributable Amount (MDA) according to a formula defined by EU law.[5] These restrictions remain in place until the buffers are rebuilt. Meanwhile, the resolution framework focuses on the resolvability of banks. It aims to ensure that sufficient loss-absorbing and recapitalisation capacity is available to facilitate an orderly resolution, in line with the resolution objectives.[6]

**The distinct objectives of the prudential and resolution frameworks are also reflected in their different institutional setups within the banking union, including the specific role of the ECB.** Looking first at the prudential framework, it is important to differentiate between micro- and macroprudential supervision, which complement each other but have slightly different objectives and institutional structures. Microprudential supervision focuses on the resilience of individual banks. Within the banking union, there is a strong centralisation of competences in the ECB, which spearheads the Single Supervisory Mechanism (SSM) that also comprises national supervisory authorities. In the SSM, the ECB supervises significant institutions, while national supervisory authorities execute supervisory decisions and are entrusted with the direct supervision of less significant institutions. Macroprudential oversight, on the other hand, focuses on system-wide resilience and financial stability and is a shared responsibility between the ECB and national authorities. This shared responsibility is also reflected in the design of the macroprudential toolkit and the institutional setup. Notably, certain macroprudential instruments are available only to national authorities, while the ECB has asymmetric top-up powers, enabling it to tighten macroprudential measures outlined in EU law and implemented by a Member State participating in the banking union. In contrast,

4 Here and throughout the document, capital headroom refers to any capital maintained by banks on top of minimum capital requirements and buffers.

5 Articles 141, 141a, 141b and 141c of the Capital Requirements Directive (CRD).

6 According to Article 31(2) of the Bank Recovery and Resolution Directive (BRRD), the resolution objectives are as follows: (a) to ensure the continuity of critical functions; (b) to avoid a significant adverse effect on the financial system, in particular by preventing contagion, including to market infrastructures, and by maintaining market discipline; (c) to protect public funds by minimising reliance on extraordinary public financial support; (d) to protect depositors covered by Directive 2014/49/EU and investors covered by Directive 97/9/EC; (e) to protect client funds and client assets.

the objectives of the resolution framework are pursued by resolution authorities, either the Single Resolution Board (SRB) or national resolution authorities within the banking union. These authorities ensure that credit institutions have sufficient resources in the event of resolution. The ECB does not have a mandate for resolution activities, and nor does it have any resolution instruments in its policy toolbox. However, as a microprudential supervisor, the ECB plays an important role in deciding whether a bank is failing or likely to fail,[7] and notifying the SRB, which is ultimately responsible for triggering the resolution mechanism. Also, when drawing up resolution plans,[8] deciding on MREL minimum requirements[9] or on possible restrictions on distributions[10] under the resolution framework, the SRB is required to consult the ECB, in its role as microprudential supervisor. However, such consultation mechanisms are not legally prescribed for the SRB and ECB in the context of macroprudential supervision.[11]

**The prudential and resolution frameworks both feature a set of minimum requirements that share similarities in their design, but also distinct features.** Both frameworks use risk-weighted and non-risk-weighted (i.e. leverage-based) measures to express the requirements. Risk-weighted prudential requirements determine the minimum amount of capital a bank must hold in relation to the risk profile of its asset portfolio. Leverage-based requirements are used to limit the build-up of leverage in the banking sector and to supplement the risk-weighted requirements with a simple non-risk-weighted "backstop" measure. This dual approach, applying both risk-weighted and leverage-based requirements for regulatory purposes, is also mirrored in the resolution framework. Additionally, the resolution framework includes certain subordination requirements (again expressed in risk-weighted and non-risk-weighted terms), ensuring that banks have a minimum amount of subordinated liabilities to improve their resolvability in general, and to reduce the risk of breaching the no-creditor-worse-off (NCWO) principle in particular. These subordination requirements are further complemented with requirements on total liabilities and own funds (TLOF), which contribute to the determination of MREL subordination requirements under the resolution framework. Additionally, EU-based global systemically important institutions (G-SIIs) are also subject to global Total Loss-absorbing Capacity (TLAC) requirements,[12] which are similar in scope to MREL subordination requirements.

**The prudential and resolution frameworks also differ regarding the instruments that can be used to meet minimum requirements.** Risk-weighted prudential minimum requirements should be met with own funds, which include

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7 Article 18 of Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010.

8 Article 8(2) of the Single Resolution Mechanism Regulation (SRMR).

9 Articles 12 and 12d of the SRMR.

10 Article 10a of the SRMR.

11 Article 90 of the BRRD facilitates the exchange of information between resolution and competent authorities. Competent authorities comprise microprudential supervisors, but not macroprudential authorities.

12 Article 92a of the CRR. TLAC-eligible liabilities are subordinated eligible liabilities subject to further deductions as stated in Article 72e of the CRR.

Common Equity Tier 1 (CET1), Additional Tier 1 (AT1) and Tier 2 (T2) instruments. These instruments have different loss absorbing capacity, with CET1 absorbing losses first as the highest quality capital. Regulators have set certain thresholds[13] determining the extent to which these instruments can be used by banks to comply with minimum requirements. The aim of the thresholds is to ensure that own funds have high loss-absorbing capacity by limiting the proportion of lower quality instruments therein. Unlike the risk-weighted framework, leverage-based prudential requirements can only be met with CET1 and AT1 instruments, i.e. there is no role for T2 capital in this framework. Furthermore, the regulators have not set specific thresholds regarding the composition of these two instruments (CET1 and AT1) in leverage ratio requirements. The MREL framework has a broader scope, encompassing not only own funds (CET1, AT1 and T2), but also eligible liabilities (EL),[14] without setting specific thresholds for CET1 or other classes of capital. Nonetheless, it is observable that a substantial portion of the MREL requirements is de facto met with CET1 capital, thus creating a significant overlap between the prudential and resolution frameworks, as the same CET1 capital is simultaneously consumed by multiple capital stacks, as this is possible due to the regulatory design.

## Box 1 – Prudential and resolution requirements: stylised balance sheet

Prudential and resolution requirements are expressed in terms of risk weighted assets (in the EU: "total risk exposure amount", or TREA for short) and non-risk-weighted assets (in the EU: "leverage ratio exposure measure", or LREM for short). In simpler terms, TREA represents the aggregate value of banks' assets adjusted for the average risk associated with those assets, while LREM is the risk-independent sum of both on- and off-balance sheet items. Consequently, the nominal amounts of prudential and resolution requirements, which are placed on the liabilities side of the balance sheet, are primarily influenced by banks' exposures on the assets side of their balance sheet, taking into account their riskiness (reflected in TREA) and total nominal value (reflected in LREM). Once the portfolio-specific values of TREA and LREM have been determined, banks have a certain degree of discretion on how to structure their own funds and liabilities to meet prudential and resolutions requirements.[15] The stylised balance sheet shown in Figure A below illustrates the different types of own funds and eligible liabilities that exist, as well as the sequence in which they absorb losses (e.g. either through write-downs and/or conversion into equity).[16] Such sequencing is key, as it reflects the quality and the costs attributed to own funds and eligible liabilities.

13 Article 92(1) of the CRR.

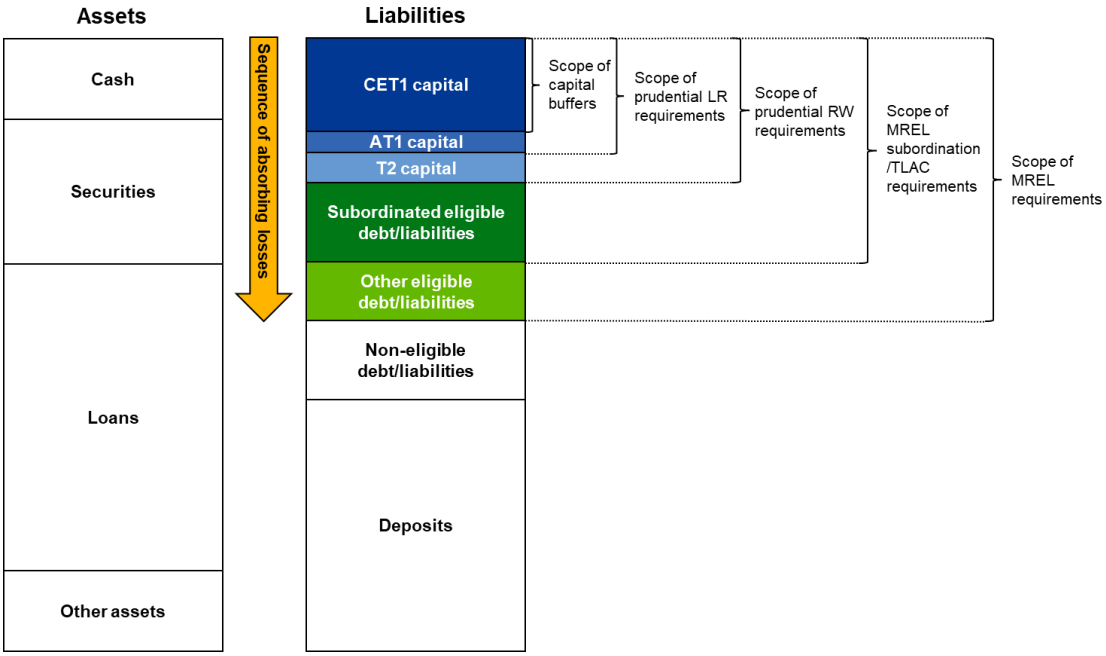
14 Articles 72 and 72a of the CRR.

15 The scope of the box is limited to prudential and resolution requirements alone. However, the structure of a bank's assets and liabilities is influenced by several other factors, including liquidity requirements defined by the net stable funding ratio (NSFR) and the liquidity coverage ratio (LCR).

16 Article 48 of the BRRD.

**Figure A**

Stylised balance sheet of a bank




Notes: The relative sizes of the elements are **shown** for illustrative purposes and do not relate to any setup in the EU banking sector. AT1 is the only source of hybrid capital.

Following from the above discussion, a bank's final choice on the level and composition of its own funds and liabilities can be influenced by the following two considerations, among others:

Firstly, banks may wish to minimise the costs of regulatory compliance to the extent permitted. While theoretically all the prudential and resolution requirements discussed in this paper could be met with the highest quality CET1 capital, this approach can be suboptimal due to the relatively higher costs associated with CET1 capital. Furthermore, the regulations insist on CET1 capital only in the prudential risk-weighted stack (see Annex 1 for details), while allowing for a broad use of hybrid capital and (subordinated) eligible liabilities to meet minimum requirements under other parallel frameworks. Secondly, banks are also keen to maintain a certain level of CET1 capital headroom, above either some or even all regulatory requirements, in anticipation of regulatory changes, in response to macroeconomic uncertainty, for risk management reasons, or to signal financial resilience to other market participants.[17]

**There also happen to be significant differences between prudential and resolution frameworks as regards the treatment and scope of capital buffers.** In the risk-weighted prudential framework, various buffers exist that collectively form the Combined Buffer Requirement (CBR).[18] Some of these buffers are structural in nature, while others can be released by the authorities. The aim of releasing buffers is to free up capital that banks can then use to absorb losses without facing

17 See EBA (2024).

18 The CBR includes the capital conservation buffer (CCoB), the capital buffer for global and other systemically important banks (G/O-SII), the systemic risk buffer (SyRB), the countercyclical capital buffer (CCyB). These buffers also include the reciprocated buffer requirements put in place by foreign macroprudential authorities and which the domestic supervisor decided to recognise. For more details on the combined buffer requirements and an overview of all capital frameworks, please see ESRB (2021).

restrictions on distributions. Through the release mechanism, the authorities can also limit the (pro)cyclicality of the financial system. This feature of the buffer framework is therefore particularly important for the effective conduct of macroprudential policy. Although the leverage-based framework also contains a buffer, it plays a more limited role, as the leverage ratio buffer (LRB) is a structural buffer and applies only to global systemically important institutions (G-SIIs). Given the structural nature of the LRB, it does not address cyclical risks in the system. Under the resolution framework, capital buffers are included in the risk-weighted MREL (and TLAC) requirements, but not in the leverage-based MREL (and TLAC).[19]

**Major differences also exist across the parallel frameworks when it comes to the permitted overlaps between capital buffers and other requirements.** As a general principle, capital buffers are placed on top of the minimum requirements in some frameworks (known as the "stacking order" of capital), thus ensuring that buffers absorb losses before minimum requirements are breached (see Figures B and C in Box 2 below). These buffers must be met with CET1 capital.[20] Within the above-mentioned frameworks, where buffers are placed on top of minimum requirements, it follows that the CET1 used to meet buffers cannot be used to meet minimum requirements at the same time. This provision avoids the double-use of capital within those capital stacks. However, this provision does not always apply across all parallel frameworks, thus allowing for the simultaneous use of capital between some of them (see Box 2 for details). This regulatory setup creates complex interactions among parallel frameworks that may constrain the usability of capital buffers. Therefore, when analysing buffer usability, the focus should be on the amount of common equity that is used to meet capital buffers and, at the same time, minimum requirements under parallel frameworks.

**Lastly, the prudential and resolution frameworks differ in terms of distribution restrictions when buffer requirements are breached.** More precisely, an institution must meet its risk-weighted and leverage-based minimum requirements at all times, while failing to meet buffer requirements on top of these stacks triggers restrictions on distribution. Supervisors should assess compliance with the buffer requirements in the prudential stacks independently of the MREL requirements.[21] Similarly, the resolution framework prescribes that institutions must meet minimum resolution requirements at all times. When a bank falls short of meeting minimum requirements with eligible liabilities, the gap should be filled with capital that was previously available as capital headroom. Alternatively, if a bank has no capital headroom, capital that was previously used to meet the buffers on top of the risk-weighted MREL stack (CBR-M) should now be used to meet the minimum requirements. In such cases, common equity may need to be "reallocated" from buffers to meet risk-weighted minimum resolution requirements. However, such

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19 There are different views on whether the G-SII LR buffer is in addition to the leverage-based MREL requirements (MREL-LR). According to the European Commission's interpretation, simultaneous use of the G-SII LR buffer towards MREL-LR (and MREL-TLOF) is permitted. See the discussion in ESRB (2021), table 3.

20 One notable exception is the leverage ratio buffer for G-SIIs, which is to be met with T1 capital. However, EU G-SII banks effectively meet the leverage ratio buffer fully (and leverage ratio minimum requirements mostly) with CET1.

21 Article 141a of the CRD.

reallocation of capital could result in a breach of the CBR-M under the resolution framework, whilst the CBR under the prudential framework may not yet be breached. While the resolution authorities have the power to prohibit distributions in the event of a CBR-M breach,[22] there are no automatic restrictions on distribution within the first nine months following the breach.[23]

## Box 2 – Buffer usability under the baseline and complementary approach

The ESRB ATF report provides a conceptual framework and an initial in-depth analysis of the overlap between capital buffers and minimum requirements (MR), covering both the prudential and the resolution frameworks. The possibility for banks to use the same capital to meet multiple requirements in parallel raises concerns over the usability of the buffers held by banks. This box provides an overview of the key concepts and analytical approaches that can be followed to quantify the usability of capital buffers and further elaborates on the topic by providing additional illustrations and discussing possible use cases and the implications for banks' loss-absorbing capacity.

### Buffer usability

Combined buffer requirements (CBR) are a key element of the macroprudential framework. They aim to enhance the resilience of the financial sector, mitigate different types of systemic risks and form an additional layer of loss-absorbing capacity for a bank before it breaches the minimum requirements. The CBR must be met with CET1 capital, the highest-quality capital.[24] CET1 capital, which is used to meet the CBR, cannot be used to meet risk-weighted minimum requirements (MR-RW).[25] Therefore, the CBR stacks on top of MR-RW,[26] as shown in Figure 1 (yellow rectangle with red border). However, the regulatory framework allows banks to use CET1 capital not only to meet the CBR, but also leverage-based minimum requirements (MR-LR).

Figure B below depicts the implications of using CET1 to meet parallel minimum requirements under different capital stacks (also referred to as the simultaneous use of CBR capital). In this specific scenario, the amount of CET1 used to meet leverage-based minimum requirements is higher than in the case of the risk-weighted minimum requirements in the prudential framework. As simultaneous use between the CBR and LR is permitted, part of the CET1 (red-shaded part) in the

22 Article 16a of the BRRD.

23 See SRB (2024): The first stage starts once the bank notifies the national resolution authority and the SRB about the breach and may last nine months. After consulting the competent authorities, including the ECB (where applicable), the SRB shall assess whether to exercise the M-MDA power, taking into account all of the elements set out in Article 10a(2) SRMR. If the power is not exercised, the SRB shall repeat its assessment at least every month for as long as the entity is in breach. The second stage starts nine months after the notification of the breach. If the bank continues to be in breach, after consulting the competent authorities, including the ECB (where applicable), the SRB shall exercise the M-MDA power, except where it finds, following its assessment, that at least two of the conditions set out in Article 10a(3) SRMR are fulfilled. This provision should not be confused with Article 45k of the BRRD, which empowers resolution authorities to use their power also in cases of MREL (either MREL-RW or MREL-LR) breaches, regardless of the bank's compliance with the CBR.

24 Article 128(6) of the CRD VI.

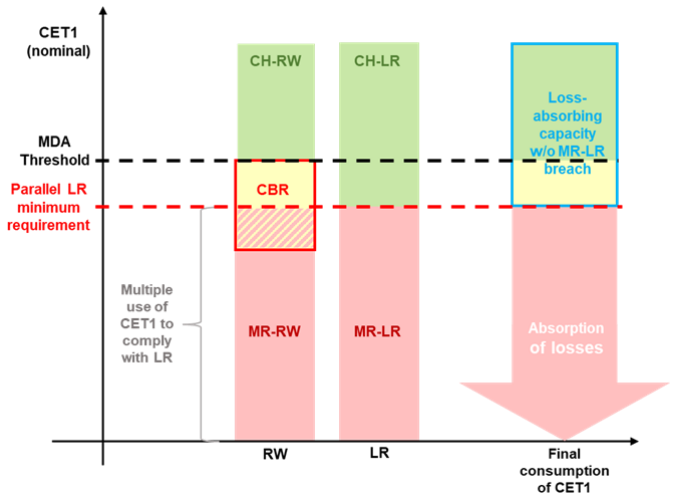
25 Article 128 of the CRD VI.

26 Throughout the article, MR-RW refers to the sum of the CET1 minimum requirement (4.5% of RWA), and the additional CET1 amount used to meet Tier 1 (6% of RWA) and total capital minimum requirements (8% of RWA). If a bank does not have enough AT1 and T2 instruments to meet these requirements, the shortage – known as the "AT1 gap" or the "T2 gap" – must be met with CET1 capital. See Annex 1 for details.

CBR is simultaneously used to meet MR-LR.[27] This implies that only a portion (above the red dotted line) of the CBR can be used without breaching MR-LR. Buffer usability is then simply defined as the ratio of the usable CET1 in the CBR (e.g. CET1 that does not overlap with the MRs under other capital frameworks) to total CBR. In other words, buffer usability is defined as the percentage of the CBR which is usable by a bank either when the authorities release buffers or when a bank decides to dip into it. Figure B also shows the overall loss absorbing capacity of the same bank on a "going concern" basis (section outlined in blue on top of the right-hand side bar). In this case, it is defined by the capital headroom (CH, green part) and the usable part of the CBR (yellow part), resting over the highest binding minimum requirement (pink part). Importantly, as the CBR partially overlaps with minimum LR requirements, only the usable part of it can absorb losses on a "going concern" basis. Should a bank sustain additional losses, it would breach the LR minimum requirement, which could trigger a resolution procedure by the authorities, thus entering the "gone concern" phase.

**Figure B**

Stylised interaction between CBR and LR requirements in the prudential framework




Source: Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements, as amended by the ECB.
Notes: The leverage ratio requirement does not explicitly set a threshold for a minimum amount of CET1; rather, the minimum requirement is set at T1 level. Therefore, the minimum requirement in terms of CET1 can be seen as the residual demand from the leverage ratio requirement after deducting the AT1 from the T1 requirement. The relative sizes of the elements are provided for illustrative purposes and do not relate to any specific setup in the EU banking sector. CH indicates the capital headroom in RW (CH-RW) and LR (CH-LR), which is the difference between the highest binding point in CET1 requirements of the respective capital stack (which is the residual CET1 demand under the LR framework) and the available CET1 at a bank.

### Buffer usability – baseline approach

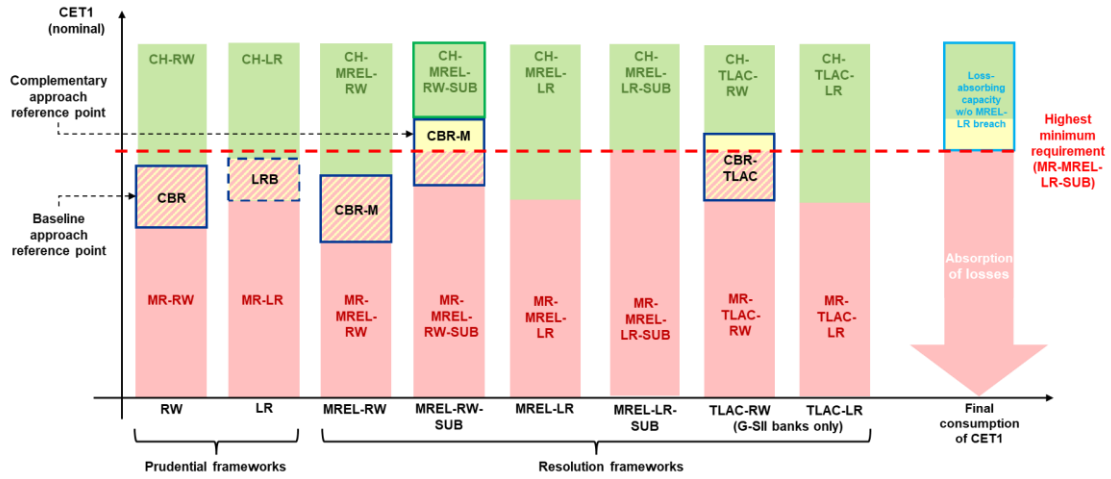
Figure C not only illustrates the prudential RW and LR stacks, but also considers the resolution frameworks – MREL, MREL subordination and TLAC. More precisely, it considers the amounts of CET1 used by banks to comply with prudential and resolution requirements. Following the ESRB ATF report, the baseline approach focuses on the CBR in the prudential RW stack, as this is the key stack in the eyes of the macroprudential authorities. Buffer usability in the stylised example provided in Figure C would be zero, as the most binding framework (the one which consumes most CET1), namely the minimum requirements for MREL-LR-SUB, fully overlaps with the prudential CBR. In the event of losses and subsequent CET1 depletion, such a bank would breach MREL-LR-SUB minimum requirements first, before dipping into the prudential CBR. It bears repeating that

[27] Here, MR-LR refers to the amount of CET1 used to comply with the LR requirement, i.e. the LR requirement minus AT1. See Annex 1 for details.

MREL minimum requirements can be met with CET1, but also with other types of capital and eligible liabilities. However, any shortage of those other funds is to be filled with CET1, which is the main reason for focusing analytically on CET1 consumption under parallel frameworks.

**Figure C**

Stylised overview of parallel capital frameworks




Notes: The relative sizes of the elements are provided for illustrative purposes only and do not relate to any specific setup in the EU banking sector. Total Loss-absorbing Capacity (TLAC) requirements and leverage ratio buffer (LRB) apply only to G-SII banks. The LR, all MREL and TLAC capital stacks do not explicitly set a threshold for a minimum requirement in terms of CET1. The LR framework sets the requirement in terms of T1 and all MREL/TLAC frameworks do so in terms of own funds (CET1+AT1+T2) and eligible liabilities. Therefore, the CET1 minimum requirement depicted in this figure across all of these frameworks can be interpreted as the residual demand of CET1 to meet the requirements after taking into account AT1, T2 and eligible liabilities under the respective frameworks.

### Buffer usability – complementary approach

The ESRB ATF report also mentions a complementary approach to calculating buffer usability, which considers the CBR on top of the resolution stacks, alongside the CBR of the risk-weighted prudential stack. The CET1 capital used to meet the CBR in the prudential stack cannot be used to fulfil the minimum requirements for MREL-RW[28] and TLAC-RW.[29] This implies that the CBR stacks not only on top of MR-RW, but also on top of MR-MREL-RW (MREL risk-weighted minimum requirements), MR-MREL-RW-SUB (MREL risk-weighted subordination requirements) and MR-TLAC-RW (TLAC risk-weighted minimum requirements), as shown in Figure C. These buffers provide three additional reference points from which overlaps of CBR and parallel minimum requirements can be considered to calculate buffer usability. The stylised example provided in Figure C leads to zero buffer usability under the baseline approach. Meanwhile, the complementary approach focuses on the capital buffer, which would be breached first in the event of CET1 depletion (CBR-M). Considering the additional reference points for evaluating buffer usability, namely the CBR-M and the CBR-TLAC, leads to partial buffer usability. The reason for this is that MR-MREL-RW-SUB and MR-TLAC-RW minimum requirements in this stylised example consume more CET1 than MR-RW does. Therefore, the buffers placed on top of these stacks are at a higher level of overall capitalisation, and thus overlap less with other parallel requirements. Put differently, under the complementary approach, overall buffer usability is the maximum buffer usability of all existing CBRs, rather than just the CBR of the risk-weighted prudential stack. Both the baseline and

[28] Article 128 CRD.

[29] See Section 4, Total Loss-absorbing Capacity (TLAC) term sheet, and Article 128 of the CRD.

the complementary approach are sound from an analytical perspective and have been employed in the existing literature.[30]

**Buffer usability – use cases of the two approaches**

The main capital stack for macroprudential policy is the prudential RW stack, as it includes the full set of capital buffers and is also a basis for various macroprudential measures that affect risk weights[31]. When setting capital buffers or implementing risk weight measures, authorities determine the level of capital at which buffers become binding or are released to absorb losses. Therefore, the baseline approach could be considered as being more relevant for macroprudential authorities, as it considers the CET1 trigger levels that were taken into account when originally calibrating and imposing capital buffers and risk weight measures.

At the same time, the baseline approach can be seen as a specific instance of the complementary approach. The baseline approach focuses on the CBR in the prudential stack, whereas the complementary approach provides a complete picture of buffer usability, also considering buffer requirements under the resolution framework. This broader perspective provided by the complementary approach could therefore serve as an early warning signal for macroprudential authorities in case the CBR-M is breached before the CBR. However, for macroprudential authorities to be able to effectively use the complementary approach, there must be a robust system in place for cooperation and the exchange of information between resolution and prudential authorities. This is essential because macroprudential authorities need information on: (i) the size of MREL requirements, including how banks meet them, to assess the overlap with other minimum requirements; and (ii) the actions taken by resolution authorities in addressing any actual or expected CBR-M breaches.

**Loss-absorbing capacity**

The choice of the analytical approach used to calculate buffer usability – whether the baseline or complementary approach – has no bearing on a bank's overall loss-absorbing capacity. It determines only how capital is split between minimum requirements, buffers and capital headroom. Since a bank's overall capital levels that can be used to meet minimum requirements or buffers and/or to count towards capital headroom are identical in both approaches, the higher buffer usability measured by the complementary approach relative to the baseline approach implies a lower level of capital headroom above the buffers (outlined in green in Figure C above). This is because part of the capital indicated as "capital headroom" above the CBR in the RW stack is counted towards the "usable buffer" in the complementary approach. Taking into account all parallel requirements, the last bar on the right-hand side of Figure C above illustrates the amount of capital headroom (green), usable buffers (yellow) and the highest minimum requirement (pink) according to the complementary approach.

30 See Cornacchia and Guerra (2022) and De Bosio and Loiacono (2023).

31 Measures implemented under Articles 124, 164 and 458 of the CRR.

# 3 Conceptual implications of MREL for the functioning of the macroprudential framework

**The current design of the two regulatory frameworks implies that capital bound up by resolution requirements overlaps with capital bound up by prudential requirements, both in the risk-weighted and the leverage-based stacks.** Therefore, the "gone concern" requirements may – through the practice of banks of meeting MREL/TLAC partially with CET1 capital –bind "going concern" capital. This happens whenever banks use more CET1 to meet resolution requirements than they do to meet minimum prudential requirements. In such cases, resolution requirements may render (part of) the "going concern" requirements (particularly capital buffers) non-usable.

**Depending on a bank's specific capital requirements and capital structure, either the CBR under the prudential framework or the CBR-M under the resolution framework will be more binding than the other.** Although the required capital amounts for the CBR and the CBR-M are identical,[32] the underlying minimum requirements they are placed on top of (namely the CET1 amount bound up by the prudential MR-RW and MR-MREL-RW requirements, respectively) may be different in magnitude. Therefore, for any given bank, either the CBR or the CBR-M will be more binding than the other, meaning that in the event of substantial losses, one of them will be breached before the other is affected. For the sake of simplicity, we refer to the more binding buffer as the "dominant CBR" (see Figure C in Box 2 for an illustration of this). The determination of which buffer is dominant depends on how much CET1 a bank allocates to meet risk-weighted MREL minimum targets compared with risk-weighted prudential minimum requirements. Since the macroprudential objectives of the buffer framework (i.e. increased resilience on a "going concern" basis) are primarily achieved through the most binding buffer requirement, which is the "dominant CBR", it is crucial for authorities to carefully evaluate the relative bindingness of the CBR and the CBR-M and determine which one is the "dominant" one when implementing capital buffers. The interactions are particularly relevant in the following four areas:

**First, the relative "dominance" of the CBR and the CBR-M depends not only on the risk-weighted prudential stack but also on the risk-weighted MREL stack, which is set by resolution authorities, adding another layer of complexity for macroprudential authorities.** Previously, the binding level of the CBR was determined by micro- and macroprudential authorities (e.g. through the level of Pillar 1 minimum requirements and by setting Pillar 2 Requirements (P2R)). However, with the full implementation of MREL, the bindingness of capital buffers also depends

[32] This holds when considering the consolidation at the level of resolution groups, i.e. the level on which MREL requirements apply. However, resolution groups do not always coincide with the highest level of consolidation, at which prudential requirements apply. Where the scope of prudential consolidation is wider than that of resolution groups, the CBR will be larger than CBR-M in nominal terms.

heavily on (i) the decisions made by resolution authorities determining the MREL targets and on (ii) banks' strategies for meeting those requirements. If the CBR-M becomes the dominant (i.e. it will be breached before the CBR) requirement, the binding level of capital buffers will depend to some degree on the decisions made by the resolution authorities, whose underlying objective is to ensure banks' resolvability. It will also depend on banks' decisions on how much CET1 capital they wish to allocate to comply with MREL requirements. This scenario has practical implications for the macroprudential framework. For example, if the CBR-M is dominant, resolution authorities could consider various intervention measures that would be triggered at a higher level of overall capitalisation compared with a situation where only the CBR is considered.

**Second, whereas breaches of the CBR automatically trigger restrictions on distributions, resolution authorities have the discretion to allow or prohibit distributions when the CBR-M is breached, depending on specific circumstances.** The automatic maximum distributable amount (MDA) mechanism of the CBR has a clear objective of conserving capital, where the automaticity arguably adds a certain degree of transparency and predictability. However, if the CBR-M is breached, resolution authorities may decide to exempt banks from automatic capital conservation requirements based on financial stability considerations (see footnote 24). This discretion is based on the rationale that restricting distributions may not always be justified for banks experiencing a temporary MREL shortfall due to factors beyond their control, such as unfavourable market conditions affecting the rollover of MREL-eligible debt. In the event of a breach of the CBR-M, resolution authorities assess whether financial stability is at risk and may impose distribution restrictions accordingly. This raises the question of whether the macroprudential objective is equally fulfilled by the CBR-M compared with the CBR, especially when we consider that the framework for consultations between resolution and macroprudential authorities is not as robust as it is between resolution and microprudential authorities. This is reinforced by the current regulation, which requires resolution authorities to consult with competent authorities[33] before imposing (or not imposing) distribution restrictions,[34] while such consultation requirements do not apply to macroprudential authorities. Furthermore, since MDA restrictions are not automatic with respect to CBR-M breaches, and resolution authorities may apply a grace period of (up to) nine months, the CBR-M may already become depleted during this period with no capital conservation measure imposed by the authorities. Lastly, in the event of problems in rolling over eligible liabilities, capital used to meet the CBR-M might suddenly be needed to continue meeting MREL minimum requirements, to compensate for the shortfall in eligible liabilities.[35] In such cases, the macroprudential loss-absorbing capacity of the buffers will be eroded, even though the risks they are meant to cover at the time of their activation have not yet materialised. In other words, capital buffers are, in these cases, used for a different

33 Including the ECB, where applicable (see Article 10a(3) of the SRMR).

34 Article 10a(3) of the SRMR.

35 It bears repeating the minimum requirements under the MREL framework encompass not only own funds (CET1, AT1 and T2), but also eligible liabilities (EL). If eligible liabilities cannot be rolled over, they will need to be compensated with own funds, including CET1 hitherto used to meet CBR-M.

purpose to that originally envisaged as they have to cover rollover risk, which is not a defined objective of the CCoB, CCyB, SyRB or G/O-SII buffers.

**Third, a different binding level of the CBR compared with the CBR-M implies that the capital headroom above their respective MDA-threshold levels also differs, which might have implications for prudential authorities and is also crucial for banks' internal capital planning.** When calibrating the CBR, authorities need detailed information about capital headroom to assess the impact of potential buffer increases on banks. Notably, information about capital headroom helps authorities evaluate the costs of the measures when implementing additional buffer requirements at a given point in time and consider reactions and adjustments in the capital headroom of banks. Prior to the full implementation of the MREL framework, it was sufficient to assess the capital headroom above the CBR. However, if the CBR-M is dominant, the relevant measure is the capital headroom above the CBR-M. In such cases, the capital headroom may be significantly smaller than the headroom above the CBR,[36] which can make it more challenging for banks to comply with new buffer requirements. Consequently, banks may need to adjust their internal capital planning and capital targets to align with a more binding MREL framework, and authorities should monitor how banks comply with MREL requirements as they become binding. Furthermore, it should be considered whether banks might become less averse to potential breaches of the CBR-M due to the above-mentioned differences in the respective MDA mechanisms and a more lenient treatment of breaches of the CBR-M. As a result, banks may be more inclined to operate closer to the CBR-M or even dip into it, accepting lower CET1 headroom within the MREL capital stacks.

**Fourth, if the CBR-M is the binding constraint, the impact mechanism of macroprudential measures may be fundamentally different from the traditional "CET1-channel".** More precisely, compliance among banks with stricter CET1 requirements (e.g. activation of the CCyB) will not necessarily be achieved by increasing their CET1 level, but through changes in the level of other MREL-eligible liabilities. This is because the CET1 headroom under the MREL framework can be increased not only by issuing more CET1 (or AT1 and T2, which to some extent also applies to prudential stacks[37]), but also by issuing more eligible liabilities. The wider scope of liabilities that banks can use to meet resolution requirements would free up CET1 "locked" in MREL and increase CET1 headroom, without changing the total amount of CET1 that the bank holds. Importantly, issuing more eligible liabilities to free up CET1 can be considered positive both from a resolution and a macroprudential perspective, although authorities should be aware that this action by banks changes the impact mechanism of the macroprudential framework, which has traditionally focused on enhancing resilience through an increase in CET1 capital. Thus, the pure "CET1-channel" applies only where a bank cannot access AT1 or T2

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36 In situations where the CBR-M is dominant, banks have more CET1 locked up in the MREL-RW stack than in the RW prudential stack. Therefore, a large amount of the capital headroom that might appear as available when looking solely at the prudential RW stack might in fact be bound up to comply with the MREL-RW targets. This implies that the actual capital headroom, i.e. the capital above the dominant CBR, is significantly smaller.

37 Unlike prudential LR and resolution frameworks, the prudential RW framework explicitly requires banks to hold at least 4.5% of their RWA in the form of CET1.

markets or the markets for other eligible liabilities. In cases where banks are unable (or unwilling) to use AT1, T2 or other eligible liabilities to meet their resolution requirements, increasing the size of the CBR (and the CBR-M) will directly increase CET1 demand.

**In summary, while the full implementation of the resolution framework might improve buffer usability via the CBR-M, it could also pose additional challenges for authorities and raise governance issues that extend beyond macroprudential considerations related to the CBR.** Most critically, capital intended to meet "going concern" objectives could, in practice, be constrained by MREL requirements, which fall under the remit of resolution authorities. This feature of the regulatory framework could potentially render the actions of prudential authorities less effective, or even redundant. This situation can arise if the amount of CET1 capital that is de facto bound up by the resolution framework exceeds the amount of CET1 capital required under the prudential framework. In such a situation, any measure considered by the micro- or macroprudential authorities to adjust requirements under the RW or LR stack could either be outright ineffective[38] or have an indirect impact by influencing MREL stacks.[39] Moreover, if the CBR-M is dominant, it might increase effective buffer usability under the complementary approach, thus potentially overcoming ineffective buffers in the prudential framework rooted in the overlap of the CBR with the LR. Micro- and macroprudential authorities alike will need to assess whether their objectives are sufficiently met by a binding MREL framework under the responsibility of the resolution authorities, or whether potential conflict of interests might arise between their respective objectives. These considerations apply not only to the objectives of the RW capital stack and the LR framework, but also to the governance and information-exchange arrangements discussed in Section 2. Furthermore, a binding MREL framework implies that any capital requirement generated under the Basel reforms could affect banks not only through the RW capital stack, as currently assessed through quantitative impact studies (QIS),[40] but also through the resolution stacks. This also applies to G-SIBs at the global level, as a higher proportion of risk-weighted assets (RWA) increases the nominal amount of risk-weighted TLAC. Going forward, a comprehensive assessment of the capital impact of Basel III and the potential capital shortfalls for banks should be carried out, addressing also resolution requirements.

**Moreover, if resolution requirements represent the binding constraint for certain institutions, then buffer usability depends on their interactions not only with the macroprudential framework, but also with microprudential regulation and policy.** These interactions are relevant both for Pillar 2 requirements (P2R,

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38 Risk-weighted micro- and macroprudential measures may become ineffective if MREL-LR is the binding constraint for banks. In such cases, neither CBR nor (risk-based) P2R changes are effective to the extent that they remain below the CET1 consumption of MREL/TLAC-LR minimum requirements. Similarly, non-risk-weighted micro- and macroprudential measures (e.g. changes in LR minimum requirements via P1 or P2R measures, or LR buffers) may be ineffective where MREL-RW becomes the binding constraint for banks.

39 The BRRD standard formula determines risk-weighted MREL requirements as: MREL-RW total requirement = LAA (loss-absorption amount) + RCA (recapitalisation amount). Where LAA = (P1 RW TC+ P2 RW TC) * TREA and RCA = (P1 RW TC + P2 RW TC) * (post-resolution) TREA. RCA amount can be adjusted upwards by MCC (market confidence charge), which is defined as MCC = CBR - CCyB. CBR-M then sits on top of the requirement. For further details, see SRB (2024).

40 See, for example, the EBA's Basel quantitative impact assessment.

which is placed below the CBR in the prudential capital stack) and for Pillar 2 guidance (P2G, which is placed on top of the CBR). For example, EU regulations require authorities to set P2G at a sufficiently high level so as to ensure that banks can partially cover losses during stress periods before minimum prudential requirements (RW and LR) are breached.[41] This approach is relevant when assessing the functioning of P2G and the CBR in the prudential stack. However, if the CBR-M is dominant, the relevant focus point might need to be the resolution stack, since in stress situations the CBR-M would be breached first. The additional loss-absorbing capacity created by the P2G in the prudential stack is therefore not guaranteed if a bank's primary constraint is the resolution stack. For these banks, the current Pillar 2 methodology may not provide additional capacity to absorb losses since there is no equivalent to Pillar 2 guidance in the resolution framework. Furthermore, microprudential (as well as macroprudential) measures indirectly affect MREL targets (see footnote 39). In this regard, it is also important to note that setting microprudential capital measures (e.g. P2R) or implementing any other measure that may lead to effective increases in MREL (e.g. macroprudential risk weight measures under Articles 124, 164 and 458 of the CRR), will not necessarily translate one to one into higher CET1 levels across all regulatory stacks. This is because higher MREL requirements can also be met through the issuance of eligible liabilities, as explained earlier. For example, if a bank is subject to a higher P2R, then at least 56.25% of the increase must be met with CET1 and therefore by increasing the minimum requirements under the prudential RW framework and pushing up the CBR on top of it. The higher P2R also results in stricter MREL-RW requirements, with the difference being that there it can be met with a broader scope of capital and eligible liabilities. Depending on the capital and liabilities position of banks, this might imply a different relative increase in CET1 levels across the frameworks. In any case, both the level and the composition of P2R are relevant for macroprudential authorities as the relative bindingness of the CBR and the CBR-M can change through the interaction between microprudential and resolution policies. Therefore, understanding the functioning and the highly complex interaction between micro- and macroprudential policy via the MREL framework warrants further analysis and assessment.

[41] See paragraph 424 of Section 7.7.1 of Guidelines on common procedures and methodologies for the supervisory review and evaluation process (SREP) and supervisory stress testing under Directive 2013/36/EU

# 4 Empirical assessment of the interaction between prudential and MREL frameworks

**Our empirical analysis shows that banks' buffer usability is primarily constrained by the leverage ratio, which on average reduces buffer usability by around 35 and 26 percentage points using the baseline and complementary approach, respectively (Chart 1).** This finding is in line with Leitner et al. (2023) and shows that the LR is an effective backstop measure for banks with low risk weight density. This is a design feature of the LR framework, preventing banks from operating with low capital levels. At the same time, it partially constraints the functioning of macroprudential buffers.[42]

**When considering overlaps with the MREL framework, average buffer usability declines further (and significantly), under both the baseline and the complementary approaches, compared with buffer usability that considers only prudential RW and LR requirements.** As noted earlier, when considering only the overlap between the CBR and the prudential LR minimum requirements, buffer usability stood at 65% and 74% for SSM banks as of 2024 Q2 according to the baseline and complementary approaches, respectively. Incorporating MREL minimum requirements further reduces buffer usability, resulting in an overall usability between 41% and 50% under the two analytical approaches. It is important to note that there are other analytical approaches in the literature that focus exclusively on the usability of releasable buffers, rather than all buffers. Since releasable buffers represent only a subset of the CBR, these approaches will always produce higher or equal usability, as the possible overlap with other parallel requirements is smaller.[43]

**This finding on the additional constraining impact of the resolution framework is supported by existing literature on buffer usability and MREL.**[44] This implies that around half of the total €314 billion of the CBR was usable at the time of analysis.[45] The results confirm our assumptions from previous sections that for some banks, the MREL is indeed the most binding capital framework. More precisely, the CBR-M is the dominant buffer for a total of 48[46] resolution groups, representing half of the RWA in the sample. Should any of these resolution groups breach the CBR-M,

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42 For a detailed discussion on the macroprudential implications of limited buffer usability stemming from interactions between risk-weighted and leverage ratio requirements, see Leitner et al. (2023).

43 See Magi et al. (2023), "How ample is macroprudential space? A simple indicator of effectively releasable buffers measuring macroprudential space", *Macroprudential Bulletin* 23, December.

44 For, for example, Cornacchia and Guerra (2022) and De Bosio and Loiacono (2023).

45 As a benchmark, following the onset of the COVID-19 pandemic, a total of €20 billion of CET1 from macroprudential buffers was released hand in hand with a €120 billion release of microprudential requirements (see ECB (2021)).

46 One G-SII bank, 33 O-SII banks and 14 Other banks.

it is the resolution authority that assesses whether and when to impose restrictions on distribution.

**Buffer usability under both analytical approaches frequently attains extreme values of 0% and 100%.**[47] The empirical findings reveal that roughly a third of the resolution groups cannot use their prudential CBR at all without breaching parallel minimum requirements. Another third can use it fully (100% usability), while the remaining third can use it only partially (see Chart 1, panel a). The impact of the leverage ratio on buffer usability is analysed in detail by Leitner et al. (2023). Their analysis, which uses the baseline approach, shows that CBR usability varies substantially for banks that have a risk weight density (RWD) between 25% and 50%.[48] Banks with an RWD exceeding 50% are not constrained by the prudential leverage ratio and thus have a fully usable CBR. Conversely, banks with an RWD below 25% typically exhibit CBR usability of 0%. The introduction of MREL further reduces buffer usability, as discussed above.[49]

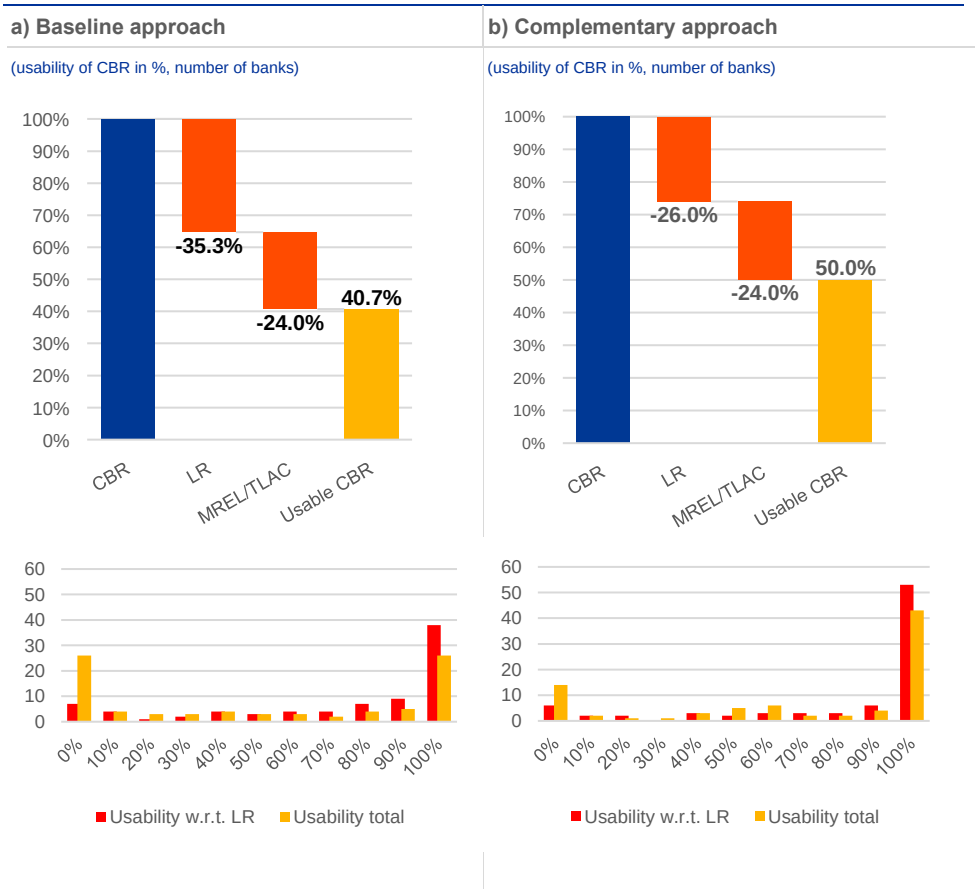
47 The distance to breach minimum requirements is considered only implicitly to compute the overlaps of the buffers. For example, the scope of the analysis does not differentiate whether banks' buffers are just above the binding level of LR minimum requirements or far from it – in both cases CBR usability with respect to LR is 100%.

48 The risk weight density is defined as the ratio of TREA over LREM. The lower the RWD, the lower the applied risk weights are and vice versa. Banks using internal ratings-based (IRB) approaches have on average a lower RWD as a result of lower risk weights. See Leitner et al. (2023)

49 In this regard, it should be noted that analysing the optimal level of buffer usability goes beyond the scope of this paper. However, as pointed out in earlier sections, higher buffer usability improves the effectiveness of the macroprudential framework, making it beneficial from a macroprudential perspective.

**Chart 1**

Prudential leverage ratio and MREL/TLAC requirements are constraining buffer usability



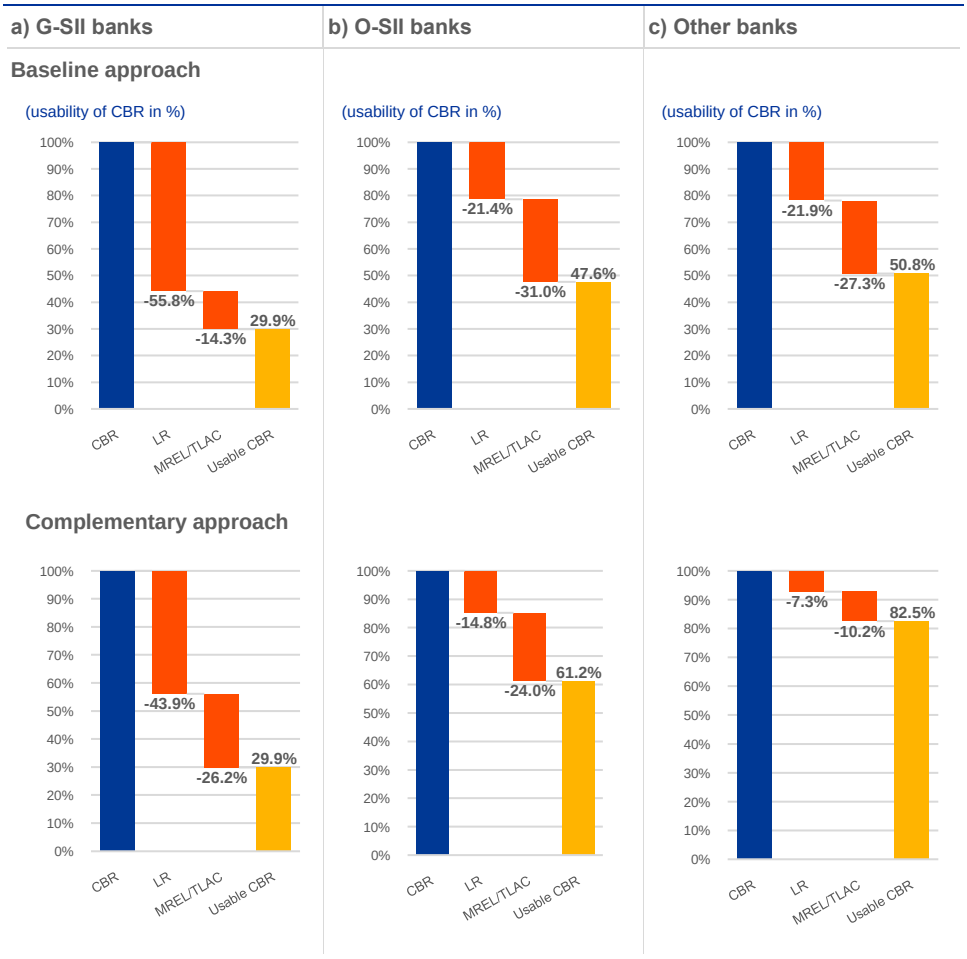

Sources: ITS on disclosure and reporting on MREL and TLAC, COREP (Q2 2024), USIT tool.
Notes: Sample of 83 resolution groups subject to external MREL. Banco Santander is excluded from the sample. TREA and LREM reported in the resolution templates are used. The requirements are computed based on the entity, which is reported in the resolution templates to issue the external MREL liabilities. By using this approach, also MPEs are included in the sample. Overall 6 G-SIIs, 55 O-SIIs and 22 other banks are considered. Final MREL targets used if available otherwise intermediate targets were used. Waterfall chart presents TREA-weighted averages across the whole sample.

**The impact of MREL on the buffer usability of individual banks is heterogeneous, depending on their risk profile and the composition of their assets and liabilities.** The introduction of MREL, whether as an additional parallel constraint in the baseline approach or as an additional reference point for buffer usability (CBR-M) in the complementary approach, adds significant complexity to the analysis. The results are further affected by two additional sources of heterogeneity at the bank level: (i) the size of MREL targets and (ii) the volume of eligible debt issued by banks. Chart 2 below illustrates average buffer usability across different bank types under the baseline (top panel) and complementary (bottom panel) approaches. The data show that G-SIIs' buffer usability is primarily constrained by the LR framework. The MREL framework further reduces buffer usability, with an additional decline of 14 and 26 percentage points under the baseline and complementary approaches, respectively. This is the smallest MREL impact among all bank types. However, despite the lesser impact of MREL, G-SIIs exhibit significantly lower overall buffer usability compared with O-SIIs and other banks, and

they continue to have the lowest usability after considering MREL. This is primarily due to (i) low RWDs, making the LR framework the primary binding constraint; and (ii) the specific composition of capital and liabilities to meet MREL requirements (Chart 4a). Both O-SIIs and other banks experience, on average, a nearly identical decline in buffer usability when considering MREL requirements in the baseline approach, albeit from a higher level compared with G-SIIs. Under the complementary approach, the average decline for O-SIIs due to MREL interactions is similar to those of G-SIIs (24 and 26 pp, respectively), while for other banks the impact of MREL is negligible and buffer usability remains high on average.

**Chart 2**

Buffer usability of G-SIIs is mostly limited by the LR framework and other banks are mostly bound by MREL



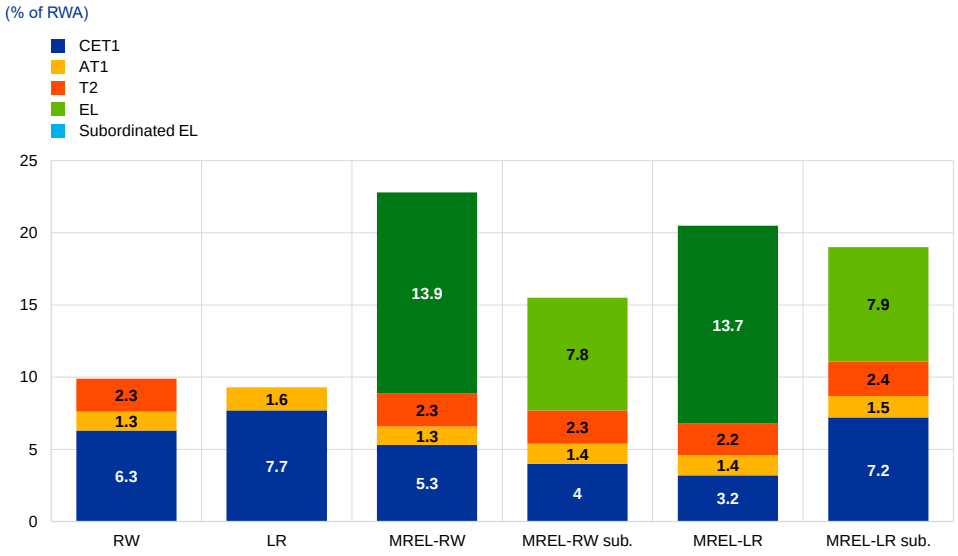

Sources: ITS on disclosure and reporting on MREL and TLAC, COREP (Q2 2024), USIT tool.
Notes: Sample of 83 resolution groups subject to external MREL. Banco Santander is excluded from the sample. TREA and LREM reported in the resolution templates are used. The requirements are computed based on the entity, which is reported in the resolution templates to issue the external MREL liabilities. By using this approach, also MPEs are included in the sample. Overall 6 G-SIIs, 55 O-SIIs and 22 other banks are considered. Final MREL targets used if available otherwise intermediate targets were used. Waterfall chart presents TREA-weighted averages across the whole sample.

**While larger banks issue substantially higher amounts of (subordinated) eligible debt, CET1 consumption across different frameworks remains relatively comparable among different bank types.** Chart 3 below gives an overview of how banks use own funds (CET1, AT1 and T2) and eligible liabilities to

meet their minimum requirements. In each stack depicted in Chart 3, the total requirement is filled from the top, starting with eligible liabilities, followed by T2 and AT1 instruments.[50] CET1 consumption is then calculated as a "residual" element which is still needed to comply with the minimum requirements in each stack. On average, the MREL-RW targets are the highest and bind the most capital and eligible liabilities.

**Chart 3**

Most regulatory capital (CET1, AT1 and T2) is used to meet MREL-LR subordination minimum requirements, while the prudential LR framework binds the most CET1 and AT1




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP (Q2 2024), USIT tool,
Notes: Sample of 83 resolution groups. TREA-weighted average of requirements and their compositions. Only minimum requirements considered (CET1 for CBR not included). TLAC requirements omitted as they apply only to G-SII banks. On a bank level, minimum requirements are assumed to be met using the cheapest available resource first (EL), before gradually moving towards more expensive resources (T2, AT1 and CET1) until the entire requirement is fulfilled (subject to regulatory thresholds in the RW stack).

**Focusing solely on CET1 consumption, prudential LR minimum requirements are the most binding on average, although this might not hold for the bank-type breakdown.** Chart 4 below provides a more detailed picture of regulatory capital and eligible liabilities for different bank types. For G-SIIs, the LR-TLAC and the prudential LR framework bind the most CET1. A similar pattern can be observed for O-SII banks, as the MREL-LR subordination and the prudential LR minimum requirements consume the highest amount of CET1. Other banks are subject to the lowest MREL requirements but use the largest proportion of CET1 to comply with them. This comes from the fact that despite facing the lowest requirements, they issue disproportionately less AT1, T2 and especially (subordinated) eligible liabilities.[51] These numbers provide an overview of how banks comply with the different capital requirements and provide a better understanding of how banks

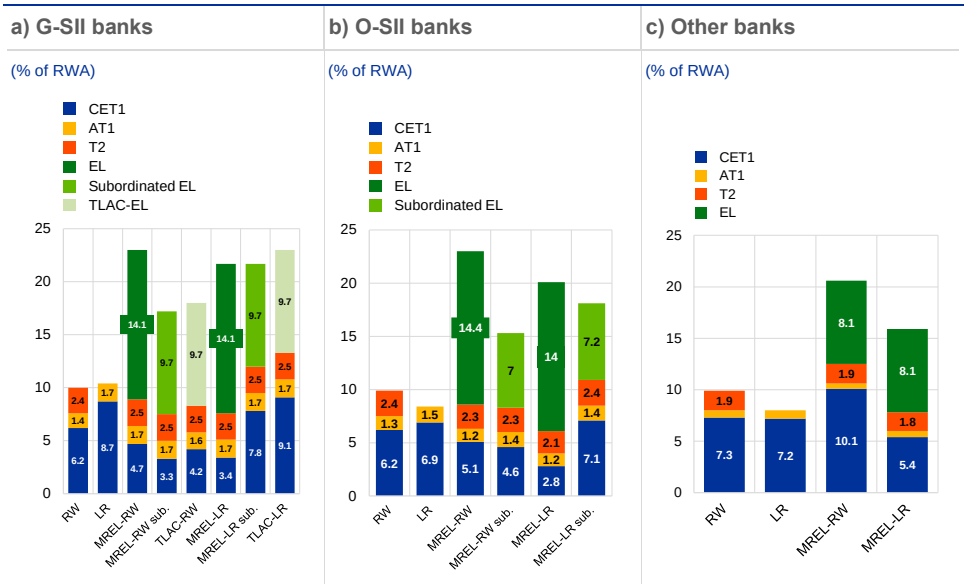
[50] Subject to the specific regulatory thresholds for the proportion of different capital qualities in the risk-weighted stack, as set out in Article 92(1) of the CRR.

[51] For smaller banks it is usually more difficult and costly to participate in debts markets, making it relatively harder for them to raise debt, including eligible liabilities.

manage their capital, but should not be used to make a direct inference on buffer usability.

**Chart 4**

G-SIIs, O-SIIs and Other banks use most of their CET1 capital to meet MREL requirements and TLAC, where relevant. Other banks issue less lower quality capital (AT1 and T2) and eligible liabilities than G/O-SIIs to meet their overall capital requirements. CET1 is also largely used by G-SIIs s to meet their leverage ratio requirements




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP (Q2 2024), USIT tool.
Notes: Sample of 83 resolution groups. TREA-weighted average of requirements and their compositions. Only minimum requirements considered (CET1 for the CBR not included). On a bank level, minimum requirements are assumed to be met using the cheapest available resource until the entire requirement is fulfilled (subject to regulatory thresholds in the RW stack). MREL-subordination has been omitted for other banks as only five of them are subject to it.

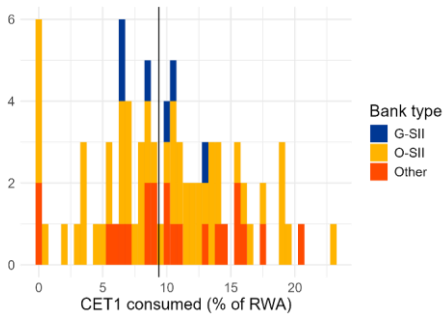
**Although aggregated results provide a useful overview, they largely fail to show the heterogeneity in the requirements and in the way different banks comply with them.** Firstly, the resolution framework minimum requirements consume very little to no CET1 for some banks due to an abundance of lower-quality funding that qualifies as eligible for resolution purposes (Chart 5, panel a). At the other end of the spectrum, half of the resolution groups currently use more than 9.4% RWA of CET1 to meet their minimum resolution requirements, out of which 16 resolution groups attain values beyond 15% of RWA (Chart 5, panel a). Although these outliers are limited to O-SIIs and Other banks, CET1 consumption among G-SII banks to meet resolution minimum requirements is considerably heterogeneous as well, ranging from 6.4% to 13.0% of RWA.

## Chart 5

MREL/TLAC minimum requirements consume the most CET1 across all bank types

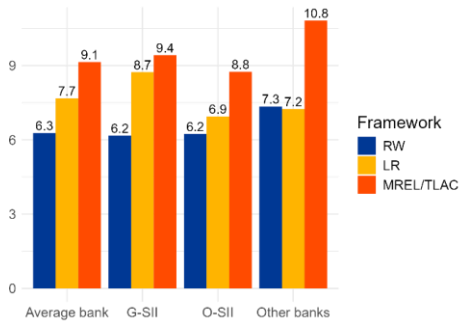
**a) Distribution of CET1 consumption under the MREL/TLAC framework**

(number of banks)




**b) CET1 consumed by minimum requirements**

(CET1 as % of RWA)




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP (Q2 2024), USIT tool.
Notes: Sample of 83 resolution groups. O-SII banks do not include G-SII banks. Panel a), horizontal axis: amount of CET1 needed to meet the most CET1-binding resolution minimum requirement (out of MREL-RW, MREL-LR, MREL-RW subordination, MREL-LR subordination, TLAC-RW and TLAC-LR). Median value is 9.4% of CET1 RWA. Panel b): amount of CET1 needed to meet the RW, LR and the most CET1-binding MREL/TLAC minimum requirements; TREA-weighted average.

# 5 Regulatory options

**The Report of the ESRB Analytical Task Force on the overlap between capital buffers and minimum requirements lists several policy options[52] that could improve buffer usability without compromising the objectives of the existing frameworks.** Using newer data on the sample of SSM banks as of Q2 2024, this section quantifies the impact of some of these options on buffer usability and on the overall level of regulatory requirements. The analysis is presented in a neutral manner without suggesting any preference. A comprehensive assessment of the feasibility and desirability of these options would require further work, considering also (i) their potential to reduce or eliminate overlaps between various requirements, and (ii) the impact on the cost of funds in the banking sector.

## 5.1 Implementation of Basel III

**As the CBR stacks on top of risk-weighted minimum requirements, an increase in risk-weighted assets relative to the leverage ratio exposure measure results in higher risk weight density, higher risk-weighted capital requirements and consequently higher buffer usability.** Defined simply as the ratio of risk-weighted assets to the leverage ratio exposure measure, risk weight density reflects the relative bindingness of risk-weighted requirements vis-à-vis leverage-based requirements. As illustrated in Figures B and C (see Box 2), higher risk-weighted requirements reduce the overlap of the CBR (CBR-M) with leverage-based requirements, within both the prudential and the resolution frameworks. Consequently, buffer usability rises according to both analytical approaches.[53]

**The following scenario analysis considers the implementation of Basel III in the EU, which includes, without limitation, the implementation of the output floor, which increases risk-weighted assets for banks using internal models.[54]** Our analysis finds that Basel III implementation is expected to improve buffer usability substantially. However, the complex interactions between the risk-weighted prudential and resolution frameworks will persist. With the gradual phase-in of Basel III, risk weights will increase, also leading to an increase in nominal MREL/TLAC-RW minimum requirements. As risk-weighted requirements become more binding, the determination of whether the CBR or the CBR-M will be breached first becomes a particularly relevant question. As explained above, the bindingness of the CBR-M critically depends on the amount of (subordinated) eligible liabilities that a bank opts to hold.

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52 The option introduced in Section 5.2 of this report is also considered conceptually by De Bosio and Loiacono (2023).

53 Similarly, measures adopted under Articles 124, 164 and 458 of the CRR that lead to an increase in risk weights within the existing regulatory framework to address systemic risks in the exposures secured by real estate have the side effect of also increasing buffer usability.

54 Rules expected to apply by January 2030 (including transitional EU deviations).

**With the implementation of Basel III, risk weight density is expected to rise considerably for all G-SIIs and some O-SII banks.** Therefore, this scenario is implemented as follows: first, we compute RWD under finalised Basel III from the ECB/SSM's internal Q4 2022 Quantitative Impact Study. In the next step, QIS RWDs are used to estimate the revised RWA, which reflects Basel III rules applied to banks' current balance sheets. Minimum requirements and buffer rates as a percentage of RWA and LREM are held constant.

**Table 1**

| Sample | G-SIIs | O-SIIs | Other banks | Total |
|---|---|---|---|---|
| **Baseline** | 6 | 55 | 22 | 83 |
| **Basel III scenario** | 6 | 38 | 0 | 44 |

Notes: QIS analysis considers banks mainly at the highest level of consolidation. MPE resolution groups are thus omitted in this scenario, as no estimates of RWD are available for them. Only a handful of "other" banks were available in the QIS and were therefore omitted due to the sample being non-representative.

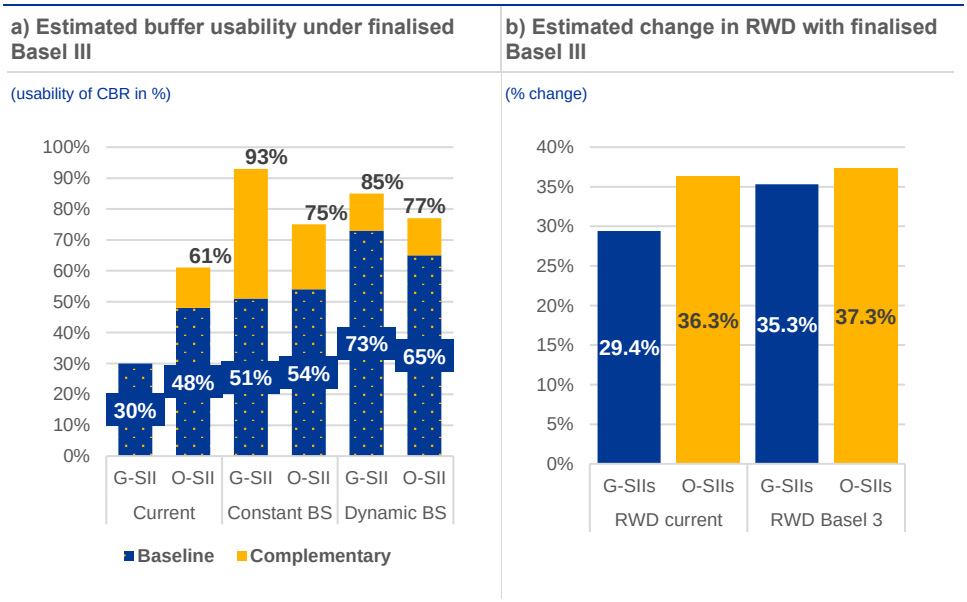
**As buffer usability is driven by both the structure and the amount of own funds and eligible liabilities, two assumptions are considered.** First, the nominal amounts on the liabilities side of banks' balance sheets are kept fixed and all additional requirements are met with CET1, AT1 and T2 capital ("constant balance sheet approach"). This approach underestimates the actual amount of AT1, T2 and EL that banks may use to meet higher risk-weighted requirements. Keeping nominal amounts of AT1, T2 and (subordinated) EL fixed while increasing the nominal minimum requirements in the risk-weighted stacks creates additional CET1 demand. Higher CET1 demand in risk-weighted stacks increases buffer usability as it reduces overlaps with the leverage-based frameworks. Second, a potentially more informative and realistic option is considered: keeping the ratios of regulatory capital and (subordinated) eligible liabilities to RWA fixed. Keeping banks' CET1, T1, TC and EL ratios constant under both current and revised RWA rescales the nominal amounts of such liabilities.[55] This requires an adjustment in banks' balance sheets in nominal terms ("dynamic balance sheet approach"). Such an assumption also has empirical foundations. For example, banks in general do not raise AT1 and T2 capital above the level that is admissible in the prudential risk-weighted stack[56] (see Charts 3 and 4). Furthermore, the abovementioned ratios are observed to be relatively stable over time. The main results are summarised in Chart 6, panel a). Both G-SIIs and O-SIIs are expected to see considerable increases in buffer usability, driving the averages up. However, there are some banks that are not affected by Basel III or their RWA may even decrease with the full phase-in. For these institutions, buffer usability would remain at the same level or would even decrease. Wide differences between the results provided under the baseline and complementary scenario would continue to exist, underscoring the need for a common understanding of the implications and assumptions of the two approaches.

55 If bank RWD is expected to decrease upon the finalisation of Basel III, the resources are not re-scaled downwards but kept constant as in the first assumption.

56 For example 1.5% (Pillar 1) + 0.1875 * P2R rate (Pillar 2) of RWA for AT1, 2% (Pillar 1) + 0.25 * P2R rate (Pillar 2) for T2.

**Chart 6**

Buffer usability is estimated to improve with Basel III finalisation, especially for G-SIIs




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP, USIT tool, Internal QIS data.
Notes: Sample of 44 resolution groups. O-SII banks do not include G-SII banks. TREA-weighted averages. Panel a): "Current" refers to TREA-weighted buffer usability as of Q2 2024; "Constant BS" refers to the assumption of a constant nominal amount of own funds and eligible liabilities; "Dynamic BS" refers to the assumption of constant own funds and eligible liabilities ratios to RWA. Panel b): "Current" refers to TREA-weighted average RWD as of Q2 2024.

## 5.2 Minimum requirement for (subordinated) eligible liabilities under the MREL framework

**Setting a minimum requirement for (subordinated) eligible liabilities, all else being equal, frees up CET1 currently locked up in MREL and improves buffer usability.** This regulatory option is inspired by a provision embedded in the TLAC standards for G-SII banks, which are expected to hold TLAC-eligible debt instruments[57] in an amount equal to, or greater than, 33% of their minimum TLAC requirements.[58] However, this option affects only the bindingness of MREL requirements and does not eliminate the interaction between the RW and LR prudential frameworks. Therefore, the buffer usability of resolution groups with a relatively low risk weight density might not improve. This can be observed in Chart 7, panel a). Usability of the CBR under the baseline approach rises as the minimum requirement for (subordinated) eligible liabilities increases. This holds up to a level of around 50%, whereupon MREL ceases to be the most CET1-binding requirement for all banks and usability converges to the level restricted by prudential LR (see Charts 1 and 2 for a comparison). Imposing a 33% minimum requirement for eligible debt on all banks (similar to the requirement that G-SIIs are expected to meet under the TLAC framework) would increase average buffer usability for O-SII banks and Other banks by 18.5 and 23 percentage points respectively. Notably, G-SII banks already

57 TLAC-eligible debt instruments refer to AT1, T2 capital and subordinated eligible liabilities.

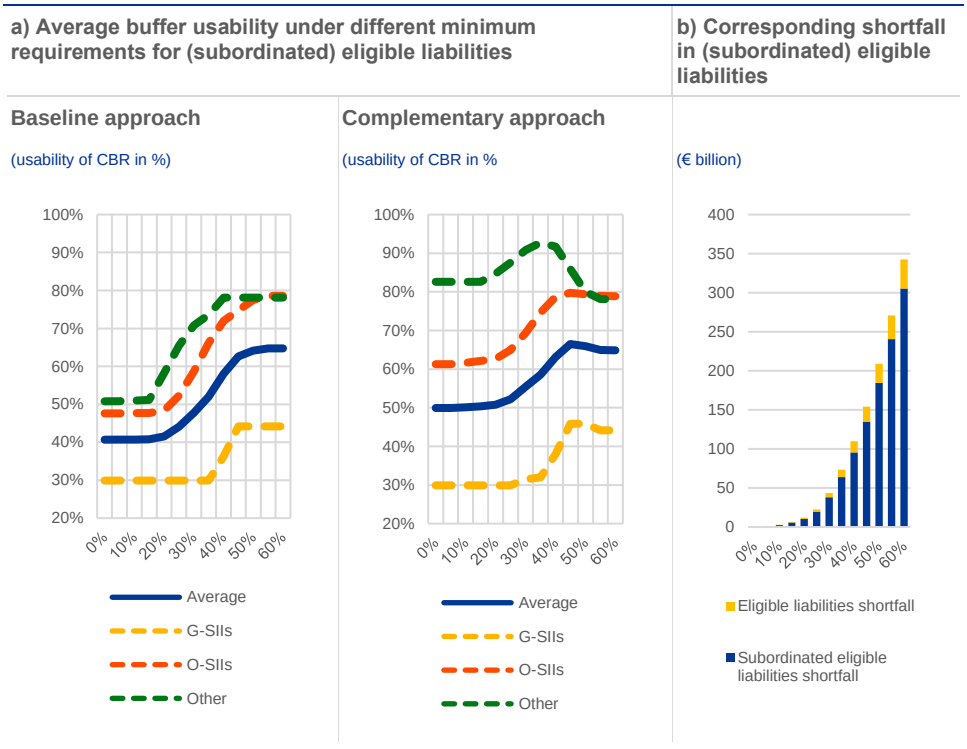
58 See Section 3.7 of Review of the Technical Implementation of the Total Loss-Absorbing Capacity (TLAC) Standard.

comply with the 33% eligible debt expectation, and therefore any requirement below this threshold would have no impact on buffer usability. However, as the data shows, requiring eligible debt above the 33% mark would increase their buffer usability (Chart 7, panel a).

**When using the complementary approach to assess buffer usability, a similar trend emerges, albeit starting from a higher level of overall buffer usability and converging to the level restricted by the LR.** A noteworthy aspect of the complementary approach is that Other banks experience a decline in buffer usability when the eligible liabilities requirement to meet MREL is set at a high level (around 40%). In this scenario, MREL is no longer binding for them, indicating that under the complementary approach their buffer usability is primarily driven by a dominant CBR-M. This explains the non-monotonous relationship between the amount of minimum (subordinated) eligible liabilities and buffer usability of Other banks in chart 7 panel a).

**Chart 7**

Introducing minimum requirements for eligible debt significantly improves CBR usability




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP, USIT tool.
Notes: Sample of 83 resolution groups. O-SII banks do not include G-SII banks. Panel a): TREA-weighted averages. X axis reflects theoretical minimum share of EL, subordinated EL and TLAC-EL in the maxima of MREL-RW target and MREL-LR target; MREL-RW subordination target and MREL-LR subordination target; TLAC-RW and TLAC-LR respectively. Panel b): corresponding shortfall of (subordinated) eligible liabilities.

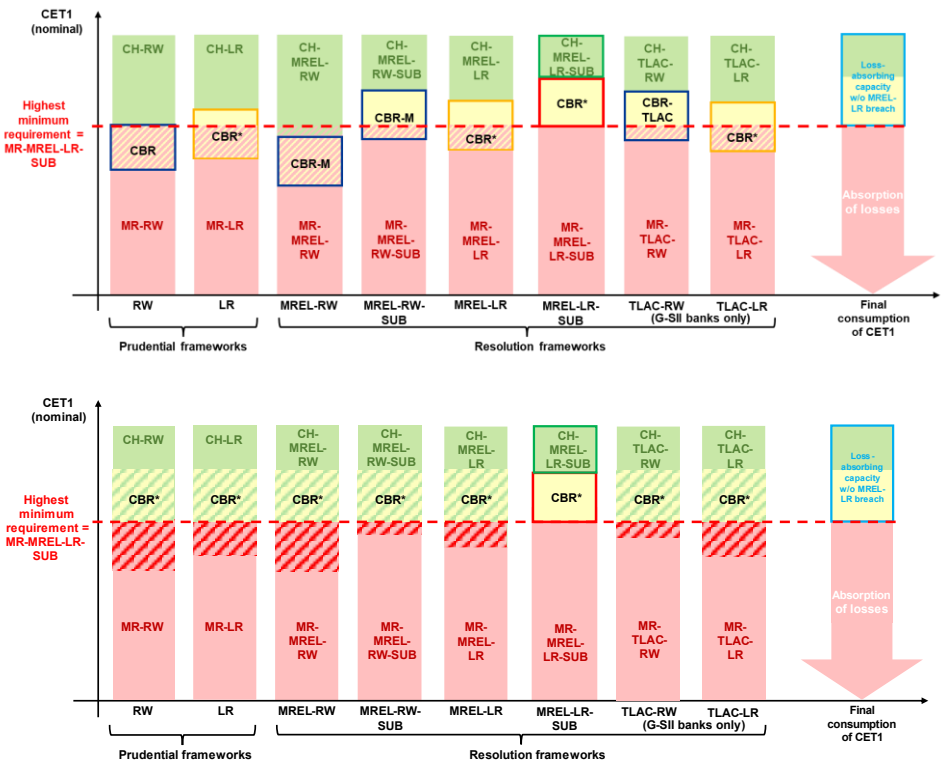
## 5.3 Restricting simultaneous use of CBR capital in all stacks

**Prohibiting the simultaneous use of CBR capital to meet all parallel minimum requirements would eliminate overlaps completely and ensure full buffer**

**usability.** In practice, this would mean putting the CBR on top of all prudential and resolution leverage-based frameworks in the first step (Figure D, top panel) and eliminating overlaps between buffers and minimum requirements in the second step (Figure D, bottom panel).[59] Such regulatory change would always ensure fully usable and effectively releasable buffers, no matter which of the minimum requirements binds the most CET1 capital. Subsequently, the entire MDA restriction ladder would always precede a breach of minimum requirements, as shown in the lower panel of Figure D. This approach would also bring more consistency and completeness to the framework by ensuring buffer layers are equally available in each stack. However, it also happens to be the costliest of the options presented, in the sense that it increases the overall requirements.

**Figure D**

Stylised illustration of prohibiting the simultaneous use of CBR capital




Notes: The relative sizes of the elements are provided for illustrative purposes and do not relate to any specific setup in the EU banking sector. CBR* reflects newly introduced combined buffer requirements.

**Such a regulatory change would not affect the funding costs of resolution groups for which the risk-weighted minimum requirements – be it either in the prudential or resolution stacks – are currently the most binding in terms of CET1.** In cases where one of the risk-weighted minimum requirements binds the most CET1, and the CBR on top of this requirement is met, making the CBR part of

59 Restricting the simultaneous use of buffer capital could also be applied to the leverage ratio buffer (LRB). Subsequently, the size of the buffer the bank is subject to in all stacks would be determined by the maximum of the CBR and the LRB. As the CBR is currently higher than the LRB for all G-SII banks, this option becomes rather theoretical and is therefore not considered in the analysis.

the leverage-based requirements does not introduce any additional costs. Put differently, banks with 100% buffer usability under the complementary approach would not be affected. This is currently the case for 43 resolution groups, representing 23% of RWA in the sample.

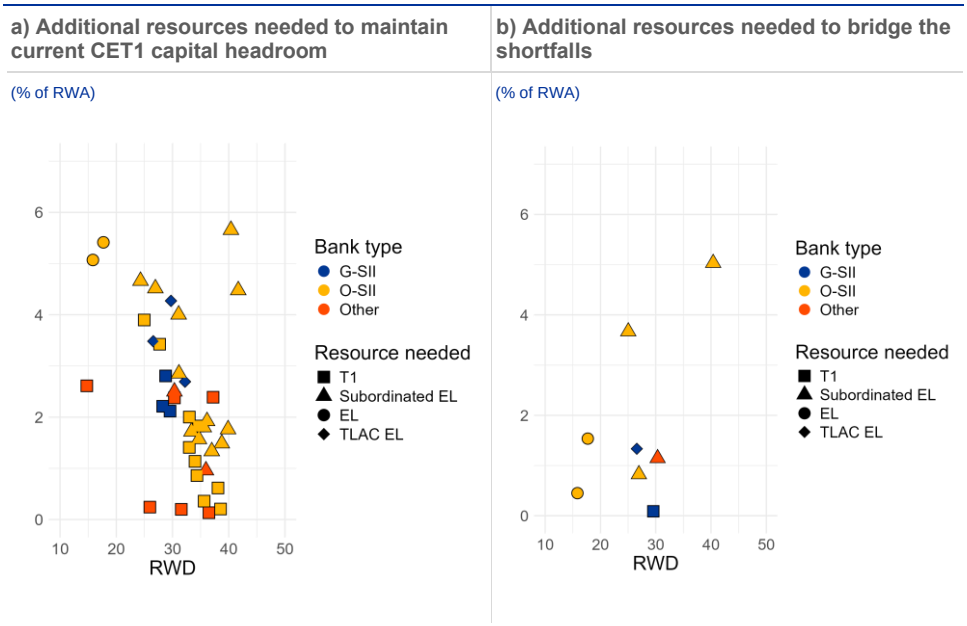
**However, banks with limited buffer usability under the complementary approach would see an impact, either to their total loss-absorbing capacity or the amount of bail-inable liabilities held.** Firstly, the remaining 40 resolution groups would need to issue additional own funds or eligible liabilities should their current CET1 capital headroom[60] be maintained. Chart 8, panel a) depicts the relevant amounts as well as the resources to be raised. A total of eight resolution groups from the subsample of affected banks would face a shortfall in funding resources of up to 5% of RWA (Chart 8, panel b) in meeting the newly introduced CBR under their currently most CET1-binding capital framework. Focusing again on the cheapest source of funding, the shortfalls faced by these banks could be bridged by issuing either eligible liabilities (two O-SII banks), subordinated eligible liabilities (three O-SII banks and one Other bank), TLAC-eligible liabilities (one G-SII bank), and/or T1 capital[61] (one G-SII bank). All shortfalls could be bridged by issuing CET1, although this is not required, as lower-quality and cheaper funds would also suffice in meeting these requirements. This also means that the additional CET1 consumption of this regulatory option may be zero.

60 Here, CET1 capital headroom indicates the smallest amount of CET1 depletion leading to a breach of either the CBR, LR minimum requirements/LR buffer, CBR-M or MREL-LR target (additionally with CBR-TLAC and TLAC-LR for G-SIIs).

61 This shortfall stems from mirroring the CBR on top of the LR minimum requirement and bridging it would require up to 0.31% of T1 capital RWA. The LR buffer to which G-SII banks are subject is considered to be replaced by the CBR in this scenario.

**Chart 8**

Extending the restriction on the simultaneous use of CBR capital would mainly require G-SII banks to raise their Additional T1 capital and O-SII banks and Other banks to raise their (subordinated) eligible liabilities.




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP, USIT tool.
Notes: O-SII banks do not include G-SII banks. Panel a): sample of 40 banks affected by the theoretical extension of the simultaneous use restriction. The three G-SII banks bearing rhombus symbols would also need to raise T1 in addition to TLAC-eligible liabilities, albeit in lower amounts than those shown in the chart. Panel b): sample of eight banks facing resource shortfalls to meet the CBR under the theoretical extension of the simultaneous use restriction. The shapes indicate the cheapest resource to be raised.

**The results shown above reflect the current situation and do not consider the transition to a fully phased-in Basel III.** Banks' RWD is expected to increase considerably on average with fully phased-in Basel III. Moreover, authorities may adjust their requirements following the implementation of Basel III and banks may also adjust their balance sheets during this transition phase. It is therefore important to consider this scenario in conjunction with the scenario introduced in Section 5.1. The costs of this option decrease[62] as risk-weighted frameworks become more binding vis-à-vis leverage-based frameworks. Although the differing samples make a direct comparison less reliable, importantly, none of the resolution groups in the combined scenario is expected to have a shortfall of own funds or eligible liabilities.

[62] The number of banks affected falls from 40 to 28 when considering the dynamic balance sheet assumption as described in Section 5.1.

# 6 Conclusions

**The full implementation of the MREL framework, coupled with the heavy use of CET1 capital among banks to meet MREL requirements, may have implications for the effectiveness of the macroprudential framework.** Given the crucial role of capital buffer requirements in achieving macroprudential policy objectives, potential constraints on buffer usability could make it harder for macroprudential authorities to fulfil their mandates. It is also important to note that resolution authorities have the power to implement various measures to address breaches of the combined buffer requirements in the resolution framework, or to provide banks with a grace period before restrictions on distributions are applied when banks fail to meet their resolution requirements. The discretion that resolution authorities have when addressing breaches of capital buffers under the MREL framework may interfere with macroprudential objectives, presenting challenges for macroprudential authorities. This is compounded by the fact that the resolution framework provides fewer mechanisms for cooperation and the exchange of information between resolution and macroprudential authorities than those that exist between resolution and microprudential supervisors. Therefore, for the effective conduct of macroprudential policy and the assessment of interactions between parallel frameworks, macroprudential authorities would need timely data on MREL targets, the amount of eligible liabilities, instances of banks breaching their requirements, or are expected to breach the buffer requirements in the resolutions framework.

**In the current regulatory framework consisting of several parallel requirements, determining the relative bindingness of these frameworks and assessing the capital and liability structure of banks to meet those requirements are crucial for macroprudential policy.** Empirical evidence indicates that most EU banks use the bulk of their available CET1 capital to meet MREL requirements. It is therefore important to assess the interactions that exist and work to align the objectives of macroprudential and resolution authorities through coordinated policy actions. Importantly, most banks subject to MREL requirements are closer to dipping into capital buffers or breaching minimum requirements under the resolution framework than they are under the prudential risk-weighted and leverage frameworks. More precisely, as of Q2 2024, 48 out of the 83 resolution groups face a more binding buffer requirements in the resolution stack than in the prudential stack. This implies that these banks would breach the buffer requirements, or minimum requirements first under the resolution framework, before breaching the prudential buffer requirements, should there be a depletion of CET1 capital.

**Our paper reveals that the usability of buffers in the risk-weighted framework is constrained by other parallel requirements.** Specifically, as of the second quarter of 2024, overlaps between risk-weighted and leverage ratio requirements reduce buffer usability to around 65% to 74% of the combined buffer requirements, depending on the analytical approach used. When the resolution framework is also considered, buffer usability further declines to an average of 40% to 50% of the combined buffer requirements. If the analysis were limited only to releasable buffers,

the resulting usability of those buffers would be higher than or equal to the usability of all buffers.

**If banks rely significantly on CET1 capital to meet their resolution requirements, this may affect how they react to CET1-based macroprudential measures, such as capital buffers.** Notably, if macroprudential authorities increase capital buffers, banks that have considerable CET1 headroom in the prudential stack but no, or lower, headroom in the resolution stacks could meet the higher buffers by adjusting their MREL-eligible liabilities instead of altering their capital levels. Issuing eligible liabilities allows banks to free up capital that was previously used to meet MREL requirements. This freed-up capital can then be used to meet the higher buffers and simultaneously maintain a constant CET1 headroom in the MREL-stack, without the need to issue more capital. From a resolution perspective, such a change in the MREL composition is in accordance with the regulation and this mechanism does not necessarily affect financial stability. However, macroprudential authorities should be aware of this "liability channel" to meet changing buffer requirements. In the prudential RW stack, the only way a bank can meet higher capital buffer requirements and maintain a constant CET1 headroom is by issuing more CET1. The traditional "capital channel" (i.e. banks having to increase capital to meet an increased buffer requirement) of macroprudential policy remains relevant when banks either have lower CET1 headroom in the RW prudential stack than in the resolution stack, or when they have no access to eligible liabilities for meeting MREL requirements if the resolution stack is binding.

**Implementing the Basel III framework in the EU would significantly increase the average usability of capital buffers, though heterogeneity among banks would persist.** Recent regulatory changes implemented through CRR III and CRD VI have made the prudential frameworks more effective at capturing risks and are also increasing the relative bindingness of risk-weighted requirements. However, the complex interaction between risk-weighted capital buffers, the leverage ratio and MREL/TLAC requirements still remains. Consequently, while the usability of buffers is generally expected to increase with the gradual phase-in of the finalised Basel III in the EU, differences among banks will persist. Regarding the other regulatory options discussed in the paper, setting minimum requirements for eligible debt instruments under the resolution framework could enhance buffer usability with respect to resolution requirements but would not address the bindingness of the prudential leverage ratio. Meanwhile, eliminating interactions by prohibiting the simultaneous use of buffer capital across parallel frameworks would ensure full buffer usability but also increase overall regulatory requirements on average. In this regard, it is important to recognise that macroprudential policy needs to have effective instruments in place. Buffer usability is therefore an important criterion for evaluating the effectiveness of policy options.

**Overall, this paper provides important insights into the complex interactions that exist between parallel regulatory frameworks, providing further evidence of the limited usability of capital buffers, with expectations that effective usability will evolve over time, particularly with the implementation of Basel III and the phase-in of the output floor.** At the time of writing, the fully phased-in

MREL is still relatively new to banks, and how banks are complying with it and adapting their balance sheets is expected to evolve as we move forward. Further analytical work and extended time series will be beneficial in quantifying the impact of possible structural changes and cyclical developments in banks' balance sheets, and also in gauging their responses to incentives created by the regulatory frameworks. Additionally, the effects of specific actions taken by macroprudential and resolution authorities on buffer usability would benefit from further assessment. Last but not least, we need to gain a clearer understanding of the interaction between banks' "ability" and "willingness" to use buffers and their impact on the overall loss-absorbing capacity of the banking system.

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# Annex 1: Interactions between frameworks, MDA threshold, buffer usability

While the composition of, and instruments to comply with, prudential and resolution frameworks differ, they share a single denominator: CET1 plays the dominant role. Not only can this highest quality capital substitute inferior types of capital and eligible liabilities under both prudential and resolution requirements, it can also be used simultaneously across frameworks with the aforementioned exception of CBR CET1 capital. A convenient way to illustrate the simultaneous use of a bank's CET1 and infer buffer usability is to look at how much of it is consumed in each of the regulatory stacks.

The following table presents the requirements facing an average MREL-subject O-SII bank operating in the Banking Union,[63] as well as the resources needed to comply with them. The same bank's CET1 consumption across different frameworks is then illustrated in the chart shown further below.

### Annex table 1

| Resources | | Requirements | |
|---|---|---|---|
| **Common Equity Tier 1** | 16.1% of RWA | **RW – Pillar 1 requirement** | 8% of RWA |
| **Additional Tier 1** | 1.6% of RWA | **RW – Pillar 2 requirement** | 2% of RWA |
| **Tier 2** | 2.9% of RWA | **Combined buffer requirement** | 4.4% of RWA |
| **Subordinated Eligible Liabilities** | 7.7% of RWA | **LR – Pillar 1 requirement** | 3% of LREM |
| **Other Eligible Liabilities** | 7.3% of RWA | **MREL-RW total requirement** | 22.9% of RWA |
| | | **MREL-RW subordination requirement** | 16.8% of RWA |
| | | **MREL-LR total requirement** | 7.2% of LREM |
| | | **MREL-LR subordination requirement** | 7% of LREM |

### CET1 consumption in the RW stack:

Starting with CET1, the average bank is subject to 5.625%[64] as the RWA minimum CET1 requirement. Second, the T1 minimum requirement stands at 7.5%[65] of RWA, of which 1.875%[66] can be met with AT1. As the average bank has only 1.6% of AT1

63 The sample comprises 33 banks. G-SIIs are omitted for simplicity due to the LR Pillar 2 requirement, LR buffer and additional interactions coming from TLAC. Only O-SIIs subject to MREL subordination requirements are considered. Pillar 2 guidance is not discussed, as it does not affect buffer usability.

64 4.5% (Pillar 1 requirement) + 56.25% * 2% (Pillar 2 requirement) = 5.625%

65 6% (Pillar 1 requirement) + 75% * 2% (Pillar 2 requirement) = 7.5%.

66 7.5% T1 requirement − 5.625% CET1 requirement = 1.875%.

RWA, an additional 0.275% of CET1 RWA is consumed. Third, the minimum total capital requirement is 10%[67] of RWA, of which 2.5%[68] can be met with T2 capital. As the average bank issued 2.9% of T2 RWA, no additional CET1 is bound by the prudential RW minimum requirements. The total CET1 consumed by the RW minimum requirements is thus 5.625% (CET1 minimum requirement) + 0.275% (AT1 gap) = 5.9% of RWA. The CBR of 4.4% of RWA which must be met with CET1 sits on top of this requirement, leaving 5.8%[69] of CET1 as the CET1 capital headroom.

**CET1 consumption in the LR stack:**

The leverage ratio Pillar 1 requirement of 3% of LREM is to be met with T1 capital. Given the risk weight density of 36% for the average bank, 3% of LREM corresponds to 8.3% of RWA.[70] This results in 6.7% of CET1 RWA[71] consumed under the LR minimum requirement and CET1 capital headroom of 7.8% of RWA[72] above this stack.

**CET1 consumption in the MREL-RW stacks:**

The MREL-RW total requirement of 22.9% of RWA can be met with all the types of resources indicated in the table. Deducting AT1, T2 and eligible liabilities results in a CET1 RWA requirement of 3.4%[73] to meet the minimum requirement. Similarly to the prudential RW stack, a CBR of 4.4% of RWA is placed on top, rendering 8.3% of RWA as CET1 headroom.

The MREL-RW subordination requirement of 16.8% of RWA can be met only with capital and subordinated eligible liabilities, resulting in 4.6%[74] consumption of CET1 RWA to meet the minimum requirement. Again, the CBR of 4.4% of RWA is placed above the minimum requirement, resulting in a CET1 capital headroom of 7.1% of RWA.

67 8% (Pillar 1 requirement) + 2% (Pillar 2 requirement) = 10%.

68 10% TC requirement − 7.5% T1 requirement = 2.5%.

69 16.1% of RWA (total CET1) − 4.4% (CBR) − 5.9% (RW minimum requirements) = 5.8% (CET1 capital headroom).

70 A bank's risk weight density (RWD) is defined as TREA / LREM. Therefore 3% (LREM) / 36% (RWD) = 8.3% RWA.

71 8.3% (LR-MR) − 1.6% AT1 = 6.7%.

72 16.1% (total CET1) − 6.7% (CET1 MR-LR) = 9.4% (CET1 capital headroom).

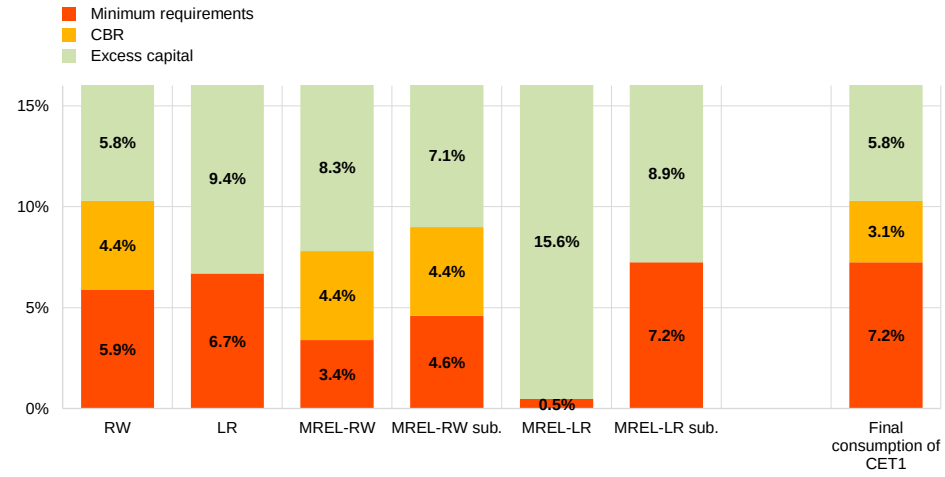
73 22.9% (MREL-RW target) − 7.3% (EL) − 7.7% (sub. EL) − 2.9% (T2) − 1.6% (AT1) = 3.4%.

74 16.8% (MREL-RW subordination target) − 7.7% (sub. EL) − 2.9% (T2) − 1.6% (AT1) = 4.6%.

**Annex chart 1**

Average O-SII bank

(CET1 as % of RWA)




Sources: ITS on disclosure and reporting on MREL and TLAC, COREP, USIT tool.
Notes: 33 O-SII resolution groups which are subject to MREL subordination requirements. TREA-weighted averages computed for capital and eligible liabilities ratios and capital requirements.

### CET1 consumption in the MREL-LR stack:

The MREL-LR target and MREL-LR subordination target requirements amount to 20% and 19.4%[75] of RWA respectively. While MREL-LR requires very little CET1,[76] a total of 7.2%[77] of CET1 RWA is needed to comply with the MREL-LR subordination target, making it the most CET1-binding minimum requirement.

### Buffer usability; MDA threshold, CET1 headroom:

Buffer usability is then calculated simply as the proportion of the CBR that does not overlap with any parallel minimum requirement. For the average O-SII bank, it is around 70%.[78] Notably, the baseline and the complementary approaches are equivalent in this case as the CBR in the prudential RW stack is the dominant CBR. The relevant distance to MDA (equivalent to the CET1 headroom) is also present in the prudential RW stack and amounts to 5.8%[79] of CET1 RWA.

75 7.2% LREM / 36% RWD = 20% RWA; 7% LREM / 36% RWD = 19.4% RWA.

76 20% (MREL-LR target) − 7.3% (EL) − 7.7% (sub. EL) − 2.9% (T2) − 1.6% (AT1) = 0.5%.

77 19.4% (MREL-LR subordination target) − 7.7% (sub. EL) − 2.9% (T2) − 1.6% (AT1) = 7.2%.

78 3.1% of RWA / 4.4% of RWA = 70%.

79 16.1% of RWA (total CET1) − 4.4% (CBR) − 5.9% (RW minimum requirements) = 5.8% (CET1 headroom).

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