Overlaps between minimum requirements and capital buffers: the case of Italian banks

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Overview

The term 'buffer usability' refers to the possibility for banks to use the capital buffers included in the Combined Buffer Requirement (CBR) without simultaneously breaching any other binding regulatory requirements; if instead some or all of the capital set aside to meet the CBR is needed to satisfy other minimum requirements as well, such an overlap would hamper the buffer usability. In this work we investigate the mechanics of the interaction between minimum requirements and buffers by developing a comprehensive methodology aimed at measuring the actual usability of the CBR. Such a methodology takes into account all four EU regulatory requirements simultaneously: the risk-weighted one (RW), the leverage ratio (LR), the risk-weighted MREL (MREL-RW) and the leverage-ratio-based MREL (MREL-LR). This means that we consider not only the CBR stacked on top of the RW requirement, but also the CBR placed on top of the risk-weighted MREL. According to our methodology, the overlap between minimum requirements and capital buffers affects about one fourth of Italian banks and reduces the CBR's usability to 74 per cent of its theoretical value, compared with a mere 27 per cent if the CBR placed on top of the MREL-RW is not taken into account. When the CET1 absorbed by the MREL-RW requirement is higher than the CET1 absorbed by the RW one, the CBR may be more usable than is apparent from the approach based solely on the RW requirement. This explains why, by also considering the regulatory requirements of the resolution framework, the usability of the CBR increases. The issue of the overlap is being debated at international level by the main financial authorities and the standard setters.

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Introduction and main conclusions

Capital buffers are a key instrument of macroprudential policy. They are included in the Combined Buffer Requirement (CBR), equal to the sum of the Capital Conservation Buffer (CCoB), Countercyclical Capital Buffer (CCyB), the buffers for global (G-SII) and other (O-SII) systemically important institutions, and the Systemic Risk Buffer (SRB). Buffers were introduced after the Global Financial Crisis in order to shield the financial system, and consequently the real economy, from systemic risks. Capital buffers have two general purposes. First, they support the resilience of banks, as they ask them to operate with an amount of capital significantly above minimum requirements in good times. Second, they can be drawn down following the indications of authorities in bad times, when losses have to be absorbed, and are replenished afterwards. Banks can therefore use capital buffers instead of deleveraging or de-risking their balance sheets. By using buffers, credit flows to households and firms can be substantially boosted in bad times, with benefits for both macroeconomic and financial stability.

In the EU capital regulation for banks,[1] two main frameworks are applied at the same time: one for prudential purposes, the other for resolution purposes. The first one includes both a risk-weighted requirement (RW) and a leverage ratio requirement (LR). Similarly, the resolution framework, which ensures that banks have enough loss-absorbing and recapitalization capacity through a Minimum Requirement of Eligible Liabilities (MREL), is based on two ratios that are to be met in parallel: the MREL as a percentage of risk weighted assets (MREL-RW) and the MREL as a percentage of the total exposure measure used for the purpose of the leverage ratio (MREL-LR). According to the EU regulation, the CBR is only required on top of the two risk-weighted requirements (RW and MREL-RW). This asymmetry implies that the same capital can be used simultaneously to satisfy the CBR in one framework and a minimum requirement in another framework. In such cases, overlaps occur between the CBR and the minimum requirements, with the consequent impossibility of using (in whole or in part) the CBR to absorb losses without violating a minimum requirement.

The term 'buffer usability' refers to banks' ability to use the CBR without breaching any minimum requirements. In the event of overlaps, a bank would not use (all or part of) the CBR even when allowed to do so because such a use would lead to a breach of a minimum requirement. **This issue, in turn, can undermine the decision of macroprudential authorities to release part of the CBR,[2] i.e. to draw it down in order to allow banks to support the economy in bad times.** Usability should not be confused with the unwillingness/reluctance

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[1]   The 'banking package' comprises the Capital Requirements Directive and Regulation (CRD V/CRR II), the Bank Recovery and Resolution Directive (BRRD II) and the Single Resolution Mechanism Regulation (SRMR II).

[2]   The CBR includes both releasable and non-releasable buffers by macroprudential authorities: for example, the CCyB is releasable while the CCoB is not. Anyway, all buffers included in the CBR are usable.

of banks to use the buffers because of disincentives of various kinds (for instance, stigma effects due to financial market reactions or maximum distributable amount restrictions[3]).

This work analyses the impact of the interaction between risk-weighted and non-risk weighted prudential and resolution requirements on actual buffer usability for Italian banks. In particular, we assess the overall CBR usability, considering both the CBR stacked on top of the risk-weighted requirement, as does the European Systemic Risk Board in a recent report, for instance,[4] and the CBR placed on top of the risk-weighted MREL. This comprehensive approach results in a significant increase in the CBR's usability compared with an approach where only the CBR stacked on prudential RW requirement is taken into account. Indeed, **we found that overlaps, which affect around one fourth of Italian banks, reduce the CBR's usability to 74 per cent of its theoretical value on average**, compared with only 27 per cent if the CBR placed on top of the MREL-RW is not taken into account. Indeed, when the CET1 absorbed by the MREL-RW requirement is higher than the CET1 absorbed by the RW one, the CBR may be more usable than is apparent from the approach based solely on the RW requirement. This explains why, by considering the regulatory requirements of the resolution framework as well, the usability of the CBR increases.

The issue of the overlaps is being debated at international level by the main financial authorities and the standard setters. At the centre of the debate, there is the nature of the issue and the costs associated with a possible intervention. At the moment, no decision has been taken on the opportunity to tackle the overlaps: further investigation is needed to reach a common view among countries.

1. The overlaps and the stylized mechanics of interaction between CBR and regulatory requirements

1.1. Interaction between the RW and LR frameworks

The CET1 capital used for meeting the risk-weighted capital requirements is also used to meet the leverage ratio requirement, given the backstop nature of the latter. Based on these two requirements, the CBR's usability is constrained by the difference, when positive, between the CET1 used to meet the leverage ratio requirement and the CET1 used to meet the risk-weighted minimum requirement.

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[3] Article.141 of CRD IV introduced the concept of the Maximum Distributable Amount (MDA), which requires supervisory authorities to automatically restrict earnings distribution in the event of a CBR breach. Similarly, the MREL-MDA (M-MDA) is imposed by resolution authorities, though with more discretion and no automaticity.

[4] The ESRB approach was set out in the 'Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements', December 2021.

Figure 1 compares the stacking order of capital between the risk-weighted capital framework (RW) and the LR framework (LR), for a hypothetical bank.[5] We consider the case in which the LR requirement met with CET1 is higher than the RW requirement met with CET1 (see dashed line). In our example, an overlap of 2 per cent of risk-weighted assets (RWAs) occurs, equal to the difference between the two pink areas (8-6 per cent), and the CBR usability is constrained to 1 per cent of RWAs.

The 'distance from the overlap' (see Figure 1) measures the amount of capital (as a share of RWAs) that can be used before the overlap takes place (when there is an overlap). This is given by the capital in excess of the CBR or the capital employed to satisfy the CBR which is not used by other requirements.

The overlap exists because the regulation only requires the CBR on top of the RW requirement and not also above the LR requirement (the same applies to the overlap between RWs and MREL-LR).

Figure 1 - Stylized interaction between the RW and LR frameworks
(amounts expressed as % of RWAs, also LR)
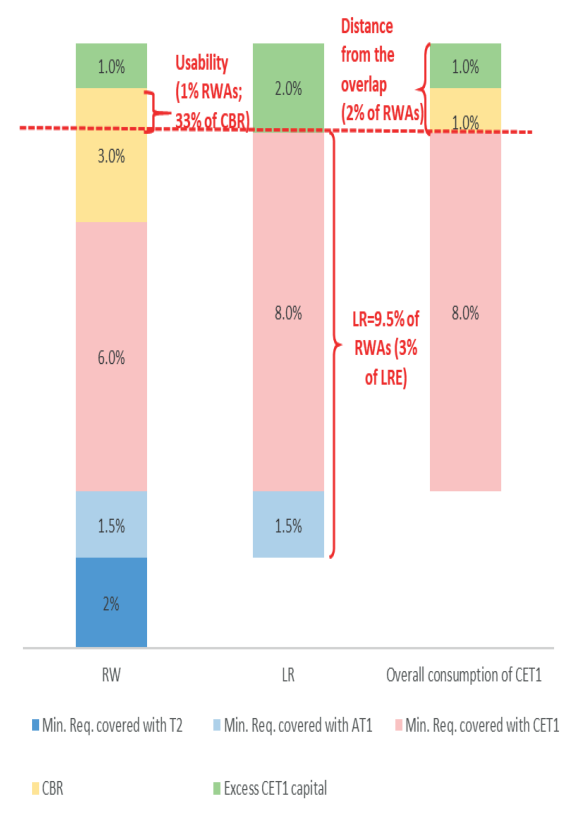
Note: The notion of a stacking order defines the sequence in which different capital layers absorb losses. In the risk-weighted capital framework (the RW bar) excess capital covers losses first (green), followed by the CBR (yellow) and the minimum requirement (pink).

It should be noted that, other things being equal, for banks with higher risk density, i.e. with a relatively high ratio of RWAs to total assets, the overlap decreases and buffer usability increases (i.e. the leverage ratio is not binding). Indeed, if RWAs increase for the same total assets (other things being equal), the minimum requirement *covered* with CET1 increases in the RW framework, while nothing changes for the LR requirement; the overlap is consequently reduced.

Similarly, a higher level of AT1 instruments also reduces the overlap and increases buffer usability (see Figure 1). While in the risk-based framework the minimum 6% Tier 1 capital ratio must be satisfied at least with 4.5% of CET1, no similar proportion applies for the purposes of the minimum 3% Leverage ratio (all other conditions for the recognition of AT1 instruments being equal between the two frameworks). Thus, the more eligible the AT1 instruments available, the lower the LR requirement that has to be met with CET1 and the lower the overlap with the RW requirement.

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[5] We assume that the CET1 ratio of this bank is 10 per cent and that the bank is subject to: an RW pillar 1 requirement of 8 per cent of RWAs; a pillar 2 requirement of 1.5 per cent, for simplicity to be met entirely with CET1 capital. The CBR is set at 3 per cent. The bank meets the minimum requirement (p1+p2) with its CET1 (6 per cent), AT1 (1.5 per cent) and T2 (2 per cent). The LR minimum requirement (3 per cent of the LR exposure) accounts for 9.5 per cent of RWAs and is partially met with AT1 instruments (1.5 per cent).

### 1.2. Interaction between the RW and MREL-LR frameworks

The overlap between RW and MREL-LR is similar to that between RW and LR: it occurs when the MREL-LR requirement met with CET1 is higher than the corresponding RW requirement. In Figure 2, a hypothetical bank[6] shows an overlap of 2 per cent of RWAs (8-6 per cent; see dotted line). The actual usable CBR is 1 per cent of RWAs (one third of the CBR).

This is the same interaction mechanism observed for the overlap between the RW and LR frameworks. **In this case too, the regulation is asymmetric: the CBR is not required on top of the MREL-LR minimum requirement.** Hence, if a bank relies on the CET1 capital used to meet the CBR to meet the MREL-LR as well, the buffer usability is impaired.

The considerations on risk density and on AT1 made for the RWs-LR case also apply in this case, with one difference: for this overlap, not only are the AT1 instruments relevant, but also all the other liabilities eligible for the MREL.

When the MREL-LR is binding, an overlap emerges – its size depends on the level of MREL eligible liabilities – and affects the CBR's usability and eventually the excess capital. To increase the usability of the CBR, the bank could issue more liabilities computable in the MREL to reduce the CET1 absorbed by the MREL-LR[7].

Figure 2 - Stylized interaction between the RW and MREL-LR frameworks
(amounts expressed as % of RWAs, also MREL-LR)
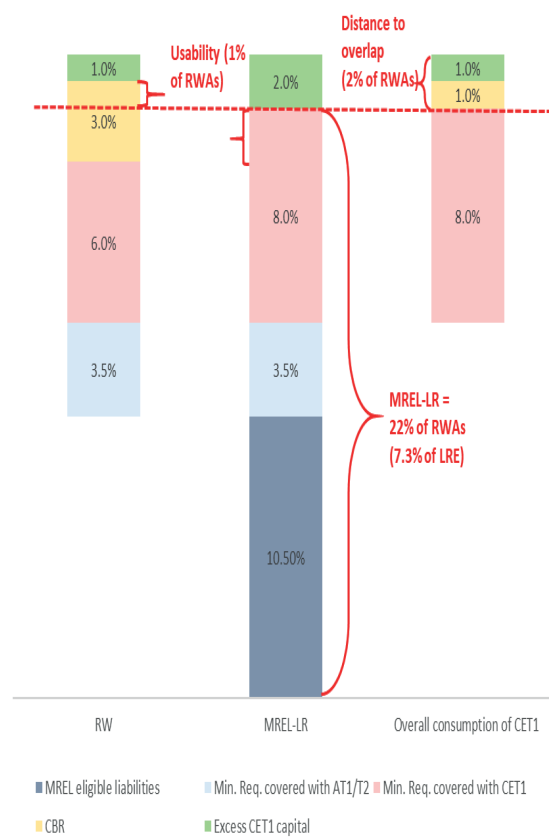
Note: The notion of a stacking order defines the sequence in which different capital layers absorb losses. In the risk-weighted capital framework (the RW bar) excess capital cover losses first (green), followed by the CBR (yellow) and minimum requirement (pink).

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[6]   This bank has the same characteristics as that shown in Figure 1. In addition, the MREL-LR is equal to 7.3 per cent of the LR exposure (22 per cent of RWAs); the stock of MREL eligible liabilities accounts for 10.5 per cent of RWAs.

[7]   AT1/T2 and MREL eligible liabilities can be used without limits for compliance with both the MREL-LR and MREL-RW minimum requirements. Medium-sized banks could have greater costs and market access problems when issuing eligible liabilities than large banks.

## 1.3. Interaction between the RW and MREL-RW frameworks

CET1 capital used to satisfy the CBR on top of the RW requirement cannot be used to comply with the MREL-RW.[8] In this case, the regulation is symmetric: **the CBR also stacks on top of MREL-RW and remains fully usable.[9]**

In Figure 3, the bank in the example[10] has an overlap of 1 per cent of RWAs, as it uses 7 per cent of CET1 to comply with the MREL-RW (compared with the RW minimum requirement of 6 per cent). The CET1 excess of the RW framework (1 per cent) is therefore completely eliminated in this case.

The overlap here only reduces the excess capital and not the CBR, because there is no asymmetry in the regulation (the CBR is required in both frameworks). The reduction in excess capital is less of a problem compared with a formal overlap.

The reduction of excess capital typically involves banks with: i) high risk density: other things being equal, the higher the risk-density, the higher the MREL-RW;[11] and ii) lower credit rating and profitability: for these banks, the wholesale funding (as for the MREL eligible liabilities) is comparatively more expensive, so they are induced to save MREL eligible liabilities in order not to worsen their profitability.

Figure 3 - Stylized interaction between the RW and MREL-RW frameworks
(amounts expressed as % of RWAs, also MREL-RW)
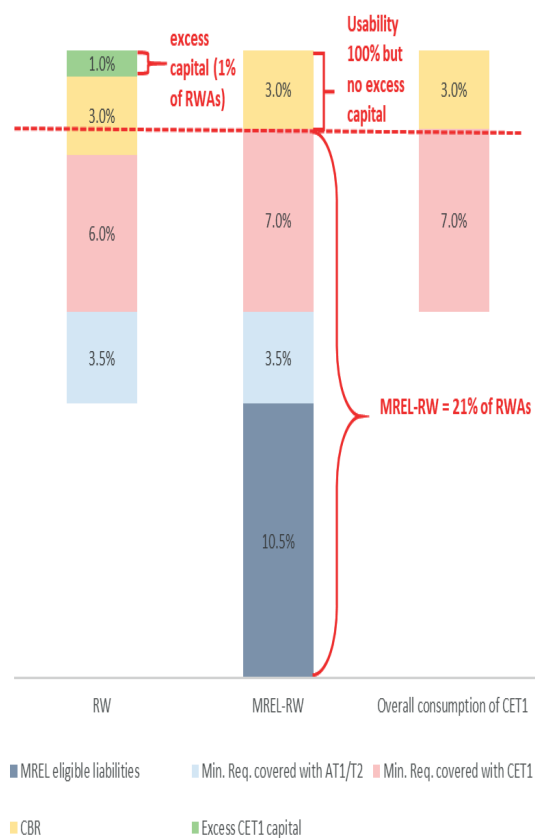
Note: The notion of a stacking order defines the sequence in which different capital layers absorb losses. In the risk-weighted capital framework (the RW bar) excess capital covers losses first (green), followed by the CBR (yellow) and minimum requirement (pink).

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[8]   See Article 128 of CRDV (specifically, the reference therein to 'risk based components').

[9]   The CBR does not stack on top of MREL-RW in a particular case. Resolution authorities may increase the subordinated MREL up to the value that corresponds to the prudential formula (that is two times the total minimum requirements under Pillars 1 and 2 plus all buffer requirements). The prudential formula may be satisfied with buffer capital, i.e. in such a case the double use of CET1 is allowed, and can be applied for a number of resolution entities (up to 30% of certain categories of banks and under specific conditions). None of the Italian banks is subject to the prudential formula. On the contrary, according to a Staff Memo of the Norges Bank, the largest Norwegian banks will have to use a substantial share of their buffer capital to satisfy MREL, i.e. subordinated MREL calculated using the prudential formula, at least if the banks' non-preferred debt issuance is small.

[10] This bank has the same characteristics as that shown in Figure 1. In addition, the MREL-LR is equal to 21 per cent of RWAs; the stock of MREL eligible liabilities accounts for 10.5 per cent of RWAs.

[11] Imagine two banks showing the same total assets (100) but different risk-density: 60 per cent (bank 1) and 20 per cent (bank 2). As a consequence, RWAs are 60 and 20 for bank 1 and 2, respectively. If the MREL-RW is equal to 20 per cent of the RWAs for both banks, then bank 1 is subject to a MREL-RW of 12 (20 per cent x 60) while bank 2 is subject to a MREL-RW of 4 (20 per cent x 20).

To increase the excess capital in the MREL-RW framework, the bank could issue more MREL eligible liabilities in order to reduce the CET1 capital absorbed by the MREL-RW minimum requirement.

2. A comprehensive approach for measuring overlaps

A comprehensive measure of the overlaps (and hence CBR usability) can only be obtained by jointly comparing the use of the CET1 capital in each of the regulatory frameworks in place.

In panel (a) of Figure 4, a hypothetical bank is characterized by a binding MREL-LR. In this example, the MREL-LR is the requirement that absorbs most CET1, fully overlaps with the CBR in the RW framework and partially overlaps with the CBR in the MREL-RW framework. The CBR usability is therefore reduced to 50 per cent (1.5 per cent of RWAs instead of 3.0 per cent, as shown by the last bar in panel (a) of Figure 4). In this case, if we only consider the CBR stacked on top the RW framework, the buffer usability would be equal to 0 per cent (i.e. the CBR usability from the interaction between the RW and MREL-LR).

Figure 4 - Final effects of the overlaps
(per cent of RWAs)

(a) MREL-LR binding
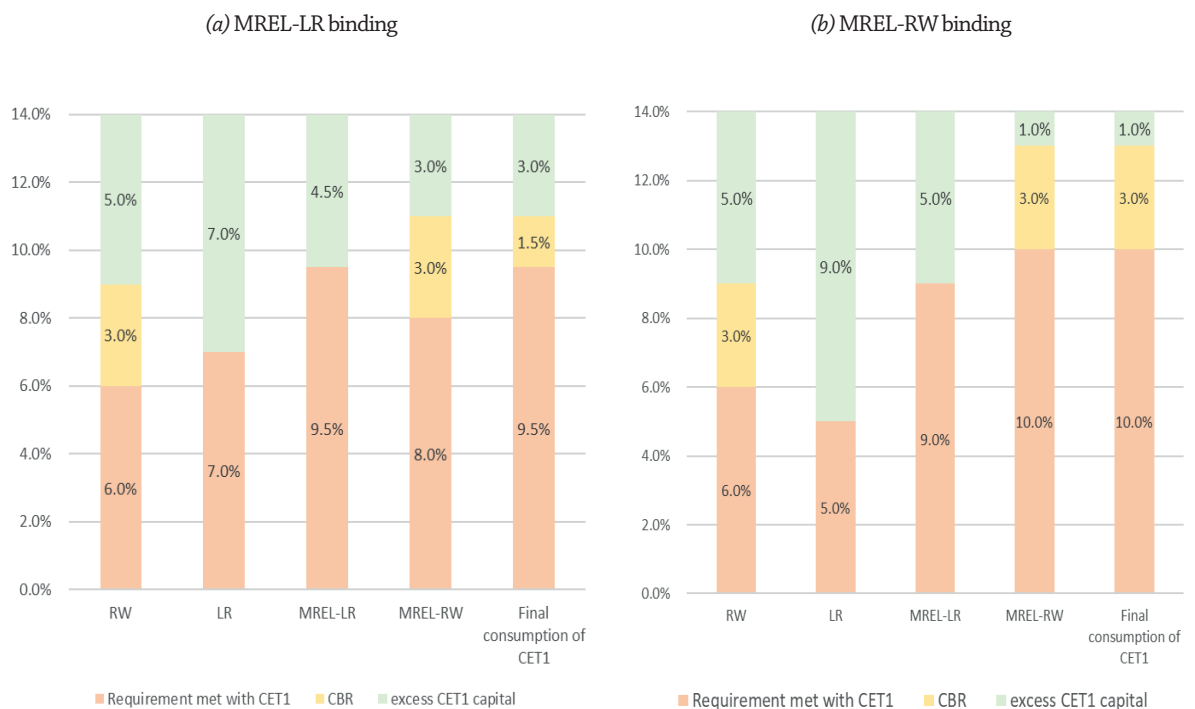
(b) MREL-RW binding

A discrepancy between the approach focusing on the RW framework alone and our comprehensive approach can also occur when a bank is characterized by a binding MREL-RW requirement, if the MREL-LR requirement met with CET1 is higher than the RW requirement. In panel (b) of Figure 4, the CET1 absorbed by the MREL-RW and MREL-LR is higher than the CET1 absorbed by

the RW requirement. The CBR usability would be equal to 0 per cent if we only compared the interaction between the RW and MREL-LR requirements. With the full comparison proposed in this note, the CBR usability is instead 100 per cent, since the CBR in the MREL-RW framework does not overlap with any other requirement.[12]

Table 1 highlights the contribution of the comprehensive approach being proposed by applying it to actual data for Italian banks. Around one fourth of the Italian banks are constrained by one of the leverage-based requirements (LR, MREL-LR, TLAC-LR): in such cases, an overlap occurs and reduces the CBR usability. The table shows the difference in the CBR's usability between the proposed approach and the RW approach. As already illustrated in the two previous examples, applying **the comprehensive approach reveals a significantly higher CBR usability: the CBR usability increases from 26.7 to 73.6 per cent for the whole Italian banking system.** This improvement is driven by the Italian banks subject to MREL requirements (11 out of a total of 150 banks, which account for 80 per cent of total system assets), whose CBR usability increases from 10.8 to 69.0 per cent. Indeed, when the MREL-RW requirement met with CET1 is higher than the RW one (as in panel (b) of Figure 4), the CBR is more usable than is apparent from the approach based solely on the RW requirement. This explains why, by considering the regulatory requirements of the resolution framework as well, the usability of the CBR increases.

Table 1 - CBR usability of Italian banks
(per cent of CBR; data as of December 2020)

|	RW approach	Comprehensive approach
Banks with MREL requirements (11 banks)	10.8	69.0
Whole system (150 banks)	26.7	73.6

Source: Supervisory and resolution reporting.
Note: The assumption of closing the shortfalls applies in each column. In our calculations, the P2R is included in the minimum RW requirements.

The difference between the two approaches in measuring the CBR's usability also emerges from the distribution of the banking system RWAs by bucket of CBR usability (Figure 5). In particular, according to the RW approach, almost 70 per cent of the banking system's RWAs belong to banks with a very limited CBR usability (between 0 and 25 per cent). Conversely, according to our approach, 85 per cent of the banking system's RWAs are attributable to banks with a medium/high CBR usability (over 50 per cent).

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[12] From a theoretical point of view, another discrepancy between the RW framework approach and our comprehensive approach could arise when the LR is binding, if the CET1 absorbed by the MREL-RW is slightly higher than the one absorbed by the RW requirement. This particular case does not apply to Italian banks.

Figure 5 - Distribution of Italian banking system RWAs according to CBR usability
(share of banking system RWAs by bucket of CBR usability; data as of December 2020)
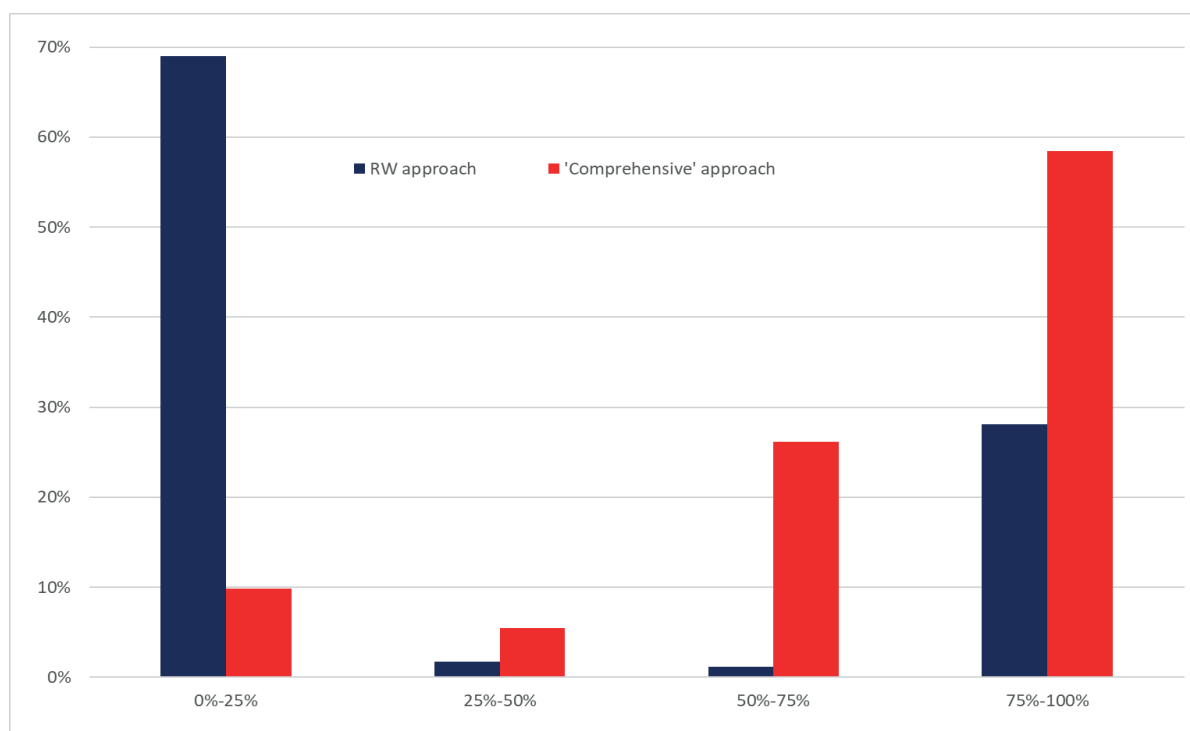
Source: Supervisory and resolution reporting.

Methodological Appendix

The materiality of the overlaps and the related buffer usability of the Italian banks is analysed based on bank-level data as of December 2020.[13] The analysis covers 150 banks, combining data from supervisory and resolution reporting (MREL). We report the results based on consolidated data at the banking group level,[14] if applicable.

When analysing the materiality of the overlaps, a steady state perspective is assumed: it means that banks close their shortfalls and maintain an excess capital above each regulatory requirement. The excess capital is the CET1 in excess that banks keep above all the capital requirements or the CBR when applicable; we set the minimum excess capital at 1 per cent of the RWAs. These adjustments ensure that the CBR's usability is not limited simply because banks do not fulfil future requirements yet (i.e. MREL). **Overlaps are in fact a structural phenomenon: they are generated by the current design of the regulation and not by temporary circumstances, i.e. they can also occur when banks are compliant with all the applicable requirements.** We assume that possible shortfalls are closed using the cheapest available eligible funding source: AT1 instruments, senior non-preferred bonds and senior unsecured bonds respectively for LR, the MREL subordinated component and the MREL senior component; and CET1 for RW.

We develop our analysis by assuming:

  I. the expiration of the exemption of the central bank exposures from the denominator of the Leverage Ratio;

  II. the application of the intermediate MREL targets, binding starting from 1 January 2022; these targets have been set by NRAs as part of the 2020 resolution planning cycle and are compliant with the banking package;[15]

  III. the current capital ratios without any adjustments due to future implementation of Basel III and the phase-in of IFRS9.

There are a few methodological caveats that must be highlighted in order to understand the limits of the empirical analysis. First of all, we provide a static balance sheet analysis: the actions that banks could take in the coming years to adjust their balance sheet to comply with future requirements are not taken into account

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[13] MREL decisions are based on the 2020 resolution planning cycle (MREL policy 2020). It was the first cycle based on the Banking Package (Directive 2019/879, the Bank Recovery and Resolution Directive II).

[14] The MREL eligible liabilities are computed by the hybrid approach in accordance with the MREL policy 2020. When the resolution group perimeter differs from the prudential one, we use the former for MREL purposes and the latter for RWs and LR.

[15] The Bank Recovery and Resolution Directive II requires the NRAs to set a fully phased MREL target in 2024 (1 January); the Directive also require NRAs to set an intermediate level of MREL to be met by 1 January 2022.

(for example, balance sheet composition policies like de-risking or credit crunch). Second, the leverage ratio pillar 2 requirement is not included in our calculations. Third, the calculations provided are point-in-time: data as of December 2020 are affected by the COVID-19 crisis, which has probably reduced the risk-density of some banks; in addition, MREL targets are calibrated every year and could be softened or strengthened by the NRAs in the next resolution cycles.[16]

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[16] As are other requirements, like the CCyB, OSII and so on, which are adjusted periodically (quarterly or annually).