

## Adjusted regulation can improve capital buffer usability



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*Keywords: macroprudential policy, financial regulation, capital buffers, financial stability*

*The purpose of capital buffers is to reduce the risk that banks due to insufficient capitalization tighten their lending to a degree that negatively impacts the real economy. However, the effectiveness of the buffers might be limited due to a mix of different factors: financial regulation, supervisory practices, market expectations and bank behavior and incentives.*

*In a recent analysis ([link](#)), we take a closer look at how financial regulation can be adjusted in order to improve the usability of capital buffers. The question of how to improve capital buffer usability is part of a more comprehensive European debate on how to ensure the macroprudential space. We show that buffer usability can be improved if financial regulation is adjusted, so that banks cannot use the same capital to meet both capital buffers and other requirements. Such a solution would only impact banks with limited buffer usability. Banks can adapt to this regulatory adjustment, without having to raise additional equity. It reflects that the proposed change creates the incentive for banks to adjust their funding composition in a way so that buffer usability is not limited.*

## Interaction with non-risk-based requirements limits buffer usability in EU countries

Experiences from previous financial crises have shown that shortage of bank capital in crisis periods entails major costs for both society and banks.<sup>1</sup> Therefore, following The Great Financial Crisis a number of new requirements were introduced to boost banks' resilience and limit the fallout for the economy should a new crisis emerge. Capital buffers were among the major additions in the new set of rules. The purpose of capital buffers is to reduce the risk that banks due to insufficient capitalization tighten their lending to a degree that negatively impacts the real economy.

Banks are subject to a number of different requirements that aim to address different risks. Banks must meet a risk-weighted capital requirement consisting of a solvency need and a capital buffer requirement. In addition, the leverage ratio requires a bank to have a certain amount of capital relative to the unweighted assets. There is also a minimum requirement for the size of own funds and eligible liabilities, MREL. MREL is to ensure that a bank has sufficient funds for crisis management without compromising the country's economy.

As all the requirements have to be met in parallel, their interaction may reduce the effective size of the capital buffers, see Chart 1, left.<sup>2</sup>

Buffer usability is limited in almost half of the EU member states.<sup>3</sup> The problem is especially pronounced in some countries such as the Netherlands, Denmark, France, Germany, Sweden and Finland. Buffer usability is limited primarily for banks that use internal models for credit risk and have a low average risk weight density. Non-risk-based requirements such as the leverage ratio requirement may therefore significantly exceed the risk-based requirements. Banks might therefore breach the leverage ratio requirement if they dip into their capital buffers. Hence, in practice the capital buffer cannot be used.

### Interaction with non-risk-based requirements limits buffer usability

In Denmark, especially the five largest credit institutions<sup>4</sup> have limited capital buffer usability as the leverage ratio requirement limits the effective size of their capital buffers. This reflects the fact that these institutions have a high share of mortgage lending with very low average risk weights. As the leverage ratio requirement can be met with additional tier 1 capital, AT1, banks can in principle issue more AT1 to reduce the overlap between the requirements, see Chart 1, right. This will improve capital buffer usability.

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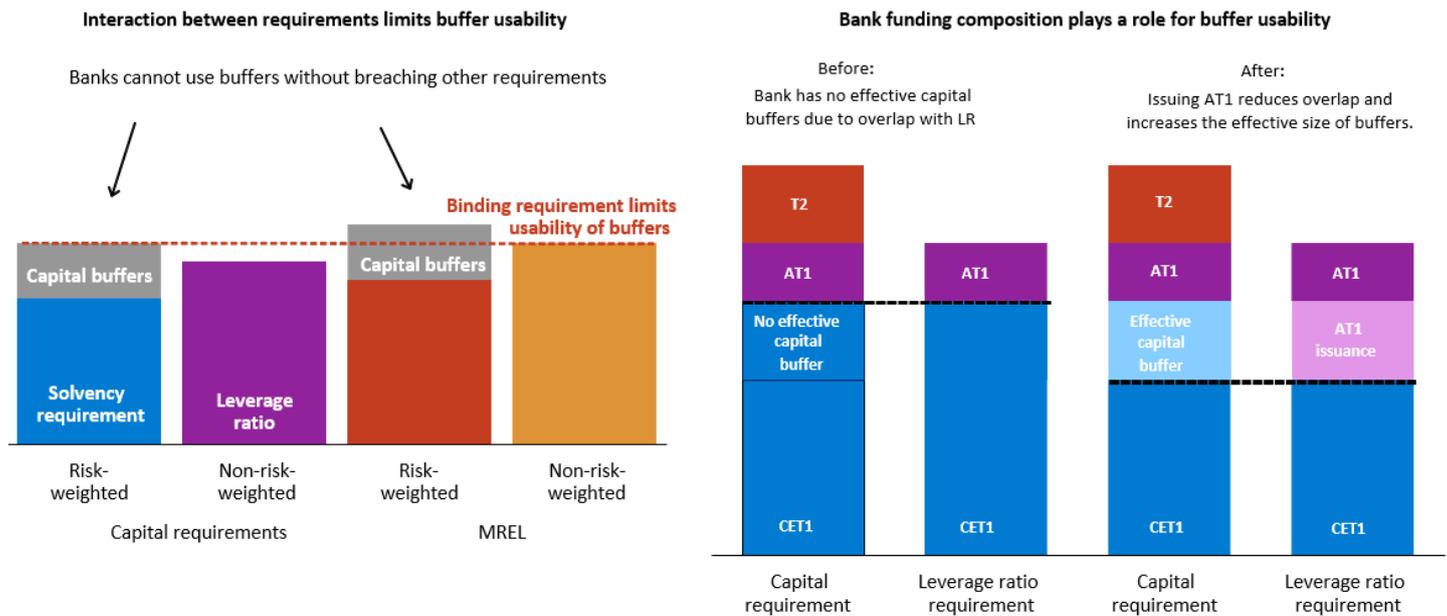
<sup>1</sup> See Borio (2012), The financial cycle and macroeconomics - what have we learnt?, BIS working paper, no. 390 ([link](#)); Claessens, Kose and Terrones (2011), Financial cycles: What?, How? When?, IMF working paper, no. 76 ([link](#)); Laeven and Valencia (2018), Systemic Banking Crises Revisited, IMF working paper, no. 206 ([link](#)); Jorda, Schularik, Taylor (2013), When Credit Bites Back, Journal of Money, Credit and Banking, vol. 45, issue 2 ([link](#)).

<sup>2</sup> Several analyses indicate that the effective size of the capital buffers is limited due to an overlap between requirements, see, for example, ESRB (2021), Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements (europa.eu)([link](#)).

<sup>3</sup> ESRB (2021), Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements (europa.eu) ([link](#)).

<sup>4</sup> They account for around 80 per cent of total lending to Danish households and companies.

## Chart 1: Interaction between requirements may limit capital buffer usability



Note: Left: The chart illustrates the interaction between the different risk-weighted and non-risk-weighted requirements. It means that only the part of the buffer that is above the dotted line can actually be released and used. Buffer usability is assessed using a complementary approach, taking into account the interaction between all the requirements simultaneously. Right: CET1 = Common Equity Tier 1 capital, AT1 = Additional Tier 1 capital and T2 = supplementary capital. Regulatory requirements determine the proportion of the capital requirement that can be met using the various capital instruments. The capital buffer requirements can only be met with CET1. There are no requirements for the share of the leverage ratio requirement that is to be met with CET1.

Source: Danmarks Nationalbank, ESRB (2021), Report of the Analytical Task Force on the overlap between capital buffers and minimum requirements (europa.eu) ([link](#)).

### Interaction with MREL may also limit buffer usability

Concurrently with the capital requirements, banks must also meet various minimum requirements related to resolution, e.g. requirements for the size of their own funds and eligible liabilities, MREL and a subordination requirement. The subordination requirement is 8 per cent of unweighted assets. Depending on the funding profile of the bank, and the amount of CET1 used to meet the requirement, it might be the binding requirement and limit buffer usability.

### Two aspects of limited buffer usability call for closer attention

Although a number of different factors play a role for banks' ability and willingness to use capital buffers, there are two aspects related to financial regulation that deserve closer attention.

Firstly, financial regulation allows banks to use the same capital instruments to meet several parallel requirements. Capital buffers are only a part of the risk-weighted requirements, i.e. there are no capital buffers on top of the leverage ratio requirement or the non-risk-weighted MREL. The financial regulation allows that Common Equity Tier 1 capital, CET1, used to meet the capital buffer requirements also can be used to meet the leverage ratio requirement and the non-risk-weighted MREL. If these requirements exceed the risk-based minimum requirements, it limits the usability of the capital buffers.

Secondly, the banks' choice of funding composition also plays a role. Banks can choose to meet the leverage ratio and MREL with instruments other than CET1. The more AT1 a bank has, the less CET1 it needs to meet the leverage ratio requirement. If the bank issues more AT1 (the bright purple area in Chart 1, right), it will reduce the need for CET1 to meet the leverage ratio requirement. This will reduce the overlap between the two requirements, which will improve the effectiveness of capital buffers (the light blue area in Chart 1, right).

The same applies to the non-risk weighted MREL: If the bank issues more AT1 or non-preferred senior debt, it will reduce the need for CET1 to meet the MREL.

### Changes in regulation can push banks to adjust funding and improve buffer usability

The question of how to improve capital buffer usability is part of a more comprehensive European debate on how to ensure the macroprudential space. Several proposals have been tabled that aim to address a number of the factors reducing buffer usability. In relation to the regulatory framework, especially two possible solutions for improving buffer usability have been discussed internationally:

**Solution 1:** *Removing the multiple use of capital*, i.e. capital used to meet the capital buffer requirements must not concurrently be used to meet other requirements;

**Solution 2:** *Introducing leverage ratio buffers*, i.e. extending the model for leverage ratio buffers for G-SIBs to all institutions and buffers.

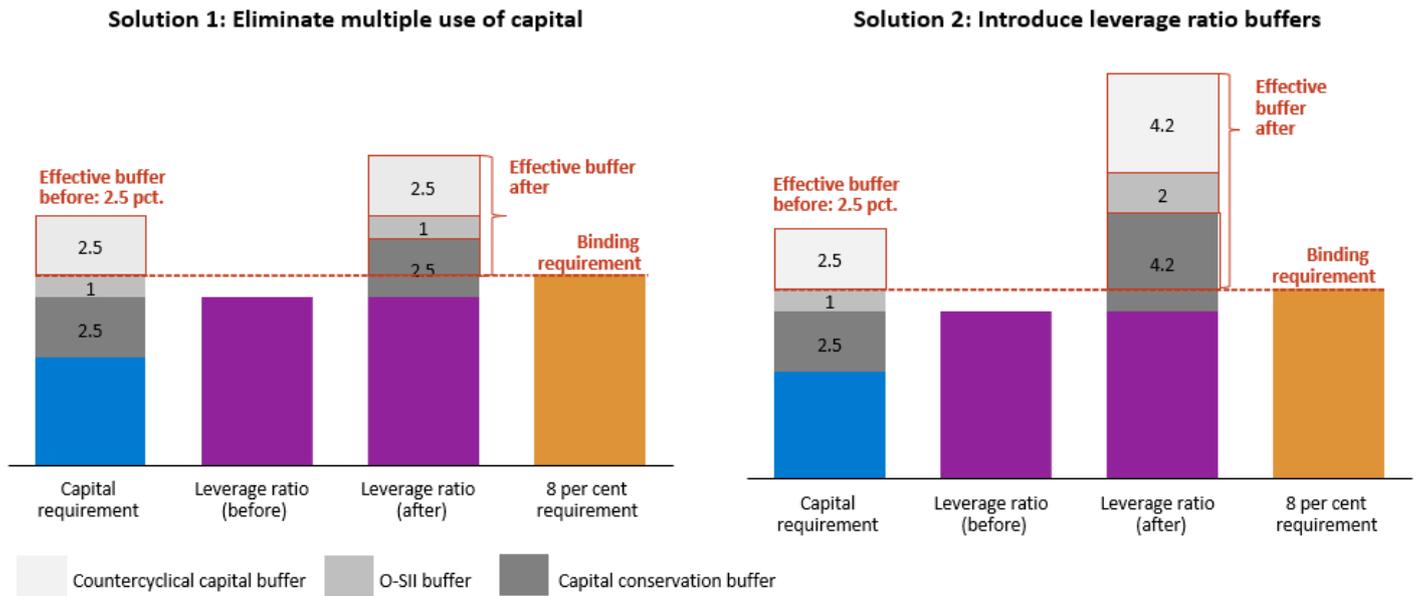
The following elaborates on the two possible solutions and their implications. An illustrative bank is used to describe the expected effects of the two different solutions.

#### **Removing multiple use of capital (solution 1) gives banks incentive to adjust funding composition**

The first solution involves adjusting financial regulation to ensure that capital instruments used to meet the capital buffer requirements cannot be used also to meet other requirements. This model is known from the current regulation on the risk-based MREL. Thus, solution 1 will entail extending this model to the leverage ratio requirement and the non-risk-based MREL.

In practice, this will mean that the capital buffers can be put on top of the leverage ratio requirement and the non-risk-based MREL, see chart 2, left. The chart illustrates how much the effective size of the capital buffers will increase if the bank chooses to use CET1 in order to meet requirement.

Solution 1 does not necessarily entail higher CET1 requirements, as the bank can comply with this solution by adjusting its funding composition, for example by issuing debt or other capital instruments than CET1. In that case the solution will reduce the overlap between the requirements, and thereby improve buffer usability. Furthermore, a relevant feature of this solution is that it primarily affects banks with limited buffer usability.

**Chart 2: Removing multiple use of capital (solution 1) will increase buffer usability**

Note: The chart shows an illustrative example of the effects of the two solutions.

### Introduction of leverage ratio buffers (solution 2) results in unnecessarily large increase in capital requirements

The second solution involves introducing leverage ratio buffers on top of the leverage ratio requirement. There is already a leverage ratio buffer for global systemically important banks, the so-called G-SIB leverage ratio buffer.<sup>5</sup> Solution 2 entails extending the model to comprise all institutions as well as all risk-based capital buffers.<sup>6</sup>

The size of the G-SIB leverage ratio buffers calculated mechanically based on a conversion factor of 50 per cent, i.e. if the SIFI buffer is 2 per cent of risk weighted exposures the G-SIB leverage ratio buffer is 1 per cent of total assets. The size of the conversion factor is of great importance to how much the capital requirement will increase for the individual bank.

For banks with average risk weights below 50 per cent, the nominal size of the leverage ratio buffer will exceed the nominal size of the risk-based capital buffers. The binding requirement will thus be the leverage ratio requirement, including the leverage ratio buffers, and not the risk-based capital requirement. The lower the average risk weights of a bank, the more the leverage ratio buffer will therefore exceed the nominal size of the risk-based capital buffer requirements. Solution 2 will improve the effective size of the capital buffers, but it could lead to an unnecessarily large increase in the overall leverage ratio requirement, see Chart 2, right.

<sup>5</sup> G-SIBs stands for Global Systemically Important Banks. Under the Capital Requirements Regulation, CRR II, the leverage ratio buffer for G-SIBs was to apply from 1 January 2022. However, this has been postponed until 1 January 2023 to enable the institutions to respond immediately and effectively to the consequences of covid-19.

<sup>6</sup> In accordance with the Capital Requirements Regulation, the Commission must consider whether to introduce a leverage ratio buffer that mirrors the SIFI buffer from the risk-based framework (a SIFI leverage ratio buffer). The proposal entails that only the SIFI buffer will be introduced in the leverage ratio framework, in accordance with the same model as for G-SIBs. This issue has been discussed separately from the discussion on how to increase the effective size of the capital buffers.

The introduction of leverage ratio buffers following the same model as for G-SIBs will result in a significantly higher increase in the overall capital requirement relative to solution 1. The introduction of leverage ratio buffers may lead to higher requirements; also for banks that do not have limited buffer usability.

### **Regulatory adjustments must be implemented across all requirements to be effective**

As the leverage ratio requirement and MREL<sup>7</sup> can be met by using different capital or debt instruments, banks have multiple options for adapting to a regulatory adjustment eliminating multiple use of capital to different requirements. Whether this will entail a greater need for CET1 depends on the banks' choice of how to adapt to this change.

To illustrate the effects, an example is used based on an illustrative bank that has no effective capital buffers due to the interaction between the requirements and its funding composition. The illustrative example is based on solution 1, i.e. the regulation is adjusted so that the bank is not allowed to use capital used to meet its capital buffers to meet its leverage ratio requirement.

In principle, there are at least three different scenarios for how banks can adapt to the adjustment:

**Scenario 1:** meet requirements with more CET1 (as discussed above)

**Scenario 2:** issue more AT1

**Scenario 3:** replace debt with AT1.

**Scenario 1** corresponds to the situation described in the previous section and illustrated in Chart 2 – the bank chooses to have more CET1 to meet the requirement of no multiple use of capital. This means that the bank must issue equity or retain earnings to adapt to the adjustment. This will reduce the overlap between the requirements and increase the effective size of the capital buffers.

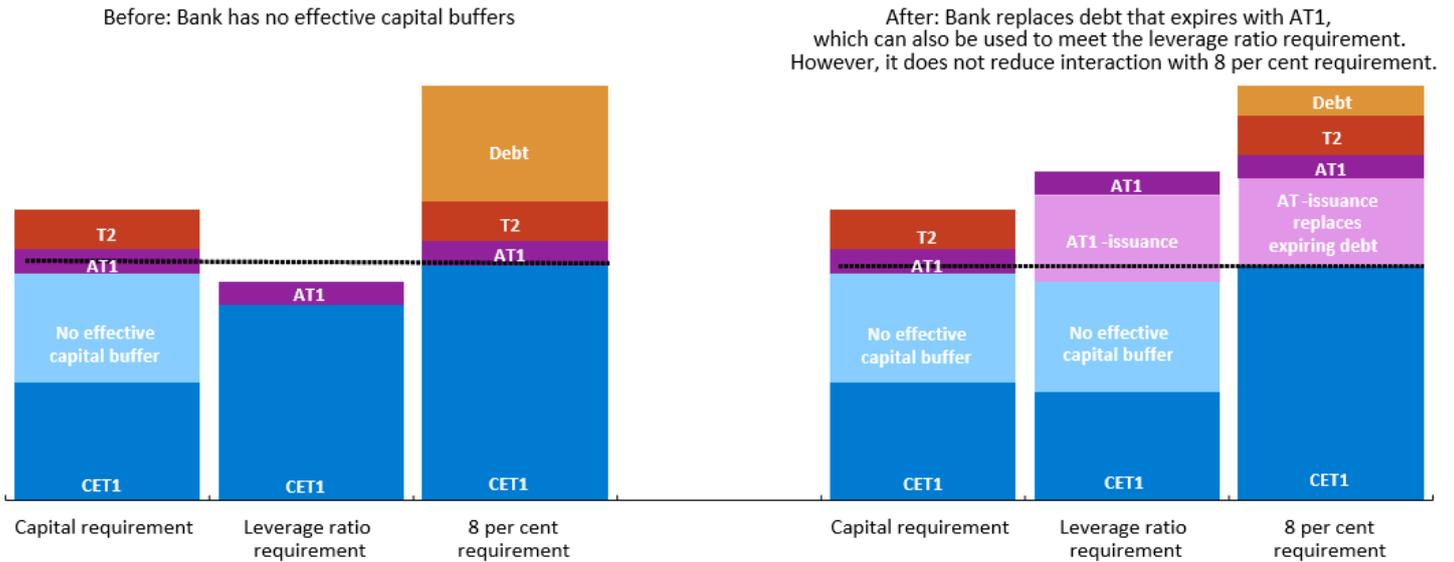
In **scenario 2** the bank chooses to issue more AT1. AT1 can be used to meet both the leverage ratio and the 8-per cent requirement. Using AT1 to meet a larger share of both the leverage ratio requirement and the 8-per cent requirement reduces the overlap between the requirements. This will increase the effective size of the capital buffers.

In **scenario 3**, the bank chooses to replace debt with AT1, see Chart 3. Opting for this adjustment will reduce the bank's need for CET1 to meet the leverage ratio requirement and thus also reduce the overlap between the leverage ratio requirement and the capital requirement. However, the bank's response will not lead to a reduction in the interaction with the 8-per cent requirement. The buffer usability will therefore not be improved. Hence, if the solution is to have the wanted effect, it is important that the requirement of no multiple use of capital covers all regulatory requirements - including the 8-per cent requirement.

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<sup>7</sup>The leverage ratio requirement can be met with both AT1 and CET1, while the MREL can be met with senior non-preferred debt, AT1, Tier 2 or CET1.

### Chart 3: Scenario 3 - The bank replaces debt with Additional Tier 1 capital (AT1)



Note: The bank meets the adjusted requirements by replacing debt that matures with Additional Tier 1 capital, AT1. In principle, the Additional Tier 1 capital can also be used instead of supplementary capital, T2, to meet the capital requirement. As solution 1 does not include the 8-per cent requirement, there is no effect on the effective size of the capital buffers in this example.

In principle, banks can always choose to issue more debt to reduce the overlap between the requirements and thereby increase the effectiveness of their capital buffers. However, explicitly adjusting the legal framework will ensure that banks actually do so to the benefit of the whole economy in the case of a crisis. ■

## About the author

**Ianna Georgieva Yordanova** is Principal Macroprudential Expert at Danmarks Nationalbank. She joined the central bank in 2015 and has mainly worked on topics related to systemic risk analysis and macroprudential policy. Recent work includes issues related to capital buffer usability, development of the policy framework for setting capital buffers in Denmark as well as evaluating the macroprudential policy stance.

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