

# Thematic Article on Financial Stability ——— 2/2022

Relationship between the MREL  
and macroprudential capital buffers

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Czech National Bank ——— Thematic article on financial stability ——— 1/2020

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# RELATIONSHIP BETWEEN THE MREL AND MACROPRUDENTIAL CAPITAL BUFFERS

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*This article studies the impacts of the minimum requirement for own funds and eligible liabilities (MREL) on the effectiveness of macroprudential capital regulation of the banking sector. It examines the MREL's effect on the usability of banks' capital buffers and any capital surplus for absorbing losses and lending to the economy in various economic scenarios. We quantify this usability in a comprehensive framework of the currently applicable capital requirements. The article concludes that the introduction of the MREL may cause usability to decrease, especially during long adverse economic episodes in banks that use internal models to manage credit risk.*

## I. INTRODUCTION

During the Global Financial Crisis (GFC), many governments had to work with their central banks to resolve failing financial institutions in order to prevent a total collapse of the financial system, with all the negative repercussions that would have had for the real economy.<sup>2</sup> The solution was to use public money to avert the sudden closure of many institutions considered “too big to fail”. G20 representatives, the FSB and subsequently also EU political leaders responded to the aftermath of the GFC by introducing a series of legislative initiatives to increase the going-concern and gone-concern resilience of the banking system.

A regulatory capital buffer framework, among other things, was set up to enhance banks' going-concern resilience. A new bank resolution framework was simultaneously established to ensure that banks that provide critical economic functions cover the losses and costs resulting from failure primarily from their own internal resources (gone-concern resilience). To have sufficient internal resources, a bank must meet a minimum requirement for own funds and eligible liabilities (MREL). This may be met with own funds, eligible liabilities or a combination thereof. In certain situations, the MREL compliance structure may have an impact on the effectiveness of the capital buffer framework as a macroprudential policy tool.

Domestic banks<sup>3</sup> that provide critical economic functions had to meet an intermediate MREL target set by the CNB by the start of 2022<sup>4</sup> and a final requirement by the start of 2024. The requirement is bank-specific and is expressed as the ratio of own funds and eligible liabilities either to risk-weighted exposures (the total risk exposure amount, TREA) or to non-risk-weighted exposures (the total exposure measure, TEM). The binding ratio is the one which at that moment in time indicates a higher amount of own funds and eligible liabilities needed to meet the MREL. The MREL is intended to ensure that the bank (or part thereof) will be able to continue to operate in the event of failure, as recapitalisation will allow it to satisfy the capitalisation-related legal conditions for providing banking services and to maintain sufficient market confidence.

In certain situations, though, the MREL may limit the use of capital buffers and the size of the capital surplus for absorbing losses and lending to the economy. Limited usability of the capital buffers may already have arisen since the introduction of the leverage ratio requirement applicable in mid-2021 (Pfeifer et al., 2016; Pfeifer, 2020). In certain specific situations, however, the MREL may increase this limitation and additionally limit the stabilising role of the capital surplus in the management of banks' capital position.<sup>5</sup> This thematic article describes and quantifies the effect of the introduction of the MREL on the capital surplus and the usability of banks' capital buffers in the Czech banking sector. For the purposes of the article, usable capital means capital that banks are able to use to absorb losses and lend without infringing any of the parallel minimum capital requirements (the capital ratio, leverage ratio and MREL requirements).

Section 2 examines the characteristics and structure of the MREL, describes how it is met in the Czech banking sector and indicates potential interactions with the parallel minimum capital requirements. It goes on to quantify the impact of these interactions on the capital surplus and the usability of capital buffers for absorbing losses and lending to the economy using data as of the first quarter of 2022. In section 3, the empirical analysis is extended to the impact of the *Adverse*

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<sup>2</sup> For example, the European Commission has reported that crisis-linked state aid of EUR 1.6 billion, or almost 13% of EU GDP, was provided in 2008–2011 (European Commission, 2012).

<sup>3</sup> For the sake of simplicity, we refer only to banks in the following text. However, under Act No. 374/2015 Coll, on Recovery and Resolution in the Financial Market, the Czech National Bank is the competent resolution authority for banks, credit unions and some investment firms (“institutions”) in the Czech Republic.

<sup>4</sup> For details, see <https://www.cnb.cz/en/resolution/general-approach-of-the-czech-national-bank-to-setting-a-minimum-requirement-for-own-funds-and-eligible-liabilities-mrel/>

<sup>5</sup> By this we mean the capital held voluntarily by banks in excess of the regulatory capital requirements.

*Scenario* of the solvency macro stress tests of the banking sector presented in the CNB's Spring 2022 Financial Stability Report (CNB, 2022). For the purposes of the empirical analysis, we draw on numerous predictions valid at the end of 2021 and on expert forecasts based on currently available data and projections, including banks' own funds plans and eligible liabilities issuance plans. The interpretation of the results is conditional on these. However, the article's general conclusions regarding the impacts of the MREL on the capital surplus and the usability of capital buffers, which are presented in section 4, remain valid provided that the regulations stay unchanged.

## II. THE MREL AND ITS COMPLIANCE STRUCTURE

This section describes the purpose of the MREL, its role in capital regulation, the projected MREL compliance structure in the Czech banking sector and the related consequences for the usability of capital buffers and the capital surplus for absorbing losses and lending to the economy. All the analyses are based on the *Baseline Scenario* of the macro stress tests published in the Spring 2020 Financial Stability Report (CNB, 2022) and on banks' own funds plans and eligible liabilities issuance plans as of the end of 2021.

An intermediate MREL target has been in effect since the start of 2022, so there are **three regulatory requirements defining the minimum capital to be held by banks**<sup>6</sup> (see Chart 1):

- a (risk-weighted) **capital ratio requirement**,
- a (non-risk-weighted) **leverage ratio requirement** and
- a **requirement for own funds and eligible liabilities** (the higher of the risk-weighted and non-risk-weighted requirements – MREL-TREA/TEM).<sup>7</sup>

The **capital and leverage ratio requirements** are defined in the prudential rules (set forth in CRR/CRD) and are intended to ensure that banks' capital covers any unexpected losses (going-concern resilience). A bank must maintain a minimum amount of capital according to whichever requirement indicates the higher amount:

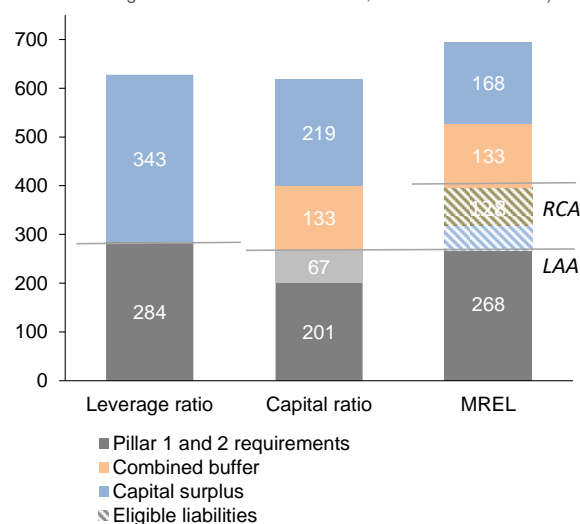
- the **total capital ratio requirement** (set as a percentage of risk-weighted exposures) is composed of the Pillar 1 regulatory minimum, the additional Pillar 2 requirement set by the supervisory authority and the combined buffer requirement (CBR).<sup>8</sup> Banks usually hold a capital surplus in excess of the regulatory requirements for the purposes of strategic management of their capital position (see Chart 1, column: Capital ratio).
- the **leverage ratio requirement** is set at 3% of total exposures and is supplemented with a leverage ratio buffer for global systemically important institutions (not relevant in the Czech Republic). It serves as a prudential safeguard against incomplete capture of credit risk by banks' internal models (model risk/risk weights)<sup>9</sup> and should thus determine the minimum amount of capital regardless of movements in the risk weights on credit exposures (see Chart 1, column: Leverage ratio).

The **MREL** is defined in the banking sector resolution regulations. It is intended to ensure that banks that provide critical economic functions cover the losses and costs resulting from failure primarily from their internal resources and are able to continue operating (gone-concern resilience; for details, see Kahoun, 2019). For such banks, the MREL is composed of a **loss absorption amount (LAA)** and a **recapitalisation amount (RCA)**. Banks expected to be liquidated in the event of failure have the loss absorption amount only.

The **loss absorption amount** is usually equal to the minimum Pillar 1 and Pillar 2 supervisory capital requirements, or the minimum leverage ratio requirement, where the bank is subject to it. The **recapitalisation amount** is set on an individual

**Chart 1 Structure of, and compliance with, the capital requirements**

(own funds and eligible liabilities in CZK billions; as of 31 March 2022)



Source: CNB, authors' calculations

Note: Hatched blue illustrates compliance with the MREL using capital which is reported as a capital surplus or the CBR.

<sup>6</sup> The capital requirements applying to the banking sector are set forth in CRD V, CRR II and BRRD II. The MREL is a minimum requirement not just for own funds, but for own funds and eligible liabilities.

<sup>7</sup> The minimum leverage ratio requirement has been binding in the EU since 28 June 2021. The intermediate MREL target has been binding since 2022.

<sup>8</sup> The combined capital buffer is the sum of the countercyclical capital buffer, the capital conservation buffer and the structural capital buffers.

<sup>9</sup> For details, see Malovaná, S. (2021): The pro-cyclicality of risk weights for credit exposures: Driven by the retail segment, *Economic Systems*, 45(1), and Brož, V., Pfeifer, L. (2021): Are the risk weights of banks in the Czech Republic procyclical? Evidence from wavelet analysis, *Journal of Central Banking Theory and Practice*, 10(1).

basis by the resolution authority (the CNB in the Czech Republic) and is affected by a range of factors, the key one being systemic importance and provision of critical economic functions. Other factors taken into account include business model, resolution strategy (see Table 1), funding model and risk profile. If an RCA requirement is set, it can be met with own funds, eligible liabilities or a combination thereof.

The MREL takes the form of a **risk-weighted ratio (MREL-TREA)** analogous to the capital ratio and a **non-risk-weighted ratio (MREL-TEM)** analogous to the leverage ratio. The binding MREL ratio for a bank is the one in which the absolute MREL is higher. This is influenced primarily by the aggregate risk weight on credit exposures. For banks with a higher aggregate risk weight, the MREL-TREA is usually binding (banks accounting for 75% of the assets of the Czech banking sector). For banks with a lower aggregate risk weight, the MREL-TEM may be binding (banks representing 25% of the assets of the Czech banking sector), as in the case of the leverage ratio requirement (for details, see Pfeifer et al., 2016).

In the MREL-TREA, banks are limited in their ability to use own funds to meet the MREL and the CBR simultaneously. In this regulatory regime, the MREL is higher in the stacking order<sup>10</sup> than the CBR, the latter being additive to the former. If the bank has insufficient own funds to meet the MREL and thus uses those which it is already using to meet the CBR, restrictions on distributions are activated (see section II.2 for details). In such case, the CBR cannot be used to absorb losses and lend to the economy. In the MREL-TEM, this restriction does not apply and own funds used to meet the CBR can simultaneously be used to meet the MREL.

**Table 1 Method for determining the MREL recapitalisation amount**

MREL regime	Resolution strategy			Ability to use CBR to meet MREL
	Bail-in	Transfer tool	Liquidation	
MREL-TREA	$(P1+P2)*TREA$	$(P1+P2)*TREA*coefficient$	N/A	NO
MREL-TEM	$3%*TEM$	$3%*(TEM_{on-B/S}*coefficient+TEM_{off-B/S})$	N/A	YES

Source: CNB

**Note:** Transfer strategies assume the use of the tool of transferring the business to a private buyer or a bridge institution. The coefficient used in the MREL calculation for banks with this strategy expresses the anticipated proportion of activities to be transferred. The impacts of the MREL on the usability of capital presented in this article apply primarily to banks with bail-in strategies.

## II.1 SIZE AND STRUCTURE OF THE MREL RECAPITALISATION AMOUNT

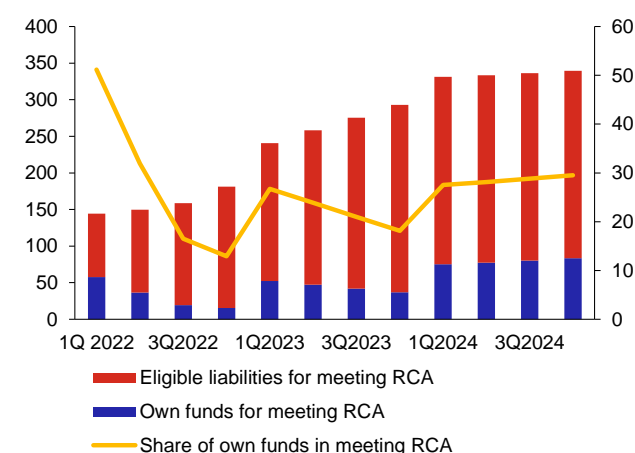
As of 2022 Q1, the own funds and eligible liabilities of the Czech banking sector amounted to CZK 396 billion (14.4% of risk-weighted exposures). The loss absorption amount, made up of Pillar 1 capital, was CZK 268 billion and the recapitalisation amount, comprising own funds and eligible liabilities, was CZK 128 billion. The recapitalisation amount will increase at the start of 2024 upon the entry into force of the final MREL target.

Chart 2 illustrates the structure of compliance with the MREL recapitalisation amount at the start of 2022 and the projected compliance up to 2024, taking into account the current plans for issuing eligible liabilities in 2022 and 2023. The chart shows that as of 2022 Q1 banks were using own funds of CZK 61 billion to meet the MREL. The share of own funds meeting the MREL stood at 51% and is projected to decrease to 18% by the end of 2023.

The rest of this section describes the impact of the MREL on the capital surplus and the usability of the CBR as of 2022 Q1, which is affected primarily by the above structure of compliance with the MREL recapitalisation amount. This is done using CRD reporting data (COREP), banks'

**Chart 2 Size and structure of compliance with the MREL recapitalisation amount**

(CZK billions as of end of 2021; right-hand scale: %)



Source: CNB, authors' calculations

**Note:** The calculations take into account domestic banks' eligible liabilities issuance plans for 2022 and 2023 as of the end of 2021. Besides the intermediate (from 2022) and final target (from 2024), the calculations take into account the indicative (non-binding) MREL target (from 2023).

<sup>10</sup> The order in which the sub-items of own funds and eligible liabilities are used to meet the various requirements.

financing plans and banks' plans for issuing eligible liabilities/debt instruments.

### II.1.1 Effect of the approach to meeting the RCA on the capital surplus in the Czech banking sector

As of 2022 Q1, banks were using CZK 48 billion of their capital surplus to meet the MREL. The usable part of the surplus was thus reduced from CZK 213 billion to CZK 165 billion (77% of the total surplus), or 6.1% of risk-weighted exposures. The light grey area of Chart 3 shows the planned use of own funds to meet the recapitalisation amount up to the end of 2023. It is clear from Chart 2 that at the end of 2021 large banks in particular were planning to meet the MREL recapitalisation amount mostly with eligible liabilities in the years ahead. Other things being equal, this should free up the capital surplus either for potential distribution or loss absorption or for strengthening the banking sector's credit potential.

The following equation can be used to quantify the effect of the MREL on the credit potential of the capital surplus. The MREL caused that potential to drop from around CZK 3.1 trillion to CZK 2.4 trillion (i.e. by about 22%) as of 2022 Q1.

$$\text{Impact of MREL on credit potential of capital surplus} = \frac{\text{Capital surplus used for MREL}}{\frac{(\text{Pillar 1 abs.} + \text{Pillar 2 abs.} + \text{CBR abs.})}{\text{Total RWE}}} \cdot \frac{1}{\text{RWcredit risk}}$$

### II.1.2 Effect of the MREL regime on the usability of the CBR in the Czech banking sector

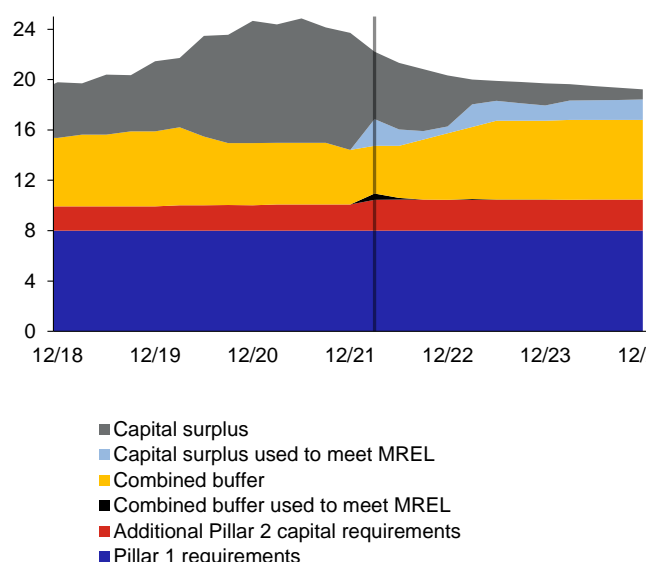
The CBR is made up of buffers that respond to specific cyclical or structural systemic risks. These buffers are meant to ensure that banks are sufficiently resilient in bad times. However, the foreseen role of the CBR may be limited by the use of the buffers to meet the MREL-TEM (see section II.1.1 for details). Czech banks subject to the MREL-TEM were using CZK 13 billion of their capital buffers to meet it as of 2022 Q1. The usable part of the capital buffers at the sector level thus fell from CZK 133 billion to CZK 120 billion (90% of the CBR). Nonetheless, the additional impact of the MREL on the usability of the buffers was in fact zero as of 2022 Q1, since banks were also using the own funds in their capital buffers to meet the leverage ratio requirement to the tune of CZK 29 billion.

The following equation can be used to quantify the effect of these overlaps between the CBR and the minimum capital requirements on the credit potential of the CBR, which was reducing the credit potential from about CZK 2.2 trillion to around CZK 2.0 trillion (i.e. by approximately 10%) as of 2022 Q1.

$$\text{Impact of MREL on credit potential of capital buffers} = \frac{\text{CBR used for MREL}}{\frac{(\text{Pillar 1 abs.} + \text{Pillar 2 abs.})}{\text{Total RWE}}} \cdot \frac{1}{\text{RWcredit risk}}$$

**Chart 3 Structure of capital and capital requirements in the Czech banking sector**

(% of risk-weighted exposures)



Source: CNB, authors' calculations

**Note:** The capital projection assumes constant risk weights, with risk exposures calculated on the basis of banks' future lending plans as reported in the "Bank financing plans" statement (FPSIFE10). It also takes into account issuance of eligible liabilities by banks with a non-zero MREL recapitalisation amount. The calculations regarding the own funds used to meet the MREL are additionally based on eligible liabilities issuance plans.

## II.2 FAILURE TO MEET THE CBR WHEN THE MREL APPLIES: REGULATORY FRAMEWORK

This section describes the potential consequences of failure to meet the CBR and the relationship between the CBR and the MREL. It can be assumed that this phenomenon will not occur in normal economic conditions. During adverse economic episodes, however, there may be situations in which a bank will breach the CBR or even fail to meet one of the minimum capital requirements. The European Banking Authority has published guidelines (EBA, 2015) describing the consequences

of failure to meet the minimum capital requirements, including the MREL, and setting out procedures and tools which competent authorities may use to respond to breaches of various degrees of severity. Nonetheless, none of the potential actions (set forth in Article 137 of the Recovery and Resolution Act in the Czech Republic) is automatic and each requires careful consideration. This article does not examine the potential actions in any further detail and focuses on the consequences of failure to meet the CBR in connection with its use to meet the MREL.

The CBR is specific in being a soft limit, unlike the other capital requirements. Use of the buffers by a bank to absorb losses or lend to the real economy is fully in conformity with the current regulatory framework. Where a bank uses the CBR, it is subject to restrictions on distributions (i.e. capital conservation measures) until the buffer has been replenished. When the MREL applies, two states of failure to meet the CBR can thus arise (see Flowchart 1).

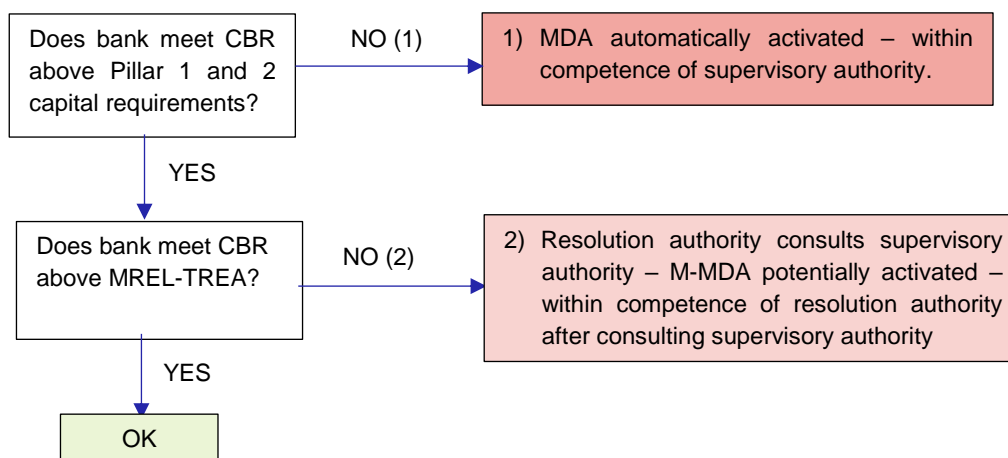
### 1) The bank fails to meet the CBR above the minimum capital ratio requirement (P1 and P2).

Failure to meet the CBR activates the “maximum distributable amount” (MDA).<sup>11</sup> The bank must subsequently submit a capital conservation plan (pursuant to Article 142 of CRD V), which is approved by the supervisory authority and temporarily restricts distributions (pursuant to Articles 141, 141a and 141b of CRD V) until the buffer has been replenished. The MDA is graduated according to the degree of failure to meet the CBR.

### 2) The bank fails to meet the CBR above P1 and P2 but uses CBR capital to meet the MREL-TREA, i.e. it fails to meet the CBR above the MREL.

Where a bank fails to meet the CBR additive to the MREL-TREA, the “maximum distributable amount related to the MREL” (M-MDA) is activated.<sup>12</sup> However, this does not happen automatically but is done at the discretion of the resolution authority after consulting the supervisory authority. Automatic restriction only occurs when the bank fails to meet the CBR through use for the MREL for at least nine months. However, it does not apply if the bank fails to meet the CBR due to a serious disturbance to the functioning of financial markets and if such restriction would undermine financial stability. The M-MDA safeguards the CBR recovery mechanism.

#### Flowchart 1: Possible states of failure to meet the CBR



Source: Authors

Note: CBR = combined buffer requirement; MDA = regime for restricting distributions where the bank fails to meet the CBR above the minimum capital ratio requirement (P1 + P2); M-MDA = regime for potentially restricting distributions where the bank uses CBR capital to meet the MREL-TREA, i.e. it fails to meet the CBR above the MREL.

## III. THE MREL AND THE RISKS OF AN ADVERSE ECONOMIC EPISODE

Section III examines the impacts of an adverse economic episode – as represented by the *Adverse Scenario* of the bank solvency stress tests published in the CNB’s Spring 2022 Financial Stability Report – on the level of, and compliance with, the MREL and the potential activation of the MDA/M-MDA.

<sup>11</sup> This situation was already provided for in the regulations before the MREL came into force.

<sup>12</sup> Pursuant to Article 26a of the Recovery and Resolution Act in accordance with BRRD2.

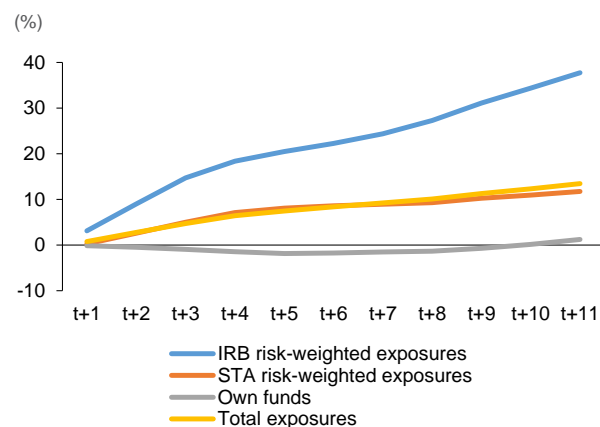
### III.1 COMPLIANCE WITH THE MREL-TREA IN THE ADVERSE SCENARIO

Adverse economic episodes affect banks' capital position through various channels and can lead to failure to meet the CBR and the MREL. In this section, we examine the impacts of changes in (i) own funds, (ii) risk-weighted exposures (RWE) and (iii) total exposures during an adverse episode (see Chart 4) on the banking sector's compliance with the CBR and the MREL (see Chart 5).

The amount of own funds depends on RWE, profitability and dividend policy. RWE can increase in adverse economic times due to growth in the stock of loans and/or growth in loan riskiness in IRB banks (which account for 80% of the assets of the Czech banking sector). This phenomenon is typical of long episodes of adverse economic conditions.<sup>13</sup> There is parallel growth in credit losses, which reduce profitability and hence also the base for strengthening capital. Profits may not be sufficient to cover the credit losses and the increased capital requirement resulting from the growth in RWE. Own funds may thus also be used to absorb the losses. The absolute amount of own funds then decreases. This can lead to a fall in the capital ratio and the bank's ability to meet the CBR and MREL.

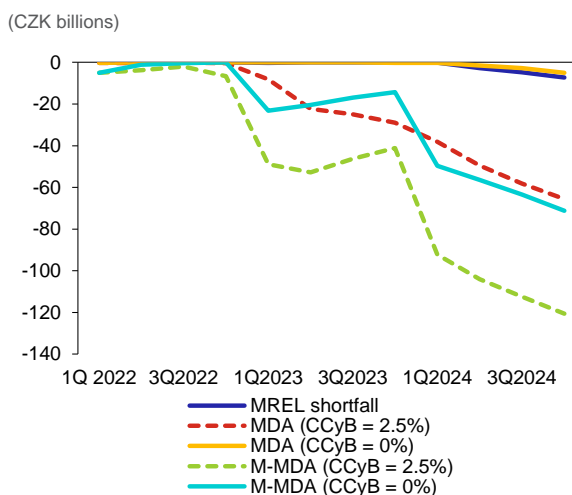
The simulation presented in Chart 5 illustrates the impact of the *Adverse Scenario*<sup>14</sup> on the CBR and MREL (including the release of the countercyclical capital buffer, CCyB). The simulation does not presuppose a forward-looking response of banks to a potential deterioration in their capital position. On the other hand, it abstracts from potential risks associated with the renewal/issuance of eligible liabilities in an adverse episode, risks which could exacerbate the negative effect on banks' capital position.<sup>15</sup>

**Chart 4 Cumulative change in selected variables in the Adverse Scenario of the stress test**



Source: CNB, authors' calculations

**Chart 5 Impact of the Adverse Scenario on compliance with the CBR and MREL**



Source: CNB, authors' calculations

**Note:** In addition to the evolution of selected variables in the *Adverse Scenario* of the macro stress tests, the calculations take into account dividend payments approved in 2022 and the eligible liabilities issuance plans of banks with a non-zero MREL recapitalisation amount. Besides the intermediate (from 2022) and final target (from 2024), the calculations take into account the indicative (non-binding) MREL target (from 2023).

The results indicate that in such a situation, three banks would have a shortfall of CBR capital above the Pillar 1 and Pillar 2 requirements and, despite the release of the CCyB, would be subject to activation of the MDA. The capital replenishment need would total CZK 5 billion (0.2% of the banking sector's RWE). Eight banks would fail to meet the CBR above the MREL and hence could also be subject to restrictions on distributions (dividend payments) at the discretion of the resolution authority and the supervisory authority (the CNB in both cases in the Czech Republic). To exit the M-MDA regime, they would have to increase their own funds and/or issue eligible liabilities amounting to CZK 71 billion (2.6% of the banking sector's RWE). Some of the banks failing to meet the CBR above the MREL or the minimum capital ratio requirement in the *Adverse Scenario* would simultaneously have limited CBR usability because of the parallel leverage ratio requirement.

<sup>13</sup> RWA increase more significantly in IRB banks. In STA banks, they move in line with total exposures in the *Adverse Scenario*. The higher growth in RWA in IRB banks is due to the fact that parameters for approximately the last eight years enter the internal models. During an adverse episode, parameters illustrating elevated risks gradually get into the model, leading to steady growth in risk weights. Other things being equal, this results in growth in the risk-weighted capital requirements, including the MREL in the RWA regime.

<sup>14</sup> See section IV.1 of the CNB's Spring 2022 Financial Stability Report.

<sup>15</sup> The longer maturity of the eligible liabilities portfolio may play a stabilising role in this area.



Three banks would fail to meet the MREL in the *Adverse Scenario*. To meet it, they would have to issue CZK 7 billion of eligible liabilities on top of their current issuance plans (0.3% of the banking sector's RWE).<sup>16</sup>

These results underline the importance of maintaining a capital surplus in addition to the MREL and the CBR, i.e. a surplus of eligible liabilities, in economic good times. This surplus should make the banking sector sufficiently resilient to shocks and ensure that the CBR is fully effective.

### III.2 COMPLIANCE WITH THE MREL-TEM IN THE ADVERSE SCENARIO

In the *Adverse Scenario*, growth in the risk-weighted exposures of IRB banks could hypothetically lead to the MREL-TREA being higher for some of the banks hitherto subject to the MREL-TEM. The switch from MREL-TREA to MREL-TEM could have an impact on compliance with the CBR above the MREL and lead to activation of the M-MDA, as the bank would be using the CBR in the MREL-TREA in order to meet the MREL, where this is not permitted by the regulations and leads to activation of the M-MDA (the bank fails to meet the CBR above the MREL). No bank switches to the MREL-TEM during the stress test horizon in the above simulation.

## IV. GENERALISATION OF THE PRINCIPLES OF THE MREL'S IMPACT ON THE USABILITY OF CAPITAL BUFFERS AND THE CAPITAL SURPLUS

The usability of capital buffers for absorbing losses and lending to the economy is generally affected by whether the bank in question is subject to the risk-weighted minimum capital ratio requirement (Pillar 1 plus Pillar 2) or the non-risk-weighted minimum leverage ratio requirement. This is determined by the bank's average risk weight and hence primarily by its business model. Where the leverage ratio requirement is binding and the MREL-TEM is higher, the usability of capital buffers is potentially limited, other things being equal. Viewed from this static perspective, the MREL may give rise to an additional limitation on the usability of capital buffers on top of that stemming from the leverage ratio requirement.

Where the risk-weighted capital requirement is higher and the MREL-TREA applies, the capital surplus may be limited during the initial MREL period and then stabilise at a lower level in the longer term. The ratio of own funds to eligible liabilities in meeting the MREL also directly affects the impact of the MREL on the capital surplus – other things being equal, a lower share of eligible liabilities in meeting the MREL implies a stronger impact on the role of the capital surplus usable for managing the bank's capital position.

The results presented in section 3 illustrate the effect of the MREL on compliance with the various capital requirements in the *Adverse Scenario* of the stress tests, and hence offer a dynamic view of the interaction between the minimum parallel capital requirements. It differs according to whether the bank is subject to the minimum capital ratio requirement (Pillar 1 plus Pillar 2) or the minimum leverage ratio requirement. Specifically, we distinguish the following three cases:

- 1) The bank is subject to the risk-weighted **capital ratio requirement** (the minimum Pillar 1 and Pillar 2 requirement) – in the *Adverse Scenario*, IRB banks experience growth in their risk-weighted exposures (see Chart 4). This leads to a rise in the MREL, a fall in the usable capital surplus and potentially to failure to meet the CBR above the MREL (activation of the M-MDA; see section II.2 for details).
- 2) The bank is subject to the minimum **leverage ratio requirement** – in this situation, the usability of the capital buffers is limited by their overlap with the leverage ratio requirement. If we want to take into account the additional effect of the MREL during an adverse economic episode, we have to distinguish two situations:
  - a. the leverage ratio requirement remains binding in the *Adverse Scenario* – in this case, the usability of the capital buffers will remain limited by the leverage ratio requirement. Growth in risk-weighted exposures during an adverse episode may reduce the overlap of the CBR and the leverage ratio requirement, while the limiting effect of the MREL on the usability of the capital buffers may stay constant. In the stress test, this situation applied to all banks that were subject to the leverage ratio requirement at the start of the test.
  - b. the binding minimum capital requirement switches in the *Adverse Scenario* to the risk-weighted capital ratio requirement due to growth in the risk-weighted exposures of IRB banks. This situation may arise where the leverage ratio requirement is not significantly higher than the risk-weighted capital ratio requirement at the start of the adverse episode. The said switch would eliminate the overlap between the CBR and the leverage ratio requirement and the buffers could become fully usable. However, if we

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<sup>16</sup> With full release of the CCyB, part of the own funds tied to meeting the CBR can be used to fully cover the LAA and partly also the RCA. However, CZK 51.3 billion of eligible liabilities would additionally have to be issued to fully cover the RCA.

take into account the MREL, the capital buffers are unlikely to be freed up, as this would probably cause a switch from the MREL-TEM to the MREL-TREA. In the MREL-TREA, the bank is not permitted to use CBR capital to meet the MREL, so it would most probably stop meeting the CBR above the MREL, the M-MDA would be activated, and the risk of failure to meet the MREL would also increase in proportion to the size of the capital surplus. In the *Adverse Scenario* of the stress test (see section III), this hypothetical case did not arise in any of the banks tested.

## V. CONCLUSION

Czech banks have been subject to a minimum requirement for own funds and eligible liabilities (MREL) since the start of 2022. The MREL has further enhanced the resilience of the banking sector. On the other hand, it has increased the complexity of the capital regulation of the banking sector and affected the practical functioning of capital buffers. This issue has been directly affected by the introduction of a new threshold for failure to meet the CBR, namely the M-MDA, which potentially restricts the payment of dividends in the event of failure to meet the CBR above the MREL.

This article examined the impact of the introduction of the MREL on the usability of the capital buffers and the size of the capital surpluses in the banking sector. The specific impact depends on the ratio of own funds to eligible liabilities in meeting the MREL and on whether the bank in question is subject to the risk-weighted minimum capital ratio requirement or the minimum leverage ratio requirement, which is determined by the bank's aggregate risk weight. Viewed from the static perspective, banks in the Czech Republic were using CZK 61 billion (2.2% of the banking sector's RWE) to meet the MREL recapitalisation amount as of the first quarter of 2022 (CZK 48 billion from their capital surplus and CZK 13 billion from their capital buffers). However, the additional impact of the MREL on the usability of the capital buffers was in fact zero, since banks were also using the own funds in their capital buffers to meet the leverage ratio requirement to the tune of CZK 29 billion. So from the static perspective, there was merely a reduction in the banking sector's capital surplus. The expected growth in the share of eligible liabilities in meeting the recapitalisation amount should reduce the share of own funds over time, especially in systemically important banks.

The results of the *Adverse Scenario* of the stress tests of the banking sector's solvency offer a dynamic view of the effect of the introduction of the MREL on the usability of the capital buffers and the size of the capital surplus. During an adverse episode, credit losses increase. This affects the banking sector's capital position through two main channels – a decline in own funds due to absorption of the credit losses and growth in risk-weighted exposures. The results show that the *Adverse Scenario* would lead to many banks failing to meet the CBR above the MREL to various extents (causing the M-MDA to be activated) and, to a lesser extent, also the CBR above the minimum Pillar 1 and Pillar 2 requirements. Some banks would fail to meet the MREL to a limited extent as well. These results of the *Adverse Scenario* of the stress tests apply to a greater extent to banks that use the IRB approach to manage credit risk, which are more strongly affected by the second aforementioned channel – growth in risk-weighted exposures. A hypothetical switch from MREL-TEM to MREL-TREA could imply a specific set of problems, as the bank concerned would suddenly be unable to use its capital buffers to meet the MREL and would find itself in the M-MDA regime. This situation did not arise in any of the banks tested in the *Adverse Scenario*.

The results show the benefit of having a surplus of own funds and eligible liabilities in excess of the MREL during economic good times. Such a surplus would limit the risks of the impact of the *Adverse Scenario* on the banking sector's capital position, especially in systemically important banks applying the IRB approach. From the macroprudential perspective, it would be optimal for banks to meet the recapitalisation amount solely with eligible liabilities, as this increases the flexibility of use of the capital surplus for managing banks' capital position and the usability of capital buffers for absorbing losses and lending to the economy.

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