



# Working paper **on resolution**

**Loss-absorbing capacity  
requirements in resolution for  
G-SIBs in the EU and the US**

*A cross-jurisdictional comparison*

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# LOSS-ABSORBING CAPACITY REQUIREMENTS IN RESOLUTION FOR G-SIBS IN THE EU AND THE US

## *A CROSS-JURISDICTIONAL COMPARISON*

### **ABSTRACT**

This paper<sup>1</sup> aims to assess the overall level of G-SIBs' loss-absorbing capacity requirements in resolution in the US and the EU and to gauge their materiality.

The first part considers loss-absorbing capacity requirements in resolution in the broader context of the credibility of the bail-in tool. Starting with the TLAC international standard, we present the TLAC framework in the US and the MREL framework in the EU.

In the second part, we highlight that the main challenge of the cross-jurisdictional comparison is that the relative stringency of US TLAC and MREL requirements seems to differ across the risk-based and leverage-based dimensions. We address this issue of the comparability of MREL and US TLAC targets. We quantify the gap between the targets, showing that the average MREL binding requirements for EU G-SIBs are about 3.5 percentage points of risk-weighted assets higher than the average TLAC binding requirements applying to US G-SIBs.

In the third part, we show that the finalisation of Basel III may widen the gap between EU and US requirements in the coming years. We also argue that the difference in the level of MREL/US TLAC requirements seems difficult to justify, focusing on qualitative considerations pertaining to eligibility criteria and the extent to which the combination of higher MREL targets and higher funding costs in EU fragmented capital markets – compared to the deeper and more liquid US capital markets – may widen the existing profitability gap between US and EU G-SIBs.

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## Introduction

Seven years after the Financial Stability Board (FSB) introduced a set of principles and a Term Sheet on the adequacy of Total Loss-Absorbing and recapitalisation Capacity (TLAC) for Global Systemically Important Banks (G-SIBs) in resolution as a new international standard, loss-absorbing capacity requirements are now an important component of the post-2008 global financial crisis regulatory framework. They were designed to achieve an orderly resolution that minimises any impact on financial stability and ensures the continuity of critical functions, while at the same time protecting public funds and depositors.

Loss absorbency in resolution has been among the most significant new topics in the post-crisis discussion. Resolution authorities in the European Union (EU) and in the United States (US) have implemented the international TLAC standard by setting external TLAC requirements in their jurisdiction or parallel requirements with a similar purpose – the Minimum Requirements for own funds and Eligible Liabilities (MREL) in the EU. Accordingly, G-SIBs have progressed in the issuance of TLAC and MREL-eligible instruments to meet these requirements. Taking into account jurisdictions' specificities, these national implementations have departed from the international standard, which sets minimal levels of loss-absorbing capacity relative to two metrics – risk-weighted assets (RWA) and the leverage ratio exposure (LRE).

In order to make an objective and credible assessment about the overall level of each implementation in national law, we need to compare them with a benchmark. Accordingly, this paper aims to assess the relative stringency of G-SIBs' loss-absorbing capacity requirements in the EU and the US by laying special emphasis on the comparability of the metrics. The cross-jurisdictional comparison may raise the question of potential level-playing-field issues between the EU and US banking sectors.

The paper is organised as follows. The first section considers loss-absorbing capacity requirements in the broader context of resolution, focusing mainly on the TLAC framework in the US and the MREL framework in the EU. The second section addresses the issue of the comparability of the quantitative calibration of TLAC and MREL targets that currently apply to G-SIBs in the US and in the EU, focusing on the Banking Union (BU) and the Single Resolution Mechanism (SRM), the central institution for bank resolution in the EU and one of the pillars of the BU. The third section explores the impact of the finalisation of Basel III and banks' funding costs to evaluate whether the EU-US gap can be justified.

# 1 Loss-absorbing capacity requirements in resolution for G-SIBs in the US and the EU

The purpose of this section is to describe the key role played by loss-absorbing capacity requirements in resolution, as a fundamental instrument to ensure the credibility of the bail-in tool. Starting with the TLAC international standard, it sets out the TLAC and MREL frameworks applying respectively to US and EU G-SIBs.

## 1.1 Loss-absorbing capacity requirements in resolution

### ***1.1.1 Loss absorbency requirements in resolution as a fundamental instrument for the operationalisation of bail-in***

As regards banks' failure, three main lessons can be drawn from the 2007-2008 global financial crisis. Each lesson reflects a paradigm shift, explaining the need for loss-absorbing capacity requirements:

- (i) from insolvency to resolution regimes for banking institutions;
- (ii) from bail-out to bail-in when it comes to loss absorption and recapitalisation;
- (iii) from capital rules to enhanced regulatory standards for loss absorbency.

#### *Resolution regimes*

The first lesson is that insolvency proceedings cannot be deemed as an adequate framework for the failure of banks when the latter provide critical economic functions, the termination of which could give rise to contagion risks, jeopardising financial stability. An appropriate regime for banks' failure should (i) limit impacts on financial stability, (ii) avoid exposing public funds to loss, while at the same time (iii) maintaining the continuity of critical economic functions that banks provide. The resolution framework strives to achieve these three objectives by implementing an orderly resolution through the mobilisation of loss absorption and recapitalisation resources. The *Key Attributes of Effective Resolution Regimes for Financial Institutions* (FSB, 2011, *Key Attributes* thereafter) was adopted by the jurisdictions of the FSB in 2011 to address the problem of Financial Institutions (FIs) that are "too big to fail". It acknowledges the need for special resolution regime for banks, distinct from corporate insolvency law.

This framework provides that bail-out leads to risks of moral hazard and socialisation of losses. Shareholders and creditors rather than taxpayers should contribute to loss absorption and recapitalisation to avoid market distortions resulting from the provision of public financial support. Accordingly, one of the defining features of any resolution regime is that it is a regime under which resources for bank restructuring shall first come from shareholders and then from creditors, through the write down of equity and conversion of debt into equity.

A banking group that falls within the scope of a resolution regime may be composed of one or more resolution groups and may have one or more resolution entities. Entities to which resolution tools will be applied under the group resolution strategy are known as resolution entities. A resolution entity and its subsidiaries constitute a resolution group. When resolution is triggered, these resolution entities are subject to resolution tools in accordance with a preferred resolution strategy.

#### *Loss-absorbing capacity requirements in resolution for the implementation of bail-in*

Second, in this new framework, one of the key resolutions tools is the bail-in tool, which gives authorities extraordinary powers over property rights. It enables them to write down and or/convert liabilities of a failing bank should its failure pose a risk to financial stability. In other words, it is instrumental in forcing and making shareholders and creditors bear the losses, therefore “bailing them in”.<sup>2</sup>

The bail-in was introduced by the *Key Attributes*. Broadly speaking, bail-in may provide resources to two types of entities and, accordingly, there are two types of bail-in: (i) recapitalisation of the failing entity, which emerges from resolution with long-term viability being restored and its legal existence maintained (“open-bank bail-in”); (ii) capitalisation of a new legal entity called bridge institution (“closed-bank bail-in”). Preference for the open-bank bail-in characterises the EU resolution framework, while the US resolution approach for G-SIBs relies on closed-bank bail-in. Both approaches lead to the same economic objective, namely the write-down of debt and conversion into equity of all or some unsecured and uninsured creditor claims to facilitate an orderly resolution.

In order to make bail-in not only legally feasible but also credible, resolution authorities should make sure that they are able to carry out bail-in in practice. To that end, there needs to be a sufficient and available stock of own funds and debt instruments at the level of the resolution entity – easily

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<sup>2</sup> They are however constrained by a creditor safeguard: the “no creditor worse off” (NCWO) principle which states that the outcome for each shareholder and creditor should not be worse in resolution than it would have been in insolvency proceedings.

mobilisable in case of resolution. Loss absorbency requirements in resolution are a fundamental resource to achieve this objective and to force banks to build up sufficient loss-absorbing and recapitalisation capacity.

For a resolution group, the loss-absorbing capacity can either be external or internal. External loss-absorbing capacity comprises capital instruments or other liabilities issued to third parties by the resolution entity that may be written down and converted into equity. The amount of external loss-absorbing capacity issued must be sufficient to provide loss-absorbing resources to the resolution group as a whole. Internal loss-absorbing capacity (own funds and debt instruments) is issued, directly or indirectly, to a resolution entity by subsidiaries within the resolution group. It enables the upstreaming of subsidiaries' losses to the resolution entity and/or the downstreaming of capital from the resolution entity towards the subsidiaries. This is achieved by writing down the internal loss-absorbing capacity and/or converting it to equity without the subsidiaries having to enter resolution. We only consider external loss-absorbing capacity requirements in this paper.

*Loss-absorbing capacity requirements in resolution as enhanced regulatory standards complementary to prudential ones*

A third lesson of the global financial crisis relates to the shortcomings of the applicable prudential framework and capital rules. Before the global financial crisis, prudential requirements could be broadly classified into two types: (i) a required amount of capital – known as going-concern capital and typically tier 1 capital – to maintain market confidence; (ii) a required amount of capital – known as gone-concern capital and typically tier 2 capital – to absorb losses should a bank failure arise while protecting insured depositors.

The global financial crisis made it clear that these capital requirements with flexible criteria for financial instruments to qualify as tier 1 and tier 2 were not enough to prevent bank failures and absorb losses in case of failures. In that respect, loss-absorbing capacity requirements in resolution, along with the Basel III rules, can be considered enhanced regulatory standards that have complemented the prudential requirements by adding an extra layer to gone concern capital. The main difference between the two sets of requirements is that the former are designed to reduce the impact of bank failure by ensuring their resolvability, while the latter regulatory requirements are primarily aimed at ensuring the solvency, resilience and prudent management of banks – thus reducing the probability of banks' failure.

### 1.1.2 The TLAC international standard

The FSB, together with the Basel Committee on Banking Supervision (BCBS), published on 9 November 2015 a Term Sheet laying down the principles of the TLAC as a new standard (FSB, 2015). That standard applies to all G-SIBs<sup>3</sup> worldwide and was designed to ensure that they would have sufficient loss-absorbing and recapitalisation capacity for authorities to implement an orderly resolution. In particular, this standard applies to eight banking groups in the EU (BNP Paribas, Deutsche Bank, Groupe BPCE, Groupe Crédit Agricole, ING, Santander, Société Générale and Unicredit) and the US (Bank of America, Bank of New York Mellon, Citigroup, Goldman Sachs, JP Morgan Chase, Morgan Stanley, State Street and Wells Fargo) and three banking groups in the UK (Barclays, HSBC and Standard Chartered).

The TLAC international standard sets a minimum level of external loss-absorbing capacity to be held by all G-SIBs in relation to two metrics. As such, it can be considered a “Pillar 1” requirement.<sup>4</sup> From January 2022, the minimum thresholds of TLAC to be issued externally by G-SIBs worldwide are set to:

- (i) 18% of RWA plus any applicable regulatory capital buffers<sup>5</sup> and;
- (ii) 6.75% of LRE.<sup>6</sup>

The thresholds are to be met with own funds – Common Equity Tier 1 (CET1) instruments, other capital instruments like Additional Tier 1 (AT1) and Tier 2 (T2) instruments – and debt instruments that meet certain criteria. Eligible instruments must in particular be unsecured, have a minimum 1-year residual maturity and be subordinated to any excluded liabilities. Subordination reduces the legal risks associated with the bail-in of senior securities ranking *pari passu* with other senior liabilities which are not bailed-in such as derivatives, structured notes or operational debts.

Three kinds of subordination are set out in the TLAC standard:

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<sup>3</sup> In accordance with the BCBS methodology, the aggregation of banks' systemic importance indicators, which are distributed into five equally-weighted categories – size, interconnectedness, cross-jurisdictional activity, substitutability, and complexity – gives a G-SIB score. Banks above a cut-off score are identified as G-SIBs and are allocated to buckets corresponding to required levels of additional capital buffers – “G-SIB surcharges”.

<sup>4</sup> Pillar 1 requirements are minimum requirements that apply to all covered banks, as opposed to the bank-specific Pillar 2 requirements which apply on top of and covers risks which are underestimated or not covered by the pillar 1 requirements.

<sup>5</sup> These capital buffers must be held in excess of minimum capital requirements and include in particular the G-SIB surcharge.

<sup>6</sup> In the TLAC Standard, there is also an expectation that the TLAC requirement be met through debt instruments up to a proportion of 33% of TLAC. However, jurisdictions may choose not to implement a long term debt requirement. As described below, the US TLAC rule requires that long-term debt be the greater of 6% (plus G-SIB surcharge) of RWA and 4.5% of total leverage exposure. As regards the MREL in the EU, there is no separate requirement for eligible long-term debt in the general framework.

- (i) structural subordination, resulting from the role of the resolution entity in the group structure. In case the resolution entity is a holding company, it merely transfers funds and capital to operating subsidiaries while generating its revenues mainly from dividend payments coming from the subsidiaries. Accordingly, the creditors of the holding company are subordinated, as all debt obligations must be serviced at the subsidiaries' level before channeling funds to the holding company;
- (ii) statutory subordination, establishing through a provision in national law that the instrument is junior to excluded liabilities;
- (iii) contractual subordination, establishing through a contractual clause that the instrument is junior to excluded liabilities.

The TLAC Standard recognises both the Single Point of Entry (SPE) resolution strategy and the Multiple Point of Entry (MPE) resolution strategy. An SPE strategy involves the application of resolution powers/tools at the parent or bank holding company level by a single resolution authority and the absorption of losses by the parent or the bank holding company. An MPE strategy involves the application of resolution powers/tools by two or more resolution authorities to different parts of the group and the absorption of losses by the relevant subsidiaries. The choice between an SPE or an MPE resolution strategy is based on banks' individual business models and characteristics. The former is more suitable for centrally structured operated banks while the latter is more suitable for a decentralised group.

The TLAC standard is not a binding act. The FSB, as an international standard setter, together with its member jurisdictions, establish frameworks considered as "soft law"; these jurisdictions are expected to transpose these expectations in their binding legislation. Accordingly, the TLAC standard was implemented into US and European legislations and is in force in the US and in the EU since January 2019. As the international standard only sets minimum thresholds, national approaches may differ from the FSB approach by imposing on banks higher external loss-absorbing capacity requirements or a parallel/specific loss absorbency in resolution framework. This paper evaluates the overall stringency of the MREL framework, an EU-specific framework, by comparing it with the US transposition of the TLAC standard.

## **1.2 The TLAC and MREL frameworks in the US and EU**



### **1.2.1 US TLAC requirements**

The US resolution framework<sup>7</sup> for G-SIBs is characterised by two features that reflect the specificities of the US banking system: (i) the SPE resolution strategy, with transfers to a financial bridge company under closed-bank bail-in; (ii) the model of Bank Holding Company (BHC).

In December 2016, the Board of Governors of the Federal Reserve System (FRB thereafter) issued a final rule to implement the FSB standard in the US, requiring certain US banking organisations to maintain a minimum amount of TLAC, consisting of Tier 1 (T1) capital (excluding minority interest) and certain long-term debt instruments (TLAC rule).<sup>8</sup> The TLAC rule applies to a US top-tier BHC identified under the FRB's rules as a G-SIB holding company (covered BHC) or a top-tier US Intermediate Holding Company (IHC) subsidiary of a global systemically important foreign banking organisation (foreign G-SIB) with \$50 billion or more in US non-branch assets (covered IHC).

The TLAC rule's requirements came into effect on January 1, 2019. In particular, the final rule, which aims to improve the resilience and resolvability of certain US banking organisations through new enhanced regulatory standards, comprises three requirements:

1. TLAC requirements, consisting of T1 capital (excluding minority interest) and certain long-term debt instruments;
2. separate requirements of eligible Long-Term Debt (LTD), meaning debt that has a remaining maturity of at least one year and meets certain requirements;
3. clean holding company requirements which limit or prohibit a covered BHC from entering into certain arrangements or incurring certain liabilities.

The three requirements are tied to the two features of the US resolution framework for G-SIBs mentioned above.

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<sup>7</sup> In the US, resolution policies are contained in the Dodd-Frank Wall Street Reform and Consumer Protection Act (Dodd-Frank Act) of 2010. Title I of the Dodd-Frank Act extends the ordinary bankruptcy framework with a view to better taking into account the complexities of large banking organisations and ensuring that they can be successfully resolved through ordinary bankruptcy. Title II of the Dodd-Frank Act establishes a new resolution proceeding by equipping the Federal Deposit Insurance Corporation (FDIC) with an orderly liquidation authority (OLA) to carry out resolution in an orderly way. When appointed as OLA, the FDIC may charter a bridge financial company to which the failed bank holding company's assets - including equity in subsidiaries and loans to subsidiaries - and liabilities. Consequently, the subsidiaries may be transferred to a new debt-free bridge BHC and be kept out of insolvency/resolution proceedings. This title II resolution is carried out by resolution authorities – in the US, financial regulators and supervisors –, not by judges, and it has a meaning that is more similar to that of “resolution” in the EU.

<sup>8</sup> See 82 FR 8266 (January 24, 2017) ; codified at 12 CFR § 252.60 - § 252.65

First, the ability to successfully apply the SPE strategy depends on the availability of sufficient loss-absorbing capacity at the top-tier holding company. Accordingly, the minimum external TLAC requirement for US G-SIBs<sup>9</sup> is the greater of:

- (i) 18% of the G-SIB’s RWA plus a TLAC buffer of 2.5%, method 1 G-SIB surcharge<sup>10</sup> and countercyclical capital buffer (CCyB, if any), totaling 21.5-22.5% across the eight US G-SIBs.
- (ii) 7.5% of the G-SIB’s supplementary leverage ratio exposure (SLR)<sup>11</sup> plus a leverage-based TLAC buffer of 2.0%, to avoid limitations on capital distributions and certain discretionary bonus payments, totaling 9.5%.

**Table 1 – US TLAC/LTD requirements**

	<b>Requirement Type</b>	<b>Risk-based requirements (RWA denominator)</b>	<b>Leverage-based requirements (eSLR denominator)</b>
<b>TLAC</b>	<b>Minimum</b>	18%	7.5%
	<b>Buffer</b>	2.5% + Method 1 G-SIB surcharge + CCyB (if any)	2.0% <sup>12</sup>
	<b>Buffer composition</b>	Buffer must be composed of CET1 capital	Buffer must be composed of T1 capital
	<b>Total</b>	20.5%+ Method 1 G-SIB surcharge + CCyB (if any)	9.5%
<b>Eligible LTD</b>	<b>Minimum</b>	6% + Greater of Method 1 and 2 G-SIB surcharges	4.5%

Source : FRB’s TLAC rule

<sup>9</sup> See 12 CFR § 252.63.  
<sup>10</sup> In July 2015, the FRB approved a final rule implementing the BCBS’ G-SIB surcharge framework for US banks, establishing two methods to determine banks’ G-SIB surcharge. Method 1 corresponds to the BCBS methodology. Method 2 is a US specific method, which differs from the BCBS method, notably by replacing the substitutability measures with a metric of the bank’s use of short-term wholesale funding. In practice, Method 2 tends to lead to higher surcharges than the BCBS method.  
<sup>11</sup> In the US, the prudential leverage ratio requirement is called the “supplementary leverage ratio” and its denominator “total leverage exposure”.  
<sup>12</sup> This TLAC buffer parallels the prudential standards under the enhanced supplementary leverage ratio (eSLR) – the US leverage ratio requirement –, which sets a GSIB’s buffer at 2% of the total leverage exposure, on top of the 3% minimum requirement.

Second, in order to recapitalise the bridge financial company under closed-bank bail-in, there needs to be sufficient eligible external LTD at the level of the BHC. Under the FRB final rule, all covered BHCs must maintain, as a separate requirement, outstanding eligible external LTD to a level at least equal to the greater of: 6% (plus the applicable G-SIB surcharge) of total RWA and 4.5% of the total leverage exposure.<sup>13</sup>

Third, a covered BHC is prohibited from engaging in transactions that could make orderly resolution more difficult (for instance maintaining third-party debt instruments with an original maturity of less than one year) or entering into qualified financial contracts (i.e. repurchase agreements, or swaps) with a third party – the “clean holding requirement”. The purpose of these provisions is to effectively push market activities down to the subsidiaries of a bank holding company. Most banks in the US, and especially all US G-SIBs, are owned by BHCs. The model of BHC in the US explains the subordination of the US TLAC external requirements, meaning that the subordination of debt is established by the structure of a bank, i.e. eligible debt is issued by a holding company (HoldCo), while excluded liabilities are issued by operating companies (OpCo).<sup>14</sup> Indeed, HoldCos, which do not carry out banking business, have by construction little/no liabilities excluded from bail-in. In practice, this implies that only instruments issued by the holding company are bail-inable (in contrast to those issued by the operating subsidiaries).

### **1.2.2 MREL requirements in the EU<sup>15</sup>**

The first Bank Recovery and Resolution Directive (BRRD, OJEU, 2014a) constituted EU’s implementation of FSB standards. It provided a comprehensive framework for the orderly resolution of failing banks within the EU. It also introduced the European approach to make bail-in credible through loss-absorbing capacity before the FSB’s TLAC was officially agreed on, the MREL.

The regulatory framework for loss-absorbing capacity requirements in the EU was then revised in 2019 through amendments to the BRRD; the Regulation establishing a Single Resolution Mechanism (SRMR, OJEU, 2014b); the Capital Requirements Regulation (CRR, OJEU, 2013b); and Capital Requirements Directive (CRD, OJEU, 2013a) (the Banking Package). This paper focuses on this revised framework.

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<sup>13</sup> See 12 CFR § 252.62 (a).

<sup>14</sup> More specifically, the holding company issues senior unsecured debt and then funnels those funds down to the operating bank. In exchange, the holding company owns the debt of the operating company, which can be written down in case of resolution. This implies that the proceeds of the debt issuance are used to invest in subordinated instruments of the operating company.

<sup>15</sup> In this paper, the EU refers more precisely to the BU.

The Banking Package both modified and supplemented the MREL framework, in particular by transposing the FSB TLAC standard for G-SIBs.<sup>16</sup> Consequently, EU G-SIBs are subject to two types of loss-absorbing capacity requirements in resolution in the EU: MREL and TLAC. MREL and TLAC pursue the same objective to ensure that banks maintain at all times sufficient eligible instruments to facilitate the implementation of the preferred resolution strategy (most notably bail-in). As regards the scope of application, it should be noted that MREL is a binding requirement for all BRRD institutions<sup>17</sup>, while TLAC only applies to G-SIBs.

The main specificity of MREL with respect to the international and US TLAC standards pertains to the risk-sensitivity of the requirements – meaning that various banks’ exposures generate different risks, which justifies requiring different loss-absorbing capacities to cover possible losses. In the EU, prudential requirements (CRD/CRR) are a key input for the calibration of MREL. Indeed, MREL could be understood as a doubling of capital requirements.<sup>18</sup> This also implies that MREL targets are more volatile than US TLAC ones, as MREL targets are significantly impacted by changes in prudential requirements parameters (such as pillar 2 requirements (P2R) and capital buffers), which in turn reflect changes in banks’ risk profiles.<sup>19</sup>

Other differences regarding the quantitative calibration and eligibility criteria will be analysed in sections 2 and 3.

Under the MREL framework, banks must meet their full external MREL targets by 1 January 2024. In addition to these MREL 2024 final targets, the Single Resolution Board (SRB) – the resolution authority for the jurisdictions of the SRM – has set binding intermediate targets to be complied with from 1 January 2022 in order to ensure a smooth build-up of MREL capacity. This paper only focuses on the final MREL targets (2024).

### *Calibration of MREL targets*

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<sup>16</sup> The MREL framework also imposes requirements on non G-SIBs.

<sup>17</sup> BRRD II makes a distinction between various types of institutions, subject to proportional MREL requirements: (i) G-SII; (ii) top-tier banks, represent resolution entities, other than G-SIIs, that are part of resolution groups with total assets exceeding €100 billion (Article 45c (5) BRRD II); (iii) smaller banks, but considered by resolution authorities as likely to constitute a systemic risk in insolvency (known as fished banks, Article 45c (6) BRRD II and Article 12d (5) SRMR II); and (iv) all other institutions.

<sup>18</sup> As explained below, if a market confidence charge is applied, the MREL calibration actually more than doubles capital requirements.

<sup>19</sup> MREL targets are re-computed each year as part of the annual resolution planning cycle.

The MREL should be met through own funds and eligible liabilities – subordinated, including senior non-preferred instruments and ordinary unsecured senior instruments – and across both risk-based and leverage-based dimensions: (i) as a percentage of total risk-weighted exposure amount (TREA) and (ii) as a percentage of the total exposure measure (TEM).<sup>20</sup>

The MREL policy of the SRB presents the calibration of MREL targets (SRB, 2022). For G-SIBs, the MREL requirements are composed of:

- (i) Pillar 1 requirements applicable to all G-SIBs – the TLAC implementation in the EU – calibrated at 18% of TREA plus the Combined buffer requirement (CBR)<sup>21</sup> and at 6.75% of LRE.
- (ii) Pillar 2 requirements specific to the institution – the MREL targets set by the SRB.

As regards the Pillar 2 requirements, they are calibrated as the sum of two components:

- (i) a Loss-Absorption Amount (LAA), which corresponds to: (i) a total capital ratio of 8% (Pillar 1 requirement), plus P2R, for the TREA target; (ii) the 3% leverage ratio for the TEM target.
- (ii) a Recapitalisation Amount (RCA), which is calibrated by default<sup>22</sup> at the level of the LAA and serves to restore compliance with the Pillar 1 requirement and P2R after the implementation of the resolution strategy. The RCA is the amount necessary to recapitalise the institution so that it can continue to comply with its conditions for authorisation and carry on its activities. The RCA may be adjusted upwards or downwards. More specifically, a market confidence charge (MCC), equal to the CBR, minus CCyB, is applied for the TREA target where warranted to ensure that a bank sustains market confidence post-resolution.

Also, the CBR is always to be added on top of MREL LAA+RCA TREA requirement. As regards the MREL-LRE target, the LAA+RCA calibration may not be binding when it is lower than 8% of Total liabilities and

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<sup>20</sup> The concepts of TREA and TEM are equivalent respectively to RWA and LRE.

<sup>21</sup> The CBR refers to the total appropriate CET1 capital to meet the requirement for: 1) the capital conservation buffer; 2) a countercyclical capital buffer; 3) the greater of a G-SII buffer and an O-SII buffer (if any); 4) a systemic risk buffer (if any).

<sup>22</sup> In line with Article 12d(3) SRMR, the default RCA may be adjusted upwards or downwards. In this regard, it is considered that the balance sheet post-resolution will be smaller than the current balance sheet as the losses which will drive the group in resolution will reduce the balance sheet size. One downward adjustment between 0% and 10 % on TREA, to consider this balance sheet depletion effect, may be applied.

own funds (TLOF)<sup>23</sup>. In practice, the calibration of MREL targets (in %) for EU G-SIBs with a bail-in SPE strategy can thus be approximated by the following formulas<sup>24</sup>:

$$MREL_{TREA} (\%) = \underbrace{8 \% + P2R}_{LAA} + \frac{TREA_{post-resolution}}{TREA_{pre-resolution}} \times \left( \underbrace{8 \% + P2R}_{RCA} + \underbrace{CBR - CCyB}_{MCC} \right)$$

$$MREL_{LRE} (\%) = \begin{cases} 3\% + \frac{LRE_{post-resolution}}{LRE_{pre-resolution}} \times 3\% \\ \text{or} \\ \frac{8 \% TLOF^{25}}{LRE} \end{cases}$$

In the United Kingdom (UK), the Bank of England (BoE) also set MREL requirements before the Brexit and maintained them after it. The UK MREL can be seen as a doubling of capital requirements, with a different calibration compared to the EU. In particular, as regards the external risk-based target<sup>26</sup>, which is set to a level equal to twice the pillar 1 and P2R (plus the CBR), the BoE does not apply a MCC or other adjustments to the LAA and the RCA (BoE, 2021).

#### *MREL subordinated requirements*

Unlike the US, the resolution framework in the EU is not tied to the model of the BHC, as this structure is not imposed on G-SIBs under the remit of the SRB and in light of the diversity and heterogeneity of the EU banking landscape. As a matter of fact, EU G-SIBs, except for ING, have an OpCo structure. Accordingly, the MREL requirement is not structurally subordinated but is in general met with capital

<sup>23</sup> TLOF include derivatives accounted for their amount after netting. 8% TLOF is the minimum bail-in amount to be applied to tap the Single Resolution Fund, the SRM resolution financing arrangement.

<sup>24</sup> The following formulas are applied to compute post-resolution TREA and post-resolution TEM:

$$TREA_{post-resolution} = d_{PR} \times \max\{TA_{PR} - (LAA + CBR); TA_{PR} \times 90\%\}$$

where  $d_{PR}$  is the risk density (TREA divided by total assets) pre-resolution,  $TA_{PR}$  is the total assets pre-resolution, and  $LAA$  is the loss absorption amount plus the CBR.

$$TEM_{post-resolution} = l_{PR} \times \max\{TA_{PR} - LAA; TA_{PR} \times 90\%\}$$

where  $l_{PR}$  is the ratio between total exposure measure and total assets pre-resolution,  $TA_{PR}$  is the total assets pre-resolution, and  $LAA$  is the loss absorption amount.

<sup>25</sup> More specifically, the MREL-LRE target level may be adjusted upwards to 8% TLOF, unless MREL-TREA+CBR is already larger than 8% TLOF.

<sup>26</sup> The UK external leverage-based requirements are calibrated to the higher of two times the applicable leverage ratio requirement or 6.75% of LRE.

instruments and Senior Non-Preferred (SNP) debt, which is a form of subordinated debt. It may also be partially met with non-subordinated senior-ranking liabilities. Article 108 of BRRD has introduced the new category of SNP debt, ranking behind other senior liabilities and ahead of contractually subordinated debt in ordinary insolvency proceedings. In terms of the subordination eligibility criterion for TLAC and MREL, statutory or contractually subordinated SNP debt of OpCo EU banks can be considered as economically equivalent to the structurally subordinated US HoldCo senior debt.

The minimum level of subordination<sup>27</sup> for resolution entities of G-SIBs has two components:

- (i) Pillar 1 subordinated MREL requirements mirroring the TLAC Term Sheet, calibrated at 18% of TREA plus CBR and 6.75% of LRE.
- (ii) The second component is set by SRB's decision, equal to a minimum level of 8% TLOF. This level may be increased or decreased by the SRB on a case-by-case basis, provided that the NCWO<sup>28</sup> principle is not breached and conditional on the bank's progress towards resolvability, subject to a cap and a floor.

## 2 MREL/US TLAC comparison: quantifying the gap between loss-absorbing capacity requirements in the EU and the US

In this section, we highlight the main challenge of the cross-jurisdictional comparison, which is that the relative stringency of US TLAC and MREL requirements seems to differ across the risk-based and leverage-based dimensions. In particular, we could reach different conclusions about the relative level of MREL/US TLAC requirements depending on the metric chosen. Consequently, we attempt to take into account the regulatory, accounting and prudential aspects of banks' assets metrics in each jurisdiction. To this end, we follow a two-step approach. First, we should determine the extent to which the metrics of banks' assets differ across jurisdictions in order to identify the relevant one(s). As a second step, we divide the nominal amount of the binding MREL/US TLAC requirements in national currency – i.e. the greater of risk and leverage-based requirements in euro (EUR) and US dollar (USD) – in both jurisdictions by the most (relevant) comparable metric of banks' assets across the US and the EU to get meaningful and comparable percentages.

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<sup>27</sup> See Articles 92a and 494 CRR and Article 12c (4) SRMR.

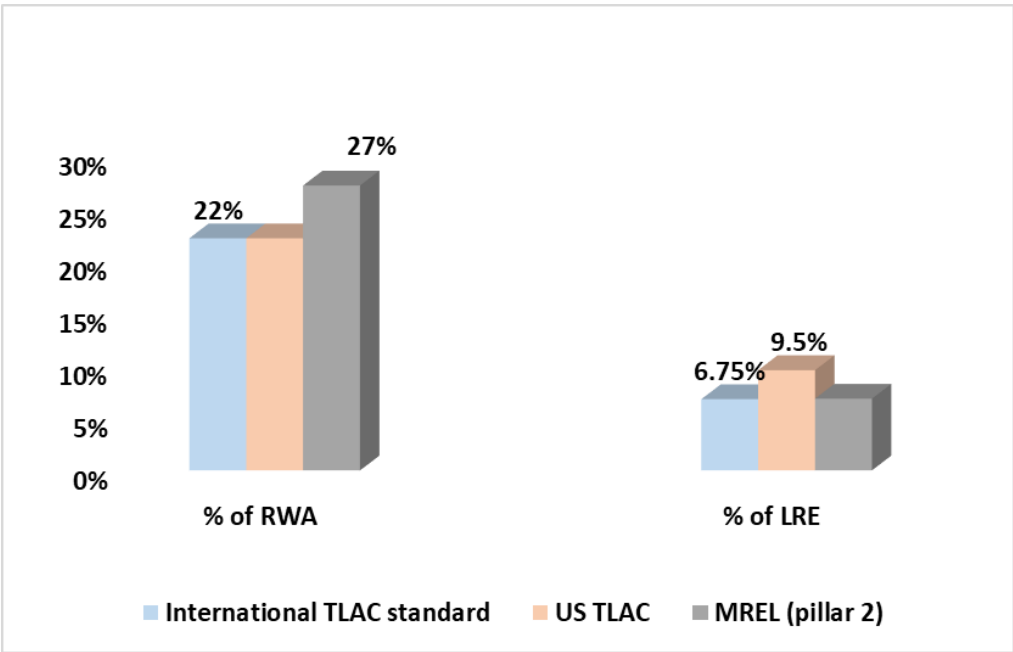
<sup>28</sup> See footnote 2.

**2.1 Accounting assets, risk-weighted assets and the leverage exposure: finding the appropriate metric for comparing US and EU requirements**

**2.1.1 MREL/US TLAC relative level across the risk-based and leverage-based dimensions**

Loss-absorbing capacity in resolution requirements are set at a given percentage of two metrics both in the US and the EU: RWA and LRE. With respect to the international standard, G-SIBs’ MREL risk-based requirements are calibrated at a higher level than TLAC: an order of magnitude of 27% of RWA (as detailed below) compared to 21-22% of RWA, including buffers, while the leverage-based requirements are broadly similar, about 6-7%. Conversely, G-SIBs’ US TLAC risk-based requirements are equal to the TLAC international standard, but the leverage-based ones seem much higher, at 9.5 % compared to 6.75 %.

**Figure 1 – MREL/US TLAC requirements for G-SIBs: order of magnitude (including buffers) across the risk-based and leverage-based dimensions**



Sources: ACPR computations; SRB MREL Dashboard; EU and US G-SIBs Pillar 3 disclosures

Importantly, the risk-based MREL calibration more than doubles the prudential risk-based requirements (Pillar 1 and Pillar 2) owing to the MCC, while the US TLAC leverage-based requirements



roughly double the prudential leverage ratio requirement (which is set at 5% in the US, i.e. 3% plus 2% G-SIB buffer).

The orders of magnitude presented above show that any cross-jurisdictional assessment of whether loss-absorbing capacity requirements in resolution are more or less conservative should not be limited to a mere comparison of the required minimum percentage level. As explained below, metrics of bank's assets differ across jurisdictions due to regulatory, accounting and prudential specificities, which may justify setting different minimum levels from the international TLAC standard.

### ***2.1.2 Accounting assets: the issue of netting rules' stringency***

Total accounting assets are not a relevant metric as the differences between accounting standards regarding the netting of financial assets and liabilities result in smaller US Generally Accepted Accounting Principles (GAAP) balance sheets compared to EU International Reporting Financial Standards (IFRS) balance sheets for the same risk exposure. Broadly speaking, US GAAP allows the netting/offsetting of repurchase agreements (repos) and derivatives transactions where a legally enforceable master netting agreement exists with a counterparty. Under IFRS, the legally enforceable master netting agreement is not sufficient to allow the netting and there are more stringent requirements than in the US accounting framework. In particular<sup>29</sup>, the legal right to set off the recognised amounts must also be enforceable in all circumstances, in both the normal course of business and in the event of default, insolvency or bankruptcy of one of the counterparties.<sup>30</sup>

The risk density corresponds to the ratio of RWA to a measure of banks' total assets. If we use total accounting assets as the denominator of this ratio, as of December 2021, the weighted average risk density of the eight US G-SIBs amounts to 50% of RWA against 30% of RWA for the eight EU G-SIBs, resulting in a 20 percentage points difference in risk density.<sup>31</sup> Taking the LRE as the denominator of the risk density gives a sense of the extent to which accounting balance sheets are reduced through less stringent netting/offsetting, as the BCBS leverage exposure standard defines harmonised rules for the netting of repos and derivatives (BCBS, 2014). The weighted average risk density (RWA/LRE) of the eight US G-SIBs is brought down to 42% of RWA against 32% of RWA for the eight EU G-SIBs, resulting in only a 10 percentage points difference.

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<sup>29</sup> Under IFRS, the netting of financial assets and liabilities is also subject to other conditions, such as having the intention of either settling the net amount or simultaneously realising the asset and settling the liability.

<sup>30</sup> Accordingly, differences in netting between US GAAP and IFRS affect in particular financial instruments that may only be offset in the event of the default, insolvency or bankruptcy of one of the counterparties.

<sup>31</sup> Sources: EU banks' Pillar 3 disclosures, US banks' 10-K Forms.

### **2.1.3 The RWA metric: risk density and the issue of RWA variability**

The RWA metric can be used for this cross-jurisdictional comparison as long as there is no excessive RWA variability in the US and EU – namely RWA variability which cannot be explained by differences in the risk of US and EU banks’ average portfolios.

One of the common views among regulators has been that RWA density remains too low in Europe compared to the US, with European banks using internal models to better account for European specificities/risk-sensitivity but potentially reducing their RWA in comparison to American peers. A common example of this lies in the residential mortgage portfolios, where US banks show an average risk weight (RW) of around 35% and EU banks typically disclose an average RW of around 15%.<sup>32</sup> Accordingly, though one of the goals of Basel II was to make capital requirements more risk-sensitive, one of the objectives of the finalisation of Basel III is to reduce undue or unwarranted level of variability.

Excessive RWA variability is often attributed to the extent to which banks resort to the Internal Ratings-Based (IRB) approach for computing RWA. Under the “Collins Amendment” to the Dodd-Frank act, US banks are subject to an output floor of 100% for credit risk and market risk, with their capital requirements based on the higher of the IRB modelling approach and the standardised approach.<sup>33</sup> On the other hand, EU banks seem to have greater room for manoeuvre to use risk-sensitive internal models to calculate risk-weighted assets.

However, there is ample evidence in the literature focusing on EU banks that the “the IRB approach does not lead per se to greater variability in capital requirements”, as argued by Canneta, Casellina and Chionsini (2020). For instance, in a report on the IRB modelling practices on a sample of more 100 EU banks, the EBA (2017) finds that about 75 % of the observed difference in RWA across institutions could be explained by a few drivers: different share of defaulted and non-defaulted exposures; the country of the counterparty; and the portfolio mix of individual institutions, namely factors that are unrelated to internal modelling assumptions. The EBA (2019) also finds evidence that the RWA variability under the standardised approach and the IRB approach is broadly comparable. Based on a

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<sup>32</sup> However, the example is not appropriate if we look at portfolios in a more granular way.

<sup>33</sup> Since the latter does not apply to operational risk and credit value adjustment, US G-SIBS are subject to an effective output floor of around 75%. The output floor sets a lower “floor” limit on the capital requirements (“output”) that banks estimate through internal models.

sample of European banks observed over a period of six years, Canneta, Casellina and Chionsini (2020) suggest that a certain level of variability is inevitable and that unwarranted RWA variability is negligible, with the bulk of the variability essentially explained by structural factors (like the portfolio mix).

We are unaware of any other recent studies similar to those of the EBA focusing on a cross-jurisdictional comparison of RWA variability between US and EU banks. But the results of this strand of the literature on RWA variability between EU banks may be taken account for our cross-jurisdictional analysis to argue that RWA density differences between the US and the EU may be justified and do not stem from the use of internal models in the EU. More precisely, RWA density differences can be explained by simple concepts such as banks' business models, portfolio mix and the risk profile of the assets they carry on their balance sheets.

In particular, US banks securitise their best quality mortgage loans, through private transactions or Government Sponsored Enterprises (GSEs). RWA density of US banks is mechanically inflated as they keep their lower quality assets on their balance sheet and offload assets typically attracting low risk-weight like mortgage loans. On the contrary, EU banks tend to keep on their balance sheet less risky assets as there are no European Fannie Mae or Freddie Mac equivalents in the EU. The relative share of residential mortgage exposures in banks' balance sheets is usually a significant source of variability and is typically associated with a lower risk density (Canneta, Casellina and Chionsini, 2020).<sup>34</sup>

As explained below, the finalisation of Basel III may bring the risk density of EU banks closer to that of US banks to the extent that its impact will be more significant in the EU than in the US.

#### ***2.1.4 The leverage exposure metric: smaller in the US than in the EU***

The leverage exposure is a useful metric inasmuch as it addresses the major accounting differences between US GAAP and IFRS – namely the less stringent netting rules for derivatives and repos in the US compared to the EU. However, the leverage exposure is smaller in the US than in the EU, which is explained by two reasons: securitisation on a larger scale and prudential differences.

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<sup>34</sup> Home equity loans may also explain an upward bias in RWA density of US banks.

Two types of securitisations bring an automatic reduction in the size of US banks' balance sheets and leverage exposures. We attempt to get a sense of the magnitude of the reduction through two adjustments.

The first type of securitisation is the private-label securitisation, through which banks sell loans and securities to Variable Interest Entities (VIEs). The assets are not accounted for in the banks' leverage exposures as VIEs are non-consolidated entities. We computed that the assets of the non-consolidated VIEs for the eight G-SIBs totalled nearly USD 1.5 trillion as of December 2021.<sup>35</sup>

In addition to the private VIE securitisation, US banks sell originated and purchased residential mortgage loans and certain originated excess Mortgage Servicing Rights (MSRs) to U.S. GSEs such as Fannie Mae and Freddie Mac. These loans, which are then securitised by GSEs, are removed from US banks' balance sheets and leverage exposures. Such a process has no equivalent in the EU. As of December 2021, outstanding single-family Mortgage-backed Securities in the Agency market totalled USD 7.79 trillion (Ginnie Mae, 2022). We are unable to quantify to what extent each G-SIB contributes to this total amount. However, assuming that non-bank origination makes up about 50%<sup>36</sup> of the outstanding stock of Agency MBS (conservative estimate) and that G-SIBs account for about 50% of total US banking assets, a rough estimate of the aggregate contribution of G-SIBs would be to multiply the outstanding Agency MBS amount by about 25%, totalling about USD 2 trillion.

## **2.2 Comparison of the binding loss-absorbing capacity requirements in resolution for EU and US G-SIBs**

### ***2.2.1 MREL/US TLAC binding requirements' relative level***

We express the nominal amount of MREL/US TLAC binding requirements in national currency (i.e. the greater of risk and leverage-based requirements in EUR and USD) as a percentage of the RWA metric. The RWA metric is the most relevant of the three metrics described in section 2.1 as we consider in this paper that RWA variability between the US and the EU can be explained and is justified by structural factors like portfolio mix and securitisation. We also express the same nominal amount of binding requirements as a percentage of the LRE metric to illustrate the importance of finding the relevant metric for the comparison.

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<sup>35</sup> Sources: US G-SIBs' 10-K and 10-Q Forms.

<sup>36</sup> Non-bank lenders currently account for about 50% of newly issued mortgages (flow metric).

Regarding the MREL targets of EU-GIBs, we rely on the data published by the SRB in its MREL Dashboard (SRB, 2022), as some EU banks do not yet disclose their MREL requirements. US G-SIBs publish their TLAC requirements in their 10-K and 10-Q Forms or in their Pillar 3 disclosures.

**Table 2 – EU, US and UK G-SIBs allocated to buckets corresponding to required levels of additional capital buffers (as of November 2022)**

Bucket	EU G-SIBs	US G-SIBs	UK G-SIBs
4 (2.5%)		JP Morgan Chase	
3 (2.0%)		Bank of America Citigroup	HSBC
2 (1.5%)	BNP Paribas Deutsche Bank	Goldman Sachs	Barclays
	Groupe BPCE		
	Groupe Crédit Agricole	Bank of New York Mellon	
1,5 (1.0%)	ING Santander Société Générale UniCredit	Morgan Stanley State Street Wells Fargo	Standard Chartered

Source: FSB

According to the SRB MREL Dashboard (Q2 2022), the average binding MREL phased final target (2024), including the CBR, for G-SIBs under the SRB remit stood at 27% of TREA in Q2 2022. Under the fully phased-in MREL policy – especially concerning the MCC<sup>37</sup> –, the average binding MREL final target (2024) for G-SIBs would represent about 27.5% of TREA. It should be noted that these requirements are broadly comparable to the MREL requirements applying to the three UK G-SIBs, which represented a simple average of 27.7% of RWA with source data as of June 2021 (according to the data published by the BoE). In the UK, the non-application of the MCC is compensated by higher P2R.

<sup>37</sup> The SRB applies a phase-in formula to the MCC in the current resolution planning cycle. The SRB MREL Dashboard data correspond to this MCC phase-in formula. Subsequently, the MCC will increase as the steady-state formula, equal to CBR minus the CCyB, will be applied.

On the other hand, the TLAC binding requirements of the eight US G-SIBs accounted for about 24 % of RWA as of end 2021. Based on the RWA metric, steady-state EU MREL requirements are about 3.5 percentage points of RWA higher than TLAC requirements.

When the same binding requirements are expressed in percentage of the leverage-based metric, they account for an average 8.4% of LRE (8.2% with the phase-in MCC formula) for EU G-SIBs, compared to 9.9% of LRE for US-GIBs.

Two facts stand out:

- First, we reach different conclusions as to which requirements are more stringent depending on the metric being chosen. Based on the RWA metric, MREL binding requirements are 3.5 percentage points higher than US TLAC requirements, while they are about 1.5 percentage point lower than US TLAC requirements based on the LRE metric. This reveals the challenges presented by the cross-jurisdictional comparison.
- Second, as of end 2021, the leverage-based requirements of 9.5% were binding for four US G-SIBs (Golman Sachs, Morgan Stanley, JP Morgan Chase and Citigroup) out of eight. In contrast, should the leverage-based requirements be calibrated at 9.5% of LRE in France, for instance, they would be binding for all French G-SIBs. This shows that the calibration of the leverage-based requirements in the US, though optically more stringent than the risk-based requirements, is actually adapted to accommodate US banks' higher risk density. This point will be further developed in subsection 2.2.3.

The comparison of the weighted average of the MREL/TLAC requirements for the eight US and EU G-SIBs can be complemented by a more segmented analysis based on their relative systemic importance and on their business models.

Overall, US G-SIBs are more systematically important than EU G-SIBs. In particular, most EU G-SIBs – six out of eight – are in the lowest G-SIB bucket (as of November 2022). On the other hand, two US G-SIBs are in the third bucket and one in the fourth bucket. As regards business models, for instance, Goldman Sachs and Morgan Stanley are essentially investment banks, while Bank of New York Mellon (BNYM) and State Street are custodian banks. Most EU G-SIBs are diversified and universal banks that may be more comparable to Bank of America, Citigroup, JP Morgan Chase and Wells Fargo. The

average US TLAC binding requirements of the latter four US G-SIBs represented 23.4% of RWA as of end 2021, resulting in a four percentage points of RWA gap with EU G-SIBs.

### **2.2.2 Taking into account securitisation-related effects and prudential differences**

#### *Securitisation-related effects*

As a second step, we attempt to take into account the securitisation-related effects that lead to smaller leverage exposures in the US compared to the EU, as mentioned above. To that end, we re-integrate both the amounts of private securitisations and GSE securitisations to the aggregate US banks' leverage exposures. The aggregate nominal amount of binding TLAC requirements for the six US G-SIBs – excluding custodian banks – only account for 8.2% of the aggregate adjusted leverage exposure (against 9.9% before any adjustment) and are brought down to a level comparable to the average MREL requirements of EU G-SIBs (8.4% of LRE). This adjustment<sup>38</sup> is not intended to point out rigorously the smaller nature of US leverage exposures but merely to provide a confirmation of the fact that MREL binding requirements are more stringent than TLAC binding requirements (when they are expressed as % of the LRE metric).

The adjustments also show that, relative to US G-SIBs' real volume of activity and their balance sheet velocity, US TLAC requirements are actually less stringent than what a mere look at the minimum percentage level required would otherwise suggest. Importantly, prudential and loss-absorbing capacity requirements are set in proportion to metrics of banks' assets, which are a stock variable. High balance sheet velocity, for instance through securitisation, implies that a bank is able to reduce or keep constant this stock variable, while at the same time maintaining or even increasing its volume of activity.

This begs the following question: why European banks do not securitise as much as US banks?

Regarding GSE securitisation, there is no European Fannie Mae (or Freddie Mac) equivalent to which EU banks could sell their mortgage loans. As regards the private securitisation, it should be noted that the Basel securitisation framework has been implemented in the EU, but not in the US. The EU

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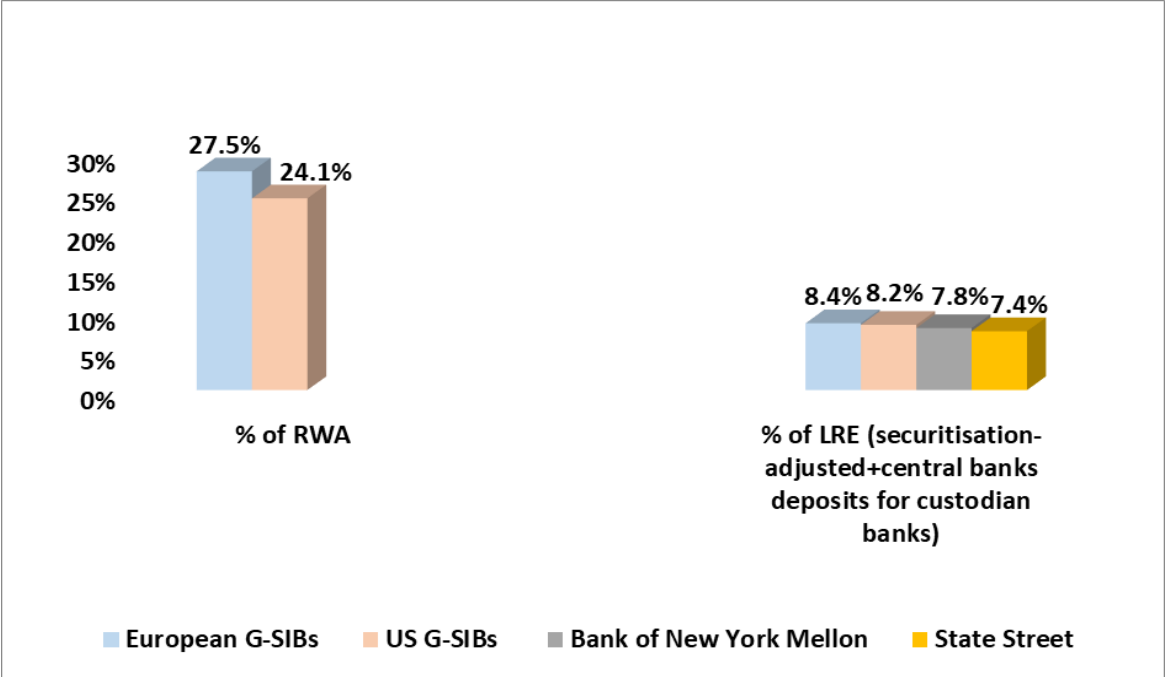
<sup>38</sup> Besides, the amount of private non-consolidated Special Purpose Vehicles (SPE) is not as significant for EU G-SIBs. For instance, we computed that, re-integrating the amount for the three French G-SIBs that publish their MREL requirements – Groupe BPCE, Groupe Crédit Agricole and Société générale – to their leverage exposure, their binding requirements expressed as % of the adjusted leverage exposure would only decrease by about 20 basis points.

framework makes securitisations more costly because it is non-neutral. The non-neutrality of the framework refers to the fact that the capital requirements of the same pool of assets in a securitised form is a multiple – the so-called p factor – of the capital requirement of those assets before they were even securitised. For instance, for the exact same standard mortgage portfolio, the capital requirements may be up to two times greater when securitised than when remaining on the bank’s balance sheet.<sup>39</sup>

*Prudential differences*

In addition to securitisation, the prudential framework in the US and the EU may reduce the comparability of the leverage exposure across US and EU banks. It is beyond the scope of this paper to quantify precisely the extent to which the leverage exposure in the US and the EU differ due to prudential differences. However, we can mention two examples of such prudential differences.

**Figure 2 – MREL/US TLAC binding requirements expressed as % of RWA and % of the securitisation/excluded central bank deposits-adjusted LRE for US G-SIBs<sup>40</sup>**



Sources: ACPR computations; SRB MREL Dashboard; US G-SIBs Pillar 3 disclosures and 10-Q Forms.

<sup>39</sup> Another type of non-neutrality pertains to the demand for securitised assets by investors. For instance, according to Solvency II, the amount of capital an insurer must set aside for the purchase of a whole pool of mortgages is significantly lower than for the purchase of the exact same pool in securitised form. Insurance undertakings in the EU are thus less likely to invest in securitised assets than their US peers.

<sup>40</sup> The binding requirements of US G-SIBs are aggregated and expressed as % of the aggregate LRE. State Street and BNYM are excluded from this aggregate.



First, a final rule issued by the Office of the Comptroller of the Currency (OCC), the FRB and the FDIC in January 2020 excludes from the supplementary leverage ratio denominator some central bank deposits of banking organisations predominantly engaged in custody. The leverage exposures of BNYM and State Street, two custodian banks, were significantly reduced – by about 25% – owing to this exclusion (as of December 2021). Adding the excluded central bank deposits of the two banks to their leverage exposure, the effective binding TLAC requirements decrease from 10.2% to 7.8% of LRE for BNYM and from 9.9% to 7.4% for State Street.

Second, the Standardized Approach to Counterparty Credit Risk (SA-CCR) final rule jointly approved by the OCC, the FRB and the FDIC in November 2019 includes a departure from the Basel SA-CCR standard for computing the derivative exposure<sup>41</sup> it intended to transpose. The alpha factor of 1.4 for exposures to commercial end-users was removed (resulting in an alpha factor 40% higher in the EU than in the US).

### ***2.2.3 An outcome-based approach to national implementations of TLAC***

As regards the quantitative calibration of requirements, one of the most striking aspects of the cross-jurisdictional comparison is the 9.5% TLAC leverage-based requirement in the US, which is far higher than the 6.75% leverage-based target of the international standard or that in the EU (6-7%). As evidenced above, this target does not lead to more stringent binding requirements in the US than in the EU. The US TLAC leverage-based requirement roughly doubles the prudential leverage ratio requirement, which is set at 5% in the US (3% plus 2% G-SIB buffer).

Considering US requirements, it is possible to make sense of this calibration by laying special emphasis on the dual objective followed by international standard setters: (i) to set some rules; (ii) to ensure that these rules lead to desired economic outcomes. For instance, if we take a rule-based approach, the prudential leverage ratio is set at 3% by international standard setters. If we take an outcome-based approach, the ratio aims to create an outcome where there is a backstop to risk-based prudential requirements and some restriction to banks' leverage. Similarly, according to the outcome-based approach, the TLAC international standard was calibrated at 6.75% of LRE by international

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<sup>41</sup> The leverage exposure is made up of four components : (a) on-balance sheet exposures; (b) derivative exposures; (c) securities financing transaction (SFT) exposures; and (d) off-balance sheet (OBS) items (BCBS, 2014).

standard setters to serve as a backstop to the 22.5% risk-based requirements (18% minimum level and assuming a 2.5% capital conservation buffer, a 1.5% average G-SIB buffer and a 0.5% CCyB).

Differences in RWA density justify different leverage-based calibrations in the US and the EU to reach the same outcome. The efficient calibration is indeed that which ensures the backstop effect of the leverage-based requirements with respect to the risk-based ones. The amount (in national currency) of eligible liabilities to TLAC required to meet both the 22.5% of RWA target and 6.75% of LRE target is the same when the risk density is equal to about 30%:

$$6.75\% \times LRE = 22.5\% \times RWA$$

$$\frac{6.75\%}{22.5\%} = \frac{RWA}{LRE} = 30\% = Risk\ density$$

Accordingly, the international standard can be considered as a requirement that was implicitly calibrated for banks with a 30% risk density. Based on the jurisdiction’s average risk density, there are two cases when it comes to the calibration of the national implementation of the internal standard:

- If the RWA density is about 30%, there is no room for optimising either the leverage-based or the risk-based requirements.
- If the RWA density is higher than 30%, the main constraint is the 22.5% risk-based requirement. Increasing the share of non-risky assets in the balance sheet would not deteriorate the risk-based TLAC ratio, while, at the same time, optimising the leverage-based ratio (by reducing it). Therefore, with an average risk density of 42% (as of December 2021), the calibration at 6.75% does not play its backstop role for US GIBs. Practically, to make this backstop efficient, the leverage-based requirement for US G-SIBs should be calibrated upwards to 9.5%, calculated as follows:

$$US\ TLAC\ Target_{LRE} \times LRE = 22.5\% \times RWA$$

$$US\ TLAC\ Target_{LRE} = 22.5\% * \frac{RWA}{LRE} = 22.5\% * Risk\ density = 22.5\% * 42\% = 9.5\%$$

This is the very same requirement that the Fed imposes on US G-SIBs.

Therefore, from an outcome-based standpoint, a 6.75% leverage-based target in the EU is equivalent to a 9.5% requirement in the US.

### 3 Is the MREL/US TLAC gap justified ?

As evidenced by the outcome-based approach put forth in section 2, national specificities may justify setting resolution requirements at different levels. The aim of this section is to determine whether the EU-US gap in loss-absorbing capacity requirements that we objectivised and quantified in section 2 can be justified. We proceed in two steps to answer this question. As a first step, we explore the current regulatory developments, namely the finalisation of Basel III, and show that they may widen the gap between the EU and the US in the coming years. As a second step, we argue that the nature of the gap seems to be unjustified, focusing on considerations pertaining to eligibility criteria and the extent to which the combination of higher funding costs and higher MREL targets for EU G-SIBs may increase the structural profitability gap between US and EU G-SIBs.

#### 3.1 Taking into account the effects of the finalisation of Basel III

##### 3.1.1 *The finalisation of Basel III in the EU*

In October 2021, the European Commission published its legislative proposal to amend CRR (OJEU, 2013b) (“CRR3 proposal”). The CRR3 proposal should represent the EU standard for the implementation of the final Basel III framework. The proposal contains some EU specific adjustments that are not part of the international standard (“the pure Basel III framework”). The new rules included in the Commission proposal should be gradually introduced from 1 January 2025.<sup>42</sup>

The annex of the September 2022 EBA Basel III monitoring report (EBA, 2022) exercise provides an assessment of the impact of EU implementation of the Basel III framework based on the December 2021 QIS data collection templates. The risk-based average impact on T1 Minimum Required Capital (MRC) due to the full implementation of Basel III (expected for 2033) stands at 17.1%. This impact on

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<sup>42</sup> For instance, the output floor will be gradually introduced from 1 January 2025 over a period of 5 years, from a starting value of 50% to its final value of 72.5%. Overall, the impact of the finalisation of Basel III in Europe will be spread out over up to 8 years (2033) through targeted transition provisions.

T1 MRC is essentially equivalent to the increase in RWA.<sup>43</sup> The change in MREL requirements is equal to the increase in RWA to the extent that the binding requirements are the risk-based requirements. More specifically, the implementation of the finalisation of Basel III has no impact on the target expressed in percent of RWA. However, the target will be applied to a higher RWA aggregate after the full implementation of Basel III and will result in more significant requirements in national currency (i.e. in EUR).

In particular, assuming that the risk-based requirements are, as a general rule, binding in the EU and applying the 17.1% impact on RWA to the eight EU G-SIBs, the average binding requirements would increase by more than one percentage point of LRE (from 8.4% of LRE to about 9.8%) after the full implementation.<sup>44</sup>

### **3.1.2 The finalisation of Basel III in the US**

As of end 2022, the FRB has not yet issued a proposed rule to implement the full Basel III framework in the US. It should be noted that the effect of the finalisation of Basel III should be considerably less significant in the US than in the EU, with new requirements to be potentially calibrated for “capital neutrality” across the entire US banking system. In particular, US G-SIBs are already subject to an output floor (the Collins output floor) of 100% for credit risk and market risk. The September 2022 BCBS Basel III monitoring (BCBS, 2022) estimates that the final Basel III would lead to a 2% increase in risk-based T1 minimum capital requirements in the Americas – a proxy for the US –, compared to a 20.3% increase for Europe, namely a 18 percentage points difference in impact.<sup>45</sup>

For four out of the eight US G-SIBs, as of December 2021, the binding TLAC requirements were the leverage-based ones. As the main channel through which Basel III leads to an increase in TLAC/MREL requirements is the increase of RWA, the finalisation of Basel III may only bring the risk-based requirements closer to the leverage-based ones with no impact on the overall binding requirements for those banks.

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<sup>43</sup> The change in RWA is actually higher than the change in T1 MRC, because the P2R requirements and SyRB buffer are computed based on the pre-floor RWA:  $MRC = \text{Floored RWA} \times [\text{Pillar 1 minima} + \text{CCB buffer} + \text{CCyCB buffer} + \max(G\text{-SII, } O\text{-SII buffer})] + \text{Pre-floor RWA} \times (P2R + \text{SyRB buffer})$ .

<sup>44</sup> CRR3 would also lead to an increase of the risk density of EU G-SIBs of a five percentage points order of magnitude (from 32% as of December 2021).

<sup>45</sup> The EU specific adjustments included in the CRR3 proposal are not considered in this report, which only focuses on the impact of the “pure” implementation of the international Basel III reform. This explains the higher impact.

As regards US G-SIBs that are strongly engaged in trading activities, the impact may be more significant than the average level due to the Fundamental Review of the Trading Book (FRTB) driving up market risk. However, as these banks are highly leveraged and have thus TLAC leverage-based requirements that are significantly higher than the risk-based requirements, the impact of the US standard for the finalisation of Basel III on the level of the binding requirements would only be very limited.

## **3.2 Considerations on the cost of MREL/US TLAC**

### ***3.2.1 Eligible instruments and funding costs in EUR and USD markets***

The comparison of the quantitative calibration of MREL/TLAC targets can be complemented by a focus on eligible instruments and their costs.

#### *The structural subordination of the US TLAC requirement*

The most important qualitative aspect to consider is that the US TLAC requirement is structurally subordinated while the MREL requirement may be partially met with non-subordinated senior-ranking liabilities up to a level equal to the difference between the full MREL target (27% average for EU G-SIBs) and the subordinated MREL target (20.6% average for EU G-SIBs as of Q2 2022). Issuing subordinated instruments leads to higher funding costs for banks, compared to senior debt. But the significance of the difference in subordination requirement between US and EU banks may be downplayed for three reasons.

First, as already mentioned, US G-SIBs have an HoldCo structure, while most EU G-SIBs have an OpCO model. It should thus be borne in mind that the subordination requirement is less of a binding requirement specific to the US TLAC framework than a mere consequence of the organisational structure of US GIBs, which were holding companies even before the TLAC final rule was issued.

Second, EU G-SIBs' subordinated MREL capacity is above their MREL targets, which implies that EU G-SIBs meet in practice their MREL requirements with subordinated instruments.<sup>46</sup> As of Q2 2022, the subordinated capacity of EU G-SIBs stood at about 27.5% while the average MREL target was 27%. Actually, the average subordinated MREL capacity of EU G-SIBs was higher than the 26.5% average

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<sup>46</sup> This may be explained by the fact that, through contagion effects, non-subordinated debt credit spreads may be brought too close to those of subordinated debt to make it a profitable alternative.

TLAC capacity (structurally subordinated) of Bank of America, Citigroup, JP Morgan Chase and Wells Fargo.<sup>47</sup>

#### *Funding costs and EUR/USD markets<sup>48</sup>*

Third, EU G-SIBs tend to pay higher spreads on their eligible debt than US G-SIBs for debt instruments of the same class and maturity. There is a differential in spreads in favor of US banks in both currencies, EUR and USD. Over the period from 2017 to 2022 (year-to-end), EU G-SIBs paid on average a 45 basis points premium on USD SNP bonds compared US G-SIBs' HoldCo senior bonds with 5-year tenor and about 30 basis points premium on EUR instruments (Figure 3).

In addition to the profile of individual institutions, the premium also reflects complex factors like the size and diversity of the investor base in the US (and the absence of a pan-European investor base) and the depth of US capital markets as opposed to the fragmentation of EU ones. US banks have deeper domestic market compared to EU banks. The USD global bond market is structurally twice deeper compared to the EUR market. USD and EUR issuance volumes from FIs represent on average respectively around 18% of the total issued volumes in USD and around 26% on average of total issued volumes in EUR, showing that European investors' concentration on FIs is higher compared to US investors. The economic costs of fragmented and narrow EU capital markets are most evident in stressed periods and crisis (for instance on the back of the 2022 geopolitical context in Europe, with peaks of 75-80 basis points and above 100 basis points, respectively for EUR and USD issuances in September and October 2022, see Figure 3).

These factors make it more difficult and costly for EU banks to build up their loss-absorbing capacity than for US banks. This is aptly illustrated by the fact that EU banks must issue some dollar-denominated debts in US markets, as EUR bank debts markets and the investor base are not deep enough to absorb the pressure of high issuance volumes, especially in stressed periods. The USD market represented about 25% of SNP/HoldCo issuance from Eurozone banks in 2022, showing the significant reliance of EU banks on it. In contrast, US G-SIBs rely on the EUR market for the issuance of TLAC-eligible senior unsecured instruments to a very limited extent, mainly for diversification

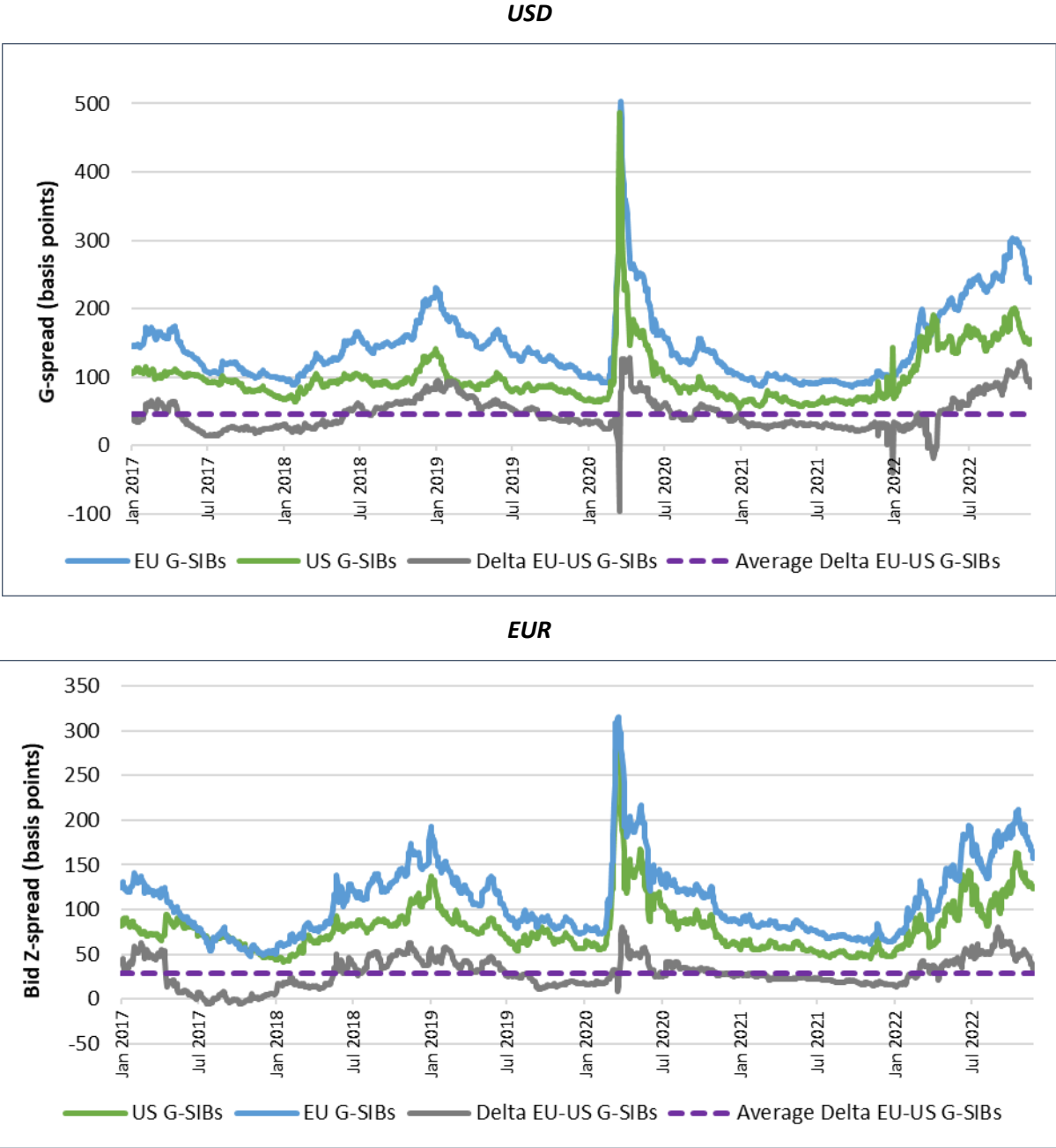
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<sup>47</sup> The average TLAC capacity for the eight US G-SIBs represents a weighted average of 29.6% of RWA (Q2 2022). It is driven up by the very high capacity of Goldman Sachs and Morgan Stanley (respectively 44% and 51% of RWA), which partly reflects their business model as investment banks.

<sup>48</sup> Sources: Dialogic and Bloomberg. Sample of US G-SIBs: Bank of America, Citigroup, JP Morgan Chase, Wells Fargo; EU G-SIBs: BNP Paribas, Deutsche Bank, ING, Santander, Société Générale, Unicredit.

reasons. The EUR market represented only 9% of HoldCo issuance from US G-SIBs in 2022 (year-to-end).

**Figure 3 – 5y NPS/HolCo Senior Spread: EU and US G-SIBs**



Source : Bloomberg

Importantly, it appears that the higher spreads of MREL/TLAC eligible instruments of EU G-SIBs compared to US banks cannot be explained either by a higher market estimate of the risk of failure of

EU G-SIBs compared to US ones<sup>49</sup> or a less significant progress towards resolvability in the EU compared to the US (FSB, 2022). But it should be borne in mind that the EU resolution framework may be less well-understood by market participants, given that resolution disclosure is for now less developed in the EU than in the US.

Given that EU-GSIBs meet in practice their MREL requirements with subordinated instruments – in particular, NPS bonds similar to HoldCo senior bonds – the differential in spreads in favor of US G-SIBs in both currencies implies that, on average, the impact on bank profitability of a 1% MREL/US TLAC requirement in the EU is more material than in the US.<sup>50</sup>

#### *Other differences in eligibility criteria*

In addition to the subordination requirement, we can mention four other notable differences in eligible criteria.<sup>51</sup>

- (i) The US TLAC framework does not allow eligible liabilities that are governed by the law of a third-country, unlike in the EU.
- (ii) The MREL framework in the EU explicitly prohibits rights to acceleration and restrictions to incentives to redeem, unlike in the US.
- (iii) As regards T1 capital, deduction rules for minority interests are more stringent in the US.
- (iv) The US TLAC rule currently imposes on banks a specific requirement that long-term debt is equal to the greater of 6% (plus binding G-SIB surcharge) of RWA and 4.5% of total leverage exposure. For the purpose of the eligible external LTD requirement, only 50% of the amount of eligible external LTD that is due to be paid between one and two years can be used. But this 50% haircut requirement does not apply to the TLAC requirement.

### **3.2.2 The structural profitability gap between US and EU G-SIBs**

The EU-US gap in loss absorbency requirements in resolution and funding costs should also be placed in the wider context of the existing profitability gap between US and EU banks. Large US banks derive

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<sup>49</sup> Considering the Credit Default Swap spreads as a proxy for market estimates of the risk of failure, this indicator for US G-SIBs is overall not lower than for EU G-SIBs.

<sup>50</sup> Quantifying rigorously the impact on bank profitability of divergent funding costs for eligible liabilities across the US and the EU is beyond the scope of this paper.

<sup>51</sup> See 12 CFR § 252.61 and articles 3(49b) SRMR and 72b CRR II respectively on the qualitative characteristics of US TLAC and MREL eligible instruments.



a return on equity roughly twice as high as that of large EU banks. For instance, in 2021, the return on equity of the eight US G-SIBs was about 13.7%, while it stood at only 7.1% for the six big French banking groups (Berthonnaud et al., 2022).<sup>52</sup> The structural difference in profitability does not stem from regulatory requirements. Structural reasons for why EU G-SIBs are less profitable than US G-SIBs include among others overcapacity of banking assets, limitations to the cross-border consolidation due to market fragmentation of the BU, lack of technological innovation or capacity to off-load assets from EU banks' balance sheets as in the US.

The feature of both MREL and TLAC is to impose costs on banks to reduce moral hazard and make them pay for the risk of their failure. The primary objective of resolution authorities is to make banks resolvable, not profitable. However, as argued by Hernáez et al. (2022), "*considering the importance of the banking sector in the European economy, banks' profits are a fundamental source of capital to support economic growth (through financial intermediation) and preserve financial stability*". In that respect, the profitability gap should also be considered in the broader context of the different structures of financing in the US and the EU economies. In Q1 2022, according to the Bank for International Settlements data, in the euro area, bank credit accounted for about 55% of total lending to households and nonfinancial corporations whereas in the US, it accounted for only 32%.<sup>53</sup> From a micro perspective, as of June 2022, the share of credit risk (including counterparty credit risk) represented an average of 84% of total RWA for the eight EU G-SIBs, while it only accounted for 67% of RWA for the eight US G-SIBs. This reflects the fact that some US G-SIBs are more heavily engaged in market activities and less involved with the real economy than EU G-SIBs.

In light of the above, MREL/TLAC requirements may widen the existing structural profitability gap to the extent that they are calibrated at a different level across jurisdictions – and with no objective and specific element justifying such difference from a resolvability perspective.

## Conclusion

As far as G-SIBs are concerned, MREL requirements in the BU are calibrated at a higher level than TLAC requirements in the US (3.5 percentage points of RWA average differential and more than four percentage points when excluding investment and custodian banks). The US TLAC framework seems

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<sup>52</sup> The four French G-SIBs, Groupe Crédit Mutuel and La Banque Postale.

<sup>53</sup> The size of the banking sector relative to the financial sector is also different: banking financial assets represented 37% of total financial assets in the euro area in 2020, compared to 22.5% in the US (FSB, 2021).

to be a mere implementation of the international TLAC standard, setting the leverage-based requirements at a higher minimum percentage level to take into account the high risk density of US G-SIBs compared to international peers. On the other hand, MREL (Pillar 2) requirements in the BU practically go beyond the international TLAC standard, with a calibration that more than doubles capital requirements<sup>54</sup> and a higher risk sensitivity.

The MREL framework has departed from the TLAC international standard, not only as regards its calibration but also as regards its scope of application. Though this paper focuses on G-SIBs, it should also be borne in mind that there are no resolution requirements similar to TLAC for non-G-SIBs in the US (as of end 2022<sup>55</sup>), while MREL requirements also apply for Top Tier (25.8% of TREA) and non-Pillar 1 banks (25.1% of TREA) in the BU (SRB, 2022).

Furthermore, the scope of application of MREL and TLAC can also be understood from a macrofinancial stability standpoint, with a view to ensuring the most extended coverage of risks across the banking system. In that respect, the levels of requirements applying to individual institutions, on which this paper focuses, is less important than the broadness of the scope of risks they encompass. A key aspect of the discussion about the coverage of risks by loss-absorbing capacity requirements in resolution should be the interaction between the banking and the non-bank financial sector in each jurisdiction. Importantly, in the US, there is partial transfer of the banking system's leverage and risk to entities that perform bank-like activities on the margins of the banking sector but avoid the prudential and resolution requirements of banks.<sup>56</sup> In addition to their higher level compared to the US, MREL requirements apply to a larger subset of financial assets of the economy in the EU.

Finally, MREL and TLAC are designed to be costly for banks. Importantly, eligible instruments' issuance costs, a function of both the level of the MREL/TLAC targets and credit spreads, are instrumental in reducing moral hazard. Eligible issuances' credit spreads largely depend on the liquidity, depth and investor base of each jurisdiction's capital markets, their monetary policy stance and banks' risk profile. In that respect, there is a structural differential in spreads of MREL/TLAC eligible instruments in favor

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<sup>54</sup> Owing to the MCC add-on to the RCA. In contrast, in the UK and the US, MREL and TLAC requirements roughly double capital requirements.

<sup>55</sup> On October 14, 2022, the FRB published an advance notice of proposed rulemaking soliciting public comments on the imposition of a long-term debt requirement on large banking organizations that are not G-SIBs in the US.

<sup>56</sup> It is well captured by the narrow concept of Non-Bank Financial Intermediation (NBFI) of the FSB (2021). NBFI comprises entities that engage in credit intermediation activities, including maturity/liquidation and imperfect credit risk or leverage, that may pose bank-like financial stability risks. Based on the FSB Global Monitoring Report on NBFI 2021 data, the size of assets of the narrow measure of NBFI amounted to 68% of total US financial assets of banks in 2020, while in the five EU jurisdictions that have at least a G-SIB (France, Italy, Germany, Spain and the Netherlands) it only accounted for a weighted average of 19%.

of US G-SIBs. However, the level at which loss-absorbing capacity requirements are set may differ across jurisdictions to an extent not justified by the characteristics of banks, their resolvability progress and their macrofinancial environment, raising level playing field issues. Accordingly, the MREL/US TLAC gap, which may be widened by the finalisation of Basel III, seems difficult to justify.

## References

BCBS (2014). Basel III leverage ratio framework and disclosure requirements, Basel Committee on Banking Supervision.

BCBS (2022). Basel III Monitoring Report – September 2022, Basel Committee on Banking Supervision.

Berthonnaud, P., Gollier, S., Harguindeguy, P., Leboulenger, D., Lecarpentier, S., Point, E., ... & Tupinier, L. (2022). *La situation des grands groupes bancaires français à fin 2021* (No. 136). Banque de France.

BoE (2021). The Bank of England's review of its approach to setting a minimum requirement for own funds and eligible liabilities (MREL) – Statement of Policy, Bank of England.

Cannata, F., Casellina, S., & Chionsini, G. (2020). Time to Go Beyond RWA Variability for IRB Banks: An Empirical Analysis. *European Banking Authority Research Paper*, (10).

Choulet, C. (2014). The leverage ratio – the appearance of simplicity , *Conjoncture*, BNP Paribas, N°5, June 2014.

Choulet, C., & Quignon, L. (2021). Analyse comparée de l'intermédiation financière dans la zone euro et aux États-Unis. *Revue d'économie financière*, (2), 63-85.

EBA (2017). EBA Report on IRB modelling practices, European Banking Authority, London.

EBA (2019). Results from the 2019 low-default and high-default portfolios exercise, European Banking Authority, Paris

EBA (2022). Basel III Monitoring Exercise – Results based on data as of 31 December, European Banking Authority, Paris

FDIC (2013). Resolution of Systemically Important Financial Institutions: The Single Point of Entry Strategy, Federal Deposit Insurance Corporation.

FSB (2011). Key Attributes of Effective Resolution Regimes for Financial Institutions, Financial Stability Board.

FSB (2015). Principles on Loss-absorbing and Recapitalisation Capacity of G-SIBs in Resolution, Total Loss-absorbing Capacity (TLAC) Term Sheet, Financial Stability Board.

FSB (2019). Review of the Technical Implementation of the Total Loss-Absorbing Capacity (TLAC) Standard, Financial Stability Board.

FSB (2021). Dashboard of main monitoring aggregates of the FSB's Global Monitoring Report on Non-Bank Financial Intermediation, Financial Stability Board.

FSB (2022). 2022 Resolution Report – “Completing the agenda and sustaining progress”, Financial Stability Board.

Ginnie Mae (2022). Global Markets Analysis Report – February 2022.

Gracie, A. (2014). Total Loss-Absorbing Capacity—the thinking behind the FSB Term Sheet, Speech given at Citi European Credit Conference.

Hernández, J. R., Bernad Herrera, A., Hierro, L., & Gómez-Bezales Revuelta, A. M. (2022). Reflections on the future business model of European banks and the supervisory approach. *Financial Stability Review/Banco de España, Spring 2022, p. 31-57.*

OJEU (2013a). Directive 2013/36/EU of the European Parliament and of the Council of 26 June 2013 on access to the activity of credit institutions and the prudential supervision of credit institutions and investment firms, Official Journal of the European Union.

OJEU (2013b). Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms, Official Journal of the European Union.

OJEU (2014a). Directive 2014/59/EU of the European Parliament and of the Council of 15 May 2014 establishing a framework for the recovery and resolution of credit institutions and investment, Official Journal of the European Union

OJEU (2014b). 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, Official Journal of the European Union.

SRB (2022). SRB MREL Dashboard Q2 2022, Single Resolution Board.

SRB (2022). SRB MREL Policy, Single Resolution Board.

Walter, J. R. (2019). US bank capital regulation: History and changes since the financial crisis. *Economic Quarterly*, (1Q), 1-40.