BASEL III MONITORING EXERCISE – RESULTS BASED ON DATA AS OF 31 DECEMBER 2021 (ANNEX – ANALYSIS OF EU SPECIFIC ADJUSTMENTS)

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EBA EUROPEAN BANKING AUTHORITY

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Abbreviations

BCBS	Basel Committee on Banking Supervision
CET1	Common equity tier 1
CRD	Capital requirements directive
CRR	Capital requirements regulation
CVA	Credit value adjustment
EBA	European Banking Authority
G-SIIs	Global systemically important institutions
LR	Leverage ratio
RWA	Risk-weighted assets
EC	European Commission

1. General remarks

1.1 Background and rationale

1. The Basel III monitoring report (hereinafter "the main report") provides an assessment of the impact of the Basel III reform package, as agreed in December 2017 by the Group of Central Bank Governors and Heads of Supervision, on a representative sample of EU/EEA banks. It therefore only presents the impact of the "pure" implementation of the Basel III reform package.

2. The current CRD 4-CRR 2 framework however contains EU specific adjustments that are not part of the Basel III framework (such as the SME and the infrastructure supporting factors) and which are therefore not considered in the main report.

3. Moreover, in October 2021 the European Commission published its legislative proposal to amend the Capital Requirements Regulation (Regulation 2013/575/EU)[1]; henceforth the "CRR3 proposal". The CRR 3 proposal represents the European Commission´s view of the implementation of the final Basel III framework in the European Union and it includes some additional EU specific adjustments that are also not part of the pure Basel III framework. These EU specific adjustments included in the CRR3 proposal are therefore also not considered in the main report.

4. This annex provides an assessment of the impact of the Basel III framework that includes most of the aforementioned EU specific adjustments. The purpose of this assessment is to better understand the impact of these adjustments relative to the impact of the implementation of the pure Basel III reform. At the time of writing this annex, the CRR3 proposal was still in its approval process and it could not be assumed that the final implementing regulation would exactly follow the CRR 3 proposal. Therefore, the effort in this annex to make a quantitative assessment of some of the proposed EU specific adjustments does not imply that the EBA assumes that the CRR 3 proposal would be approved one-to-one.

1.2 Methodology and sample

i. Sample and sources of information

5. The results of this annex are based on the QIS data collection templates and, in particular, on the additional EU panels and templates that were introduced in the December 2021 QIS data collection to gather data on certain EU specific adjustments.

6. The sample of this annex mirrors the sample of the main report. If no data was provided to measure the impact of a given EU adjustment, or the data was not considered of sufficient quality, the affected bank is included in the sample but no impact is assigned to the relevant EU adjustment for this bank.

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:52021PC0664

ii. Methodology and scenarios

7. The methodology of this annex largely follows the methodology used in the main report. The annex does however consider additional implementation features that are either part of the current CRD 4-CRR 2 framework or of the CRR 3 Proposal. Table 1 presents the main implementation features of the scenario measured in this annex in comparison to the one used in the main report.

Table 1: Comparison of the main implementation features of the analysis of EU specific adjustments and the main Basel III report.

Risk Area	Basel III	Basel III with EU adjustments (current scenario)
Credit Risk	✓SA-CR: ECRA framework adopted ✓SA-CR: loan-splitting method adopted on GRRE, GCRE, IPCRE + hard test	✓SA-CR: ECRA framework adopted ✓SA-CR: loan-splitting method adopted on GRRE, GCRE, IPCRE + hard test ✓ SME supporting factor (SA and IRB) ✓ Infrastructure supporting factor (SA and IRB) ✓CRR 3 proposal for equity (SA and IRB) ✓ SFTs Postponement of minimum haircut floors (SA and IRB) ✓CRR3 proposal for PSE and RGLA (IRB only)
CVA	✓Final CVA framework (July 2020) ✓No CVA exemptions ✓ CVA simplified method (based on EUR 100 billion threshold)	✓Final CVA framework (July 2020) ✓CVA exemptions ✓CVA simplified method (based on OEM eligibility criteria)
Operational Risk	✓ILM: bank-specific[1] ✓Minimum loss threshold: EUR 20 000	✓ILM = 1 for bucket 2 and 3 banks
Transitional arrangements Output floor	✓ Output floor calibration (2023-2028)	✓Output floor calibration (2025-2030) ✓CRR 3 Proposal transitional arrangements for unrated corporates ✓CRR 3 Proposal transitional arrangements for Residential Real Estate exposures ✓CRR 3 Proposal transitional arrangements for the SACCR Calibration

1 The main report also includes an additional assessment of the implementation of ILM = 1 in the output floor section.

8. The features considered in this annex are as follows:

- **SME supporting factor:** maintaining the supporting factor for exposures to SMEs envisaged in the current CRD 4-CRR 2 framework under SA and IRB (also including it in non-modelling RWAs for the purpose of the output floor calculation);

- **Infrastructure supporting factor:** maintaining the supporting factor for exposures to infrastructure projects envisaged in the current CRD 4-CRR 2 framework under SA and IRB (also including it in non-modelling RWAs for the purpose of the output floor calculation);

- **CRR 3 proposal for equity:** including the preferential risk-weight foreseen in article 133 and article 495a of the CRR 3 Proposal for certain types of equity exposures under the SA and IRB (also including it in non-modelling RWAs for the purpose of the output floor calculation).

- **Postponement of minimum collateral haircut floors for SFTs (SA and IRB):** not including the minimum collateral haircut floors as defined by the comprehensive approach for collateralised transactions (CA(SH)) which is applicable in the Basel Framework (2023) to SFT exposures under SA and IRB (also including it in non-modelling RWAs for the purpose of the output floor calculation).

- **CRR 3 proposal for PSE and RGLA:** including an alternative treatment for exposures under the IRB that are classified as regional governments and local authorities (hereafter RGLA) as well as public sector entities (hereafter PSE) as defined in Article 151(11) of the CRR 3 Proposal.

- **CVA exemptions:** maintaining the CVA exemptions envisaged in the current CRD 4-CRR 2 framework in the own fund requirements for CVA risks;

- **CVA simplified method:** reusing the eligibility criteria of the original exposure method (OEM) (see Article 273a(2) of the CRR2) [2] for the eligibility criteria of the simplified method for the own funds requirements for CVA risks;

- **ILM = 1**: assuming that the EU will exercise the discretion included in the final Basel III framework to set the historical loss component equal to 1 on the own-funds requirements for operational risk for buckets 2 and 3 banks only.

- **CRR 3 Proposal transitional arrangements to the output floor:** including some of the transitional arrangements that are foreseen in article 465 of the CRR 3 proposal for the purpose of the output floor calculation. Those transitional arrangement will imply a temporary preferential treatment to calculate the non-modelling RWAs that are used calculate the output floor impact on a transitional basis:

[2] Article 273a(2) of the CRR2 specifies that an institution may use the OEM, provided that the size of its on- and off-balance-sheet derivative business is equal to or less than both of the following thresholds on the basis of an assessment carried out on a monthly basis using the data as of the last day of the month: (a) 5 % of the institution's total assets; b) EUR 100 million.

- **Unrated corporates:** including the transitional preferential treatment to exposures to corporates as defined in article 465 (3) of the CRR 3 proposal.
- **SA-CCR Calibration:** including the transitional calibration for the application of the SA-CCR approach (alpha = 1) as defined in article 465(4) of the CRR 3 proposal.
- **Residential Real Estate (hereafter 'RRE'):** including the transitional preferential treatment to exposures secured by real estate if institutions pass the so-called "super hard test" as defined in article 465 (5) of the CRR 3 proposal.
- **Output floor calibration:** including the phased-in period for the output floor calibration as foreseen in the CRR 3 proposal (2025-2030) which differs from the period foreseen in the pure Basel III agreement (2023-2028).

9. The main report calculates the Minimum Required Capital by multiplying the RWAs by the sum of the following capital requirements:

   - GSIIs surcharge (if any),
   - Capital conservation buffer, and
   - Pillar I minimum requirements.

   In order to facilitate the comparison with the results included in the main report, as a general rule, this annex follows the same methodology. However, in addition to the existing EU specific features described in Table 1, section *2.5 Introduction of EU buffers and Pillar 2 capital requirements* of this annex adds to the minimum capital requirements all other applicable capital buffers and P2R requirements, namely:

   - Max (GSIIs, OSIIs)
   - Systemic risk buffer (SyRB)
   - Conservation buffer due to macro-prudential or systemic risk identified at the level of a Member State
   - Countercyclical buffer
   - Pillar II capital requirements (P2R)

10. When applying these buffers, section 2.4 of this annex follows the provisions included in Article 104a paragraph 6 of the CRD 5 proposal with regards to the application of P2R and the SyRB capital requirements. More specifically, the CRD 5 proposal indicates that the P2R and SyRB buffers should be "frozen" to avoid such automatic increases in the amount of required regulatory capital that may arise from higher RWAs when the institution becomes bound by the output floor, all else being equal.

    As of December 2021, the only data available for P2R and the EU buffers were those applicable to institutions on that date, and therefore the available data does not consider the above mentioned provisions of the CRD 5 proposal. To avoid any arithmetic increases in the MRC calculation that are driven by the output floor impact, the P2R and SRB requirements have been applied as percentages to the pre-floored RWAs only. As a result, the P2R and SyRB requirements will not automatically increase with the implementation of the output floor, but they may still vary due to the changes in pre-floored RWAs. The following equation summarises the formula that was used to calculate the MRC in section *2.5 Introduction of EU buffers and Pillar 2 capital requirements* of this annex:

MRC = sum of:
Floored RWA × [Pillar 1 minima + CCB buffer + CCyCB buffer + max (G-SII, O-SII buffer)];
Pre-floor RWA × (Pillar 2 requirements + SyRB buffer)

iii. Data quality issues and interpretation of the results

11. The results should be interpreted with caution, considering data quality and several simplifying and conservative assumptions that together may result in an overestimation of the capital impact:

- Treatment of data quality issues: If no data was provided or if the data provided to measure the impact of a given EU adjustment was not considered of sufficient quality, no impact was assigned to the relevant EU adjustment for the affected bank. As a result, there might be an underestimation of the beneficial effect of EU specific adjustments, that would in turn result in an overestimation of the capital impact. Data quality issues were particularly relevant for the impact of the SME and Infrastructure supporting factor.

- Static balance sheet assumption: institutions do not react to the revised requirements by adjusting their businesses and/or managing their regulatory capital costs.

- Static requirements assumption: Pillar 2 and combined buffer requirements as of December 2021, defined as a percentage of the bank's RWA, were used both for the CRR baseline and the EU-specific scenario. Higher RWA resulting from the implementation of the revised framework may lead – in some cases – to a revision and, possibly, re-calibration of the Pillar 2 and buffer requirements.

- Profit retention to cover capital shortfall: the cumulative impact analysis assumes no role for profit retention in rebuilding the capital base.

2. Main Findings

2.1 Cumulative impact analysis of the final Basel III reform

12. Based on December 2021 data, the implementation of the final Basel III standards under the EU Specific scenario is expected to increase European banks' T1 MRC by 10.7%, as shown in Table 2. The output floor (+6.8%) remains the key driver of the impact, with market risk (+1.8%)[3] , operational risk (+1.7%) and credit risk (+1.7%), being the second and third most important drivers. The revised CVA framework (+0.4%) contributes less to the total impact.

13. Compared to the results shown in the main report, the implementation of the final Basel III standards under the EU Specific scenario is expected to increase European banks' T1 MRC by 4.3 p.p. less (Table 2). The main drivers of such reduction are credit risk (-2.7 p.p.), CVA (-2.2 p.p.) and operational risk (-2.0 p.p.). A slight increase in the impact of the output floor (0.5 p.p.) partly offsets these MRCs decreases. More importantly, the reductions in total MRCs are partially offset by an increase in the Leverage Ratio impact (2.2 p.p.) which is due to the interaction between the risk-based MRCs and the Leverage ratio MRCs. Lower risk-based MRCs imply that the Leverage Ratio becomes more binding for a subset of institutions.

14. Results in this section show the impact of the full implementation of the Basel III framework under the EU-specific scenario. This means that the mitigating effect of the output floor transitional arrangements that are part of the EU specific scenario are not included in these results. This is one of the key differences with the methodology used by the European Commission in the impact assessment accompanying the CRR 3 proposal which included the transitional arrangements to the output floor for unrated corporates and the SA-CCR calibration in the fully loaded impact results (see section *3 Comparison with the European Commission's Impact assessment*). The temporary mitigating effect of the output floor transitional arrangements is shown in section *2.4 Output floor results under the transitional implementation* of this annex).

[3] As in the main report, the market risk impact is based on the 'conservative estimation' that adjust the bias identified in the equity investment in funds (EIFs) impact reported by large institutions.

Table 2: Delta of the change in total T1 MRC, as a percentage of the overall current Tier 1 MRC, between the Basel III and the EU specific scenario (full implementation of Basel III (2033))

Bank group	Scenario	Credit risk				Market risk	CVA	Op Risk	Output floor	Other Pillar 1	Total risk-based	Revised LR	Total
		SA	IRB	Securitisation	CCPs								
All banks	**Basel III**	2.6	1.8	0.0	0.0	1.8	2.6	3.7	6.3	-0.6	18.2	-3.3	15.0
	Delta; of which:	*-1.1*	*-1.6*	*0.0*	*0.0*	*0.0*	*-2.2*	*-2.0*	*0.5*	*0.0*	*-6.4*	*2.2*	*-4.3*
	SME SF	*-0.5*	*-1.1*	*na*	*na*	*na*	*na*	*na*					
	INF SF	*-0.2*	*-0.2*	*na*	*na*	*na*	*na*	*na*					
	Equity	*-0.4*	*-0.1*	*na*	*na*	*na*	*na*	*na*					
	SFTs	*-0.04*	*-0.2*	*na*	*na*	*na*	*na*	*na*					
	RGLA/PSE	*na*	*0.1*	*na*	*na*	*na*	*na*	*na*					
	CVA exemptions	*na*	*na*	*na*	*na*	*na*	*-2.2*	*na*					
	ILM = 1	*na*	*na*	*na*	*na*	*na*	*na*	*-2.0*					
	EU-Specific	1.5	0.2	0.0	0.0	1.8	0.4	1.7	6.8	-0.6	11.8	-1.1	10.7

Source: EBA QIS data (December 2021), sample 160 banks

Table 3: Change in total T1 MRC, as a percentage of the overall current Tier 1 MRC, due to the full implementation of Basel III (2033) under the EU specific scenario (weighted averages, in %)

Bank group	Credit risk				Market risk	CVA	Op Risk	Output floor	Other Pillar 1	Total risk-based	Revised LR	Total
	SA	IRB	Securitisation	CCPs								
All banks	1.5	0.2	0.0	0.0	1.8	0.4	1.7	6.8	-0.6	11.8	-1.1	10.7
Group 1	1.2	0.1	0.0	0.0	2.0	0.4	2.0	7.8	-0.7	12.8	-0.8	12.0
Of which: G-SIIs	1.7	1.2	0.0	0.0	3.5	0.8	2.4	7.7	-0.2	17.1	2.9	20.0
Group 2	3.0	0.9	0.0	0.0	0.5	0.3	0.3	1.9	0.0	7.0	-2.6	4.3

Source: EBA QIS data (December 2021), sample 160 banks

2.2 A focus on the impact of EU specific adjustments

15. As explain in section *1.2 Methodology and sample*, the impact figures in this annex, include the effect of EU specific adjustments that are either part of the current CRD 4-CRR 2 framework or of the CRR3 Proposal.

16. The reduction of the credit risk impact under the EU specific scenario is driven by those EU specific adjustments which imply a reduction of the applicable risk-weights (Table 2). The most important factors that reduce the contribution of the credit risk reform (both SA and IRB) to the total T1 MRC change are those features which are already part of the current CRD 4-CRR 2 framework (around -1.6 p.p. due to the inclusion of the CRR2 SME supporting factor and around -0.4 p.p. due to the inclusion of the infrastructure supporting factor). These results should be interpreted with caution as there were significant data quality issues on the impact of the SME

and infrastructure supporting factors which might result in an underestimation of their beneficial effect which would, in turn result in an overestimation of the overall capital impact[4]. In contrast, the features that are part of the CRR 3 proposal and are therefore still being discussed, contribute less to the reduction of the credit risk impact (-0.7 p.p. in total). The postponement of the minimum haircut floors and the more favorable treatment of equity exposures under the CRR3 proposal reduce the contribution of the credit risk reform to the total impact (around -0.3 p.p. and around -0.5 p.p. respectively). The introduction of the CRR 3 proposal treatment for Regional Governments and Public sector entities (RGLA-PSE) has a very limited positive impact to the contribution of the IRB reform to the total T1 MRC change.

17. The implementation of the CVA exemptions, which are also part of the current CRD 4-CRR 2 framework, would decrease the contribution of CVA risk to the total MRC change by 2.2 p.p. compared to the pure Basel III implementation scenario (Table 2). Regarding operational risk, as discussed in the relevant section of the main report, the impact is highly sensitive to the national discretion to set ILM = 1 for bucket 2 and bucket 3 banks. If applied, the impact of the operational risk reform would be more than halved relative to the scenario that uses the bank specific ILM figures (-2.0 p.p. as shown in Table 2). Such discretion is one of the features included in the CRR 3 proposal and is therefore still being discussed.

2.3 Capital shortfalls

18. Following the methodology of the main report, the introduction of the revised Basel III framework under the EU specific scenario means that three institutions will show a capital shortfall. The aggregate total capital shortfall (not at CET1 level) is EUR 0.7 billion (Table 4). Compared to the results in the main report, the shortfall in total capital decreases by EUR 1.0 billion, of which 0.5 billion comes from CET1. The reduction comes from the decrease in MRCs for one of the three banks with a shortfall, as a result of the introduction of the EU specific adjustments. In particular, this bank experienced a decrease in its MRC due to the introduction of the RGLA-PSE IRB category.

Table 4: Capital shortfalls by bank group under full implementation of Basel III under the EU specific scenario (EUR billion)

		Tier 1			Total capital	
Bank group	**CET1**	**Risk-based**	**Stand-alone LR-based**	**Risk-based and LR-based Tier 1**	**Risk-based**	**Risk-based total capital and LR-based Tier 1**
All banks	0.0	0.0	0.4	0.4	0.3	0.7
Group 1	0.0	0.0	0.4	0.4	0.0	0.4
Of which: G-SIIs	0.0	0.0	0.4	0.4	0.0	0.4
Group 2	0.0	0.0	0.0	0.0	0.3	0.3

Source: EBA QIS data (December 2021), sample 160 banks

[4] See section *1.2 iii) Data quality issues and interpretation of the results* for further details.

2.4 Output floor results under the transitional implementation

19. This section assesses the impact of four separate transitional arrangements over the transitional period from 2025 to 2030[5] (Table 5):

- **The calibration of the output floor:** similar to the output floor results shown in the main report under the transitional implementation, the calibration of the output floor will be phased in starting from 50% of the total floored RWA in the first year of the transitional period and progressively increasing every year to reach the 72.5% steady-state level at the end of the transitional period[6.]

- **Additional output floor transitional arrangements that go beyond 2030**, the year when the 72.5% recalibration of the output floor is supposed to be applied. These additional transitional arrangements are particular of the EU-specific scenario and lower the non-modellable RWAs which are to be compared with the modellable RWAs to calculate the output floor impact. The inclusion of the following transitional arrangements will therefore lower the impact arising from the output floor on a transitional basis:
  - CRR 3 Proposal on transitional arrangements for unrated corporates
  - CRR 3 Proposal on transitional arrangements for Residential Real Estate exposures
  - CRR 3 Proposal on transitional arrangements for the SACCR Calibration

20. During the phase-in period, the contribution of the output floor to the total MRC impact steadily increases under the EU-specific Basel III scenario:

- The contribution of the output floor adds less than 0.5 p.p. to the total MRC change for calibration levels below 65% until the end of year three (2027) of the six-year transition period for all banking groups;

- Beyond the 60% calibration level, the contribution of the output floor to the total MRC change more than doubles every year until the end of year five (2029), reaching +2.3% (3.2% for G-SIIs) when the output floor calibration is at 70%;

- In 2030, when the output floor reaches its steady-state 72.5% calibration, the contribution of the output floor to the EU average MRC is +3.6%. (5.0% for G-SIIs). On that year, the output floor impact is still transitional under the EU-specific scenario as the aforementioned additional transitional arrangements are still applicable. The difference of -3.2 p.p. between the results shown in Table 5 for year 2030 and the results shown in Table 3 represent the temporary reduction in the contribution of the output floor to the EU

[5] Transitional period as specified in Article 465 of the CRR 3 Proposal

[6] Note that the transitional period shown in this annex is 2025 to 2030 following Article 465 of the CRR3 proposal. The main report shows the transitional period as defined in the pure Basel III framework (2023 to 2028).

average MRC that is the result of the EU-specific CRR 3 proposal on transitional arrangements.

Table 5: Cumulative output floor impact during the implementation phase under the EU Specific scenario (% of the total CRD 4-CRR 2 Tier 1 MRC)

Bank group	2025 -50%	2026 -55%	2027 -60%	2028 -65%	2029 -70%	2030 -72.50%
All banks	0.0	0.0	0.1	0.8	2.3	3.6
Group 1	0.0	0.0	0.1	0.8	2.6	4.0
Of which: G-SIIs	0.0	0.0	0.0	1.0	3.2	5.0
Group 2	0.0	0.1	0.3	0.6	1.0	1.4

Source: EBA QIS data (December 2021), sample 160 banks

21. Due to the interaction with the leverage ratio, the reduction of the contribution of the output floor to the EU average MRC during the phase-in period does not lead to a one to one reduction in the overall EU average MRC. During the phase-in period, the risk-based T1 MRC declines and therefore, the leverage ratio appears as more binding. As shown in Table 6, the temporary reduction in the contribution of the output floor to the EU average MRC between year 2030 and year 2033 as a result of the EU-specific CRR3 proposal on transitional arrangements (– 3.2 p.p), in fact results only in a -1.1 p.p reduction in the overall EU average MRC.

Table 6: Comparison of the cumulative output floor, leverage ratio and total T1 MRC impact between year 2033 (fully loaded implementation) and year 2030 (last year of the implementation phase) (% of the total CRD 4-CRR 2 Tier 1 MRC)

Bank group	Implementation year	Output floor	Total risk-based	Revised LR	Total
All banks	**2033**	6.8	11.8	-1.1	10.7
	Delta	*-3.2*	*-3.2*	*2.1*	*-1.1*
	2030	3.6	8.6	1.0	9.6

Source: EBA QIS data (December 2021), sample 160 banks

2.5 Introduction of EU buffers and Pillar 2 capital requirements

22. This section presents results under the EU-specific scenario when all applicable buffers and P2R requirements are included in the calculation of the minimum required capital. As explained in section *1.2 Methodology and sample,* following the indication of Article 104a paragraph 6 of the CRD 5 proposal, to avoid arithmetic increases in the MRC calculation that are driven by the output floor impact, the P2R and SRB requirements are here applied as percentages to the pre-floored RWAs only. Also, it should be noted that results in this section follow the static requirements assumption[7], which means that results do not consider any potential revision or re-calibration of the Pillar 2 and buffer requirements that may follow the increase in RWA under the revised Basel III framework.

[7] See section *1.2 iii) Data quality issues and interpretation of the results* for further details.

i. Cumulative impact analysis of the final Basel III reform

23. T1 MRC changes calculated using all buffers and requirements show, in general, a very small difference in comparison with the T1 MRC changes that are calculated using the G-SIIs surcharge, CCB and Pillar 1 requirements only (shown in Table 2). The rationale behind this small difference is methodological. To calculate the risk-based T1 MRC changes, the delta between the revised T1 MRC risk-based and the current T1 MRC risk-based is calculated applying the same set of buffers to both sides of the equation. The relative increase is then calculated as the ratio between this delta and the maximum of the current T1 MRC risk-based and the current T1 MRC leverage ratio-based. For this reason, the differences arise from the different interaction with the Leverage Ratio, as the latter once again becomes less binding after the introduction of all buffers and P2R requirements in the calculation of the risk-based T1 MRCs.

24. All in all, as of December 2021, the implementation of the final Basel III standards under the EU Specific scenario is expected to increase T1 MRC by 11.5% as shown in Table 7. The output floor (+6.4%) remains the key driver, explaining more than half of the total impact, with market risk (+1.8%) and operational risk (+1.7%) following, respectively, as the second and the third most important drivers of the impact. In contrast to the results shown in the main report, the credit risk reforms (+1.6%) and the revised CVA framework (+0.4%) contribute less to the total impact.

25. It should be stressed again, that the results in this section show the impact of the full implementation of the Basel III framework under the EU-specific scenario and do not include the additional mitigating effect of the output floor transitional arrangements that are part of the EU specific scenario.

Table 7: Change in total T1 MRC, as a percentage of the overall current Tier 1 MRC, due to the full implementation of Basel III (2033) under the EU specific scenario (including all buffers and P2R capital requirements) (weighted averages, in %)

Bank group	Credit risk				Market risk	CVA	Op Risk	Output floor	Other Pillar 1	Total risk-based	Revised LR	Total
	SA	IRB	Securitisation	CCPs								
All banks	1.5	0.1	0.0	0.0	1.8	0.4	1.7	6.4	-0.7	11.3	0.3	11.5
Group 1	1.2	-0.1	0.0	0.0	2.1	0.4	2.0	7.3	-0.8	12.1	0.5	12.7
Of which: G-SIIs	1.8	1.1	0.0	0.0	3.6	0.8	2.4	7.1	-0.2	16.6	1.4	18.0
Group 2	3.0	1.0	0.1	0.0	0.6	0.3	0.1	1.6	0.0	6.7	-1.0	5.7

Source: EBA QIS data (December 2021), sample 160 banks

ii. Capital shortfalls

26. The impact of the introduction of the additional requirements and buffers is more visible in the capital shortfalls, as the MRCs under the revised Basel III framework will become higher. The introduction of the revised Basel III framework under the EU specific scenario when considering all buffers and capital requirements will result in a shortfall in total capital of EUR 10.1 billion, of which EUR 0.6 billion CET1 (Table 8). The capital shortfall is expected to arise mainly from large institutions, with G-SIIs accounting for 77% of the total amount.

27. Specifically, the higher capital shortfall compared to the shortfall that was shown in Table 4 (+9.4bn), mainly originates from 4 banks that report a shortfall when all buffers and capital requirements are included in the calculation.

Table 8: Capital shortfalls by bank group under full implementation of Basel III under the EU specific scenario (including all buffers and P2R capital requirements; EUR billion)

		Tier 1			Total capital	
Bank group	**CET1**	**Risk-based**	**Stand-alone LR-based**	**Risk-based and LR-based Tier 1**	**Risk-based**	**Risk-based total capital and LR-based Tier 1**
All banks	0.6	1.0	0.4	1.4	9.7	10.1
Group 1	0.5	0.9	0.4	1.3	9.2	9.6
Of which: G-SIIs	0.0	0.0	0.4	0.4	7.5	7.8
Group 2	0.0	0.1	0.0	0.1	0.5	0.5

Source: EBA QIS data (December 2021), sample 160 banks

iii. Output floor results under the transitional implementation

28. Following the same rationale as for the cumulative results under the fully loaded implementation, the contribution of the output floor to the total MRC impact during the phase-in period considering all buffers and P2R requirements (Table 9), shows in general a very small difference in comparison with the output floor contribution that is calculated using the G-SIIs surcharge, CCB and Pillar 1 requirements only (shown in Table 5). During the phase-in period, the contribution of the output floor to the total MRC impact steadily increases under the EU-specific Basel III scenario when all buffers are considered. In 2030, when the output floor reaches its steady-state 72.5% calibration, the contribution of the output floor to the EU average MRC is +3.3%. (4.6% for G-SIIs).

Table 9: Cumulative output floor impact during the implementation phase under the EU Specific scenario (including all buffers and P2R capital requirements; EUR billion) (% of the total CRD 4-CRR 2 Tier 1 MRC)

Bank group	2025 -50%	2026 -55%	2027 -60%	2028 -65%	2029 -70%	2030 -72.50%
All banks	0.0	0.0	0.1	0.7	2.1	3.3
Group 1	0.0	0.0	0.1	0.7	2.4	3.7
Of which: G-SIIs	0.0	0.0	0.0	0.9	2.9	4.6
Group 2	0.0	0.1	0.2	0.5	0.9	1.3

Source: EBA QIS data (December 2021), sample 160 banks

29. As shown in Table 10, the temporary reduction in the contribution of the output floor to the EU average MRC between year 2030 and year 2033 as a result of the EU-specific CRR3 proposal on transitional arrangements (– 3.1 p.p), results in a - 3.0 p.p reduction in the overall EU average MRC. Differently from the results calculated using the G-SIIs surcharge, CCB and Pillar 1 requirements only (shown in Table 6), the temporary reduction in the contribution of the output floor to the EU average MRC between years 2030 and 2033 is much closer to the reduction in the overall EU average MRC. This is, once again, because of the leverage ratio becoming less binding following the introduction of the additional capital buffers and P2R requirements.

Table 10: Comparison of the cumulative output floor, leverage ratio and total T1 MRC impact between year 2033 (fully loaded implementation) and year 2030 (last year of the implementation phase), Including all buffers and P2R capital requirements (% of the total CRD 4-CRR 2 Tier 1 MRC)

Bank group	Implementation year	Output floor	Total risk-based	Revised LR	Total
All banks	**2033**	6.4	11.3	0.3	11.5
	Delta	-3.1	-3.1	0.1	-3.0
	2030	3.3	8.2	0.4	8.5

Source: EBA QIS data (December 2021), sample 160 banks

3. Comparison with the European Commission's Impact assessment

30.In October 2021, the European Commission published its impact assessment [8] of the implementation of the Basel III reforms, accompanying the publication of the CRR 3 proposal. The European Commission´s impact assessment took as the starting point the results of the EBA updated impact study[9] on the Basel III reforms that was published in December 2020, and included additional estimations of some EU specific adjustments that were foreseen in the CRR3 proposal but were not covered in the aforementioned EBA impact study.

31.The cumulative results presented in section 2.5 *"Introduction of EU buffers and Pillar 2 capital requirements"* of this annex include all buffers and P2R requirements to calculate the MRCs, similarly to the European Commission´s impact assessment. However, the two assessments are nevertheless not directly comparable due to different samples and some methodological differences. The main differences between the two exercises are summarised in Table 11 and described below:

- The two reports apply different sequencing when estimating the capital requirements for the output floor and the leverage ratio. This has an impact on the relative minimum required capital that will be assigned to these two categories, but not on the cumulative impact.

- The European Commission´s impact assessment was based on the 'reduced bias estimation' for market risk, that was introduced to adjust the bias introduced by overly conservative data reported by a subset of banks under the item 'Equity Investments in Funds' (EIF).[10] Under the previous 'reduced bias estimation', the total market risk impact for institutions reporting overly conservative data was simply set to zero. In this annex, the methodology to correct for the overly conservative estimates has changed, in line with the methodology applied in the main report and the methodology applied by the BIS Secretariat in their own QIS study. Under the new methodology to correct for the 'conservative estimations', the data on EIF are adjusted to recognise 20% of the reported value. This change in the methodology, together with even more conservative reported data in Dec 2021, results in a significant increase in the market risk impact between the two exercises.

[8] See Impact assessment accompanying the CRR3/CRD5 Proposals.

[9] See EBA report "Basel III reforms: updated impact study".

[10] As explained in detail in the main report, some large banks choose to treat all trading book positions in category "Equity Investment in Funds", where modelling is no longer allowed according to the look-through requirements, by applying the most conservative standardised approach available. The use by these banks of this so-called "other bucket" treatment means that the equity risk impact of the FRTB will be subject to the highest applicable risk weights. By choosing this approach, these banks ignore other possible treatments, such as the index treatment or the mandate-based approach, which are used by most other institutions in the peer group.

- Additionally, there are some differences in scope between the Commission´s impact assessment and this annex:
  - The European Commission´s impact assessment added the effect of the preferential treatment for unrated corporates and the recalibration of SA-CCR for the purpose of calculating the output floor under the fully loaded scenario, whereas the current annex includes these items as transitional arrangements.
  - The European Commission´s impact assessment covers the Market risk impact of the treatment of CIUs and calibration of EU ETS, which are outside the scope of the current annex.
  - The European Commission´s impact assessment does not include the effect of the introduction of the RGLA-PSE category under the IRB, nor the transitional arrangements applicable to exposures secured by residential real estate for the output floor calculation.

- Finally, there are some additional differences related to the application of the criteria for exclusion, scaling factors and the calculation of the IRB shortfall of provisions. These differences are due to the updates in the methodology of the main report.

Table 11: Summary of the methodological differences between results shown in this annex and the EC's impact assessment accompanying the publication of the CRR 3 proposal

Methodological differences	**Annex - Analysis of EU specific adjustments**	**Impact Assessment accompanying the CRR 3 proposal**
Sample	160 banks	99 banks
Presentation of results	Output floor impact shown before the Leverage ratio impact	Leverage ratio impact shown before the Output floor impact
Market risk methodology	Data on EIF are adjusted to recognise 20% of the reported value for institutions reporting overly conservative data was set to zero	Based on the 'reduced bias estimation' for market risk - the total market risk impact for institutions reporting overly conservative data was set to zero
Output floor transitional arrangements for unrated corporates and for SA-CCR recalibration	Not included in the fully loaded cumulative results – transitional mitigating effect on the output floor impact shown in a separate section	Included as part of the fully loaded cumulative results
Market risk impact of the treatment of CIUs and calibration of EU ET	Not covered	Included as part of the fully loaded cumulative results
Effect of the introduction of the RGLA-PSE category	Included as part of the fully loaded cumulative results	Not covered
Output floor transitional arrangements applicable to exposures secured by residential real estate	Included as a transitional mitigating effect on the output floor impact (Not included in the fully loaded cumulative results)	Not covered

32. Keeping in mind that the above mentioned differences in the samples and the estimation methodologies make the estimates slightly heterogeneous, the overall magnitude of the impact of the introduction of the final Basel III standards as assessed in this annex is in line with estimates presented in the European Commission´s impact assessment. According to the latter, the implementation of the final Basel III standards with EU specific adjustments is expected to increase the T1 MRC between 6.4% and 8.4% under the fully loaded scenario. The current annex estimates the impact to be somewhat higher, at 8.5% of the T1 MRC (Table 10) during the last year of the implementation phase (year 2030). This is the most comparable[11] impact as it includes the mitigating effect of the output floor transitional arrangements for unrated corporates and SA-CCR, which was included in the European Commission´s numbers. The bulk of the remaining difference can be attributed to the differences in the market risk methodology that were discussed above. Overall, therefore, the estimated impacts are very close to each other. However, the T1 MRC impact is 11.5% under the fully loaded scenario, without considering the mitigating effect of the output floor transitional arrangements which can be approximated to -3.0 p.p.

33. Regarding the shortfall amounts, the European Commission´s impact assessment identified a Total Capital shortfall at around 26.3 bn EUR following the Implementation of Basel III with EU specific adjustments. This amount corresponds to the Total Capital shortfall shown in the EBA updated impact study report, under the so-called alternative approach[12] for the implementation of the output floor. However, this figure does not include the shortfall reduction that could be expected to arise from the inclusion of the additional EU specific adjustments considered in the European Commission´s impact assessment. For this reason, a comparison between the shortfall amounts as shown in this annex and the ones estimated in the European Commission´s impact assessment cannot be meaningfully done.

[11]The commission's impact assessment is comparable to the T1 MRC impact during the last year of the implementation phase (year 2030) shown in Table 10, which has been calculated as described in section *2.5 iii) Output floor results under the transitional implementation* (Including all buffers and P2R capital requirements) and therefore, also includes the effect of the out put floor transitional arrangements for RRE which is not part of the EC's impact assessment.

[12] The EBA Updated impact study report presented the individual impact of three implementation options for the output floor. The methodology of the so-called alternative approach coincides with the methodology used to estimate the output floor impact in this annex.

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