

Abbreviations

AMA	Advanced measurement approach			
BCBS	Basel Committee on Banking Supervision			
BIS IV	Basel IV			
ССВ	Capital conservation buffer			
ССР	Central counterparty			
CET1	Common equity tier 1			
CRD IV	Capital requirements directive			
CRR	Capital requirements regulation			
CVA	Credit value adjustment			
D-SIBS	Domestic systemically important banks			
EBA	European banking authority			
FRTB	Fundamental Review of the Trading Book			
G-SIBs	Global systemically important banks			

G-SIIs	Global systemically important institutions			
IRB	Internal ratings-based			
LCR	Liquidity coverage ratio			
LR	Leverage ratio			
NSFR	Net stable funding ratio			
O-SII	Other systemically important institutions			
OF	Output Floor			
RWA	Risk-weighted assets			
SA	Standardised approach			
SMA	Standardised measurement approach			
SyRB	Systemic risk buffer			
Tier 1 MRC	Tier 1 mínimum required capital			
TLAC	Total loss-absorbing capacity			



Introduction. Comparison of scope and characteristics of the three impact analyses

In September 2022, the BCBS and the EBA published their half-yearly reports on the implementation of the final Basel III reforms (commonly known as BIS IV) with data as of December 2021. On that occasion, for the first time, the EBA calculated the impact adapted to the European regulatory framework, factoring in the 2021 Banking Package proposal

In February 2023, the BCBS published its June 2022 year-end report, but the EBA did not update its exercise. The future update of the EBA exercise will be of particular interest to assess the impact of the adjustments to the Pillar 2 requirements. In any case, we believe the analysis we provide in this technical note is also of interest as an indication of the expected impacts from the new capital regulation.

	Global Impa		EBA MANIFORM Impact on Europe	EBA Control RRC Impact
Scope	Global		Europe	Europe
Sample ¹	G1. 117 (30 GSIB) (+7vs previous) G2. 65 (+9 vs previous)	G1. 114 (30 GSIB) (- 3vs previous) G2. 66 (+1 vs previous)	G1. 58 (8 G-SIB) G2. 102 (+60 vs previous*) * QIS mandatory for the first time	G1. 58 (30 G-SIB) G2. 102 (+60 vs previous*) * QIS mandatory for the first time
Completion of reforms	January 2023 (January 2028 for OF)	January 2023 (January 2028 for OF)	January 2025 (January 2028 for OF)	January 2025 (January 2030 for OF)
Additional capital requirements considered	CCB and surcharge for G-SIIs	CCB and surcharge for G-SIIs	CCB and surcharge for G-SIIs	Capital buffers and applicable P2R requirements
Reference date	Dec.21	Jun.22	Dec.21	Dec.21

Geographical comparability

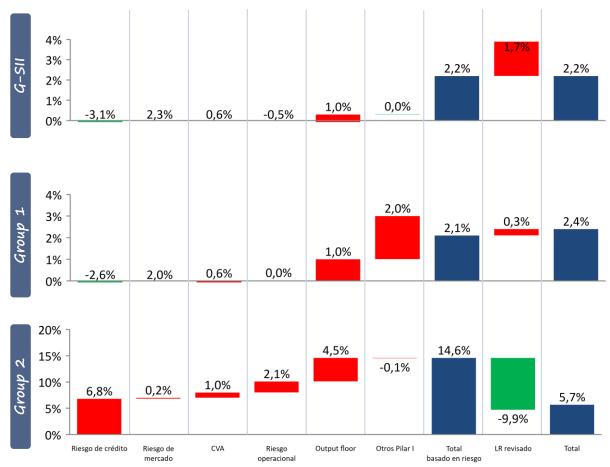
Comparability with BCBS impacts and with previous EBA impact analyses

Increased representativeness of the real impact in Europe

BIS IV entails an increase in minimum capital requirements should highlight the impact of the OF for large institutions and of credit risk capital changes for smaller institutions



- The impact on Tier 1 capital is much higher in smaller institutions, mainly due to higher credit risk capital requirements and the output floor.
- However, the significant increase in capital requirements in Group 2 results in a strong correction of the leverage ratio requirements, softening the net impact in terms of T1 MRC.
- Interestingly, the largest banks globally would benefit from the new credit risk framework. The frameworks for market and counterparty risk on the other hand have a larger negative impact. The output floor impact would be proportionally lower than for Group 2.



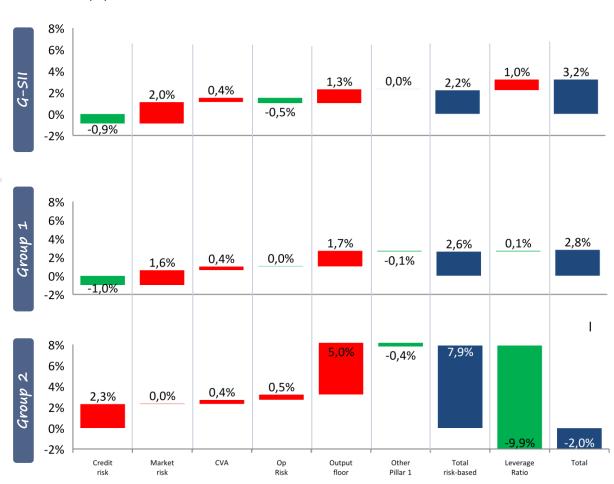
^{1.} Total Tier 1 MRC shows the overall changes in risk-based capital requirements (including the output floor) and the leverage ratio. Data extracted from Table 4.



For this reference period, the average impact of full BIS IV implementation on Tier 1 MRC increases for Group 1 banks and G-SIIs and decreases for smaller institutions

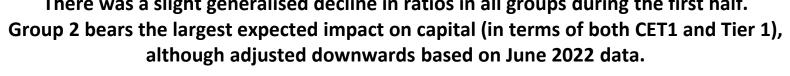


- Compared to the previous six-month period, the direction of the impacts is broadly unchanged. Larger requirements are seen in large companies, while they are reduced in relative terms in Group 2 companies.
- As in the previous report, a strong correction is expected in the leverage ratio of Group 2 institutions, leading to a positive net effect based on data as at June 2022.

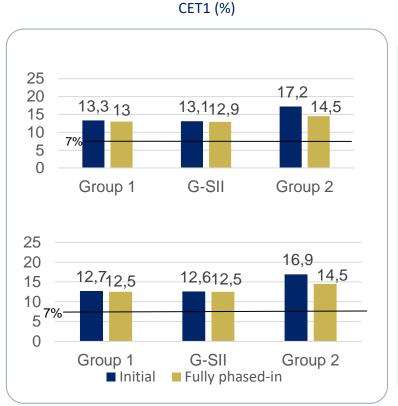


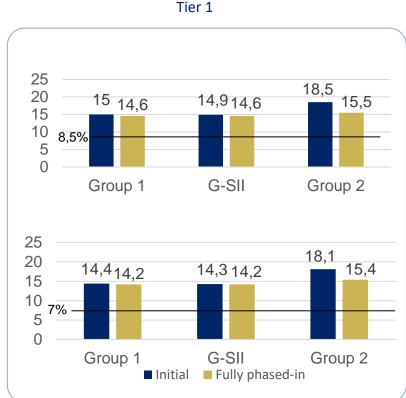
Data extracted from Table 4.

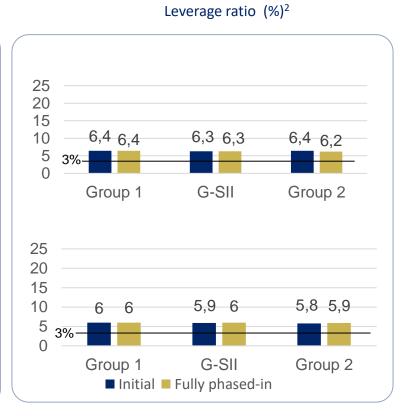
There was a slight generalised decline in ratios in all groups during the first half. although adjusted downwards based on June 2022 data.



Aggregated capital ratios 1







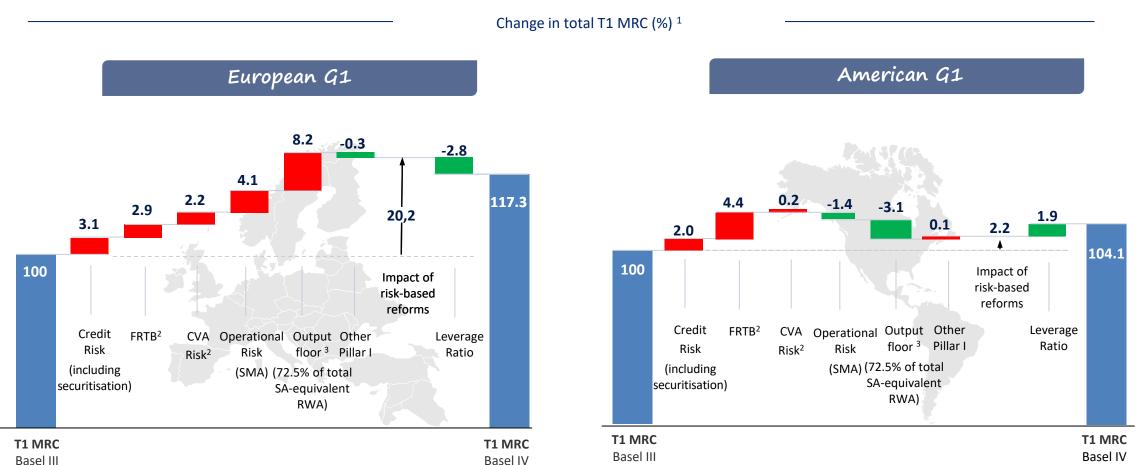
- Data extracted from Table 1 and Figure 24 of the reports.
- Leverage ratios reflect temporary leverage exposure exclusions introduced in some jurisdictions.

December

2022

Significantly higher overall impact on requirements in Europe, mainly driven by the output floor.

The operational risk framework impact is expected to be more limited in practice as the planned European adaptation does not take into account historical losses in the calculation

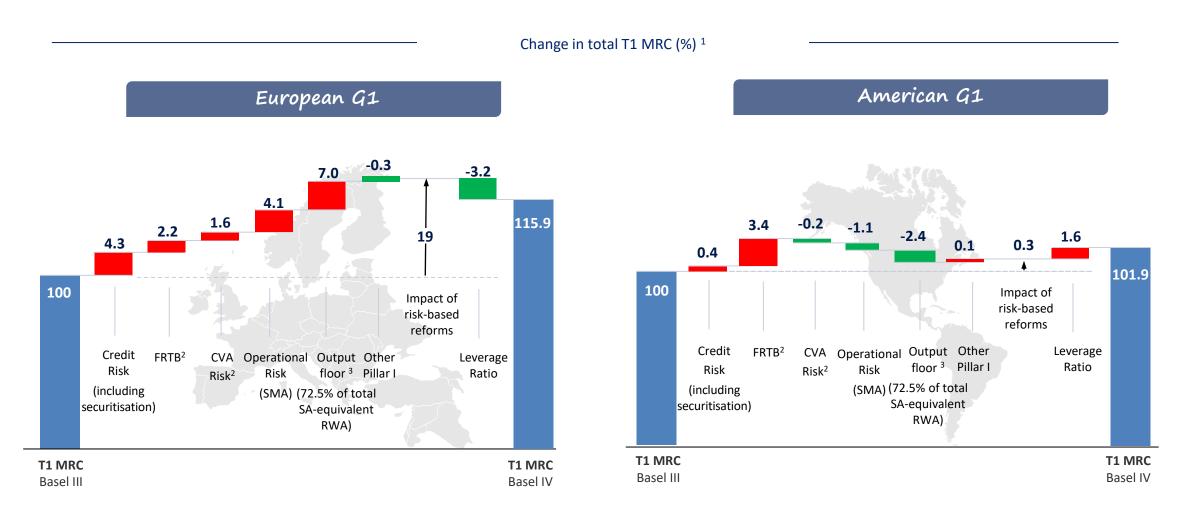


^{1.} Data extracted from Table 4

^{2.} These figures include the impact of the amended minimum capital requirements for market risk published in January 2019 and the revisions to the CVA framework in July 2020.

^{3.} Net of existing Basel I-based floor according to national implementation of the Basel II framework

The impact by region on capital requirements for the main risks increases: credit risk in Europe and trading book in the Americas?. However, overall, there was a downward adjustment in global requirements compared to the previous half year.



^{1.} Data extracted from Table 4

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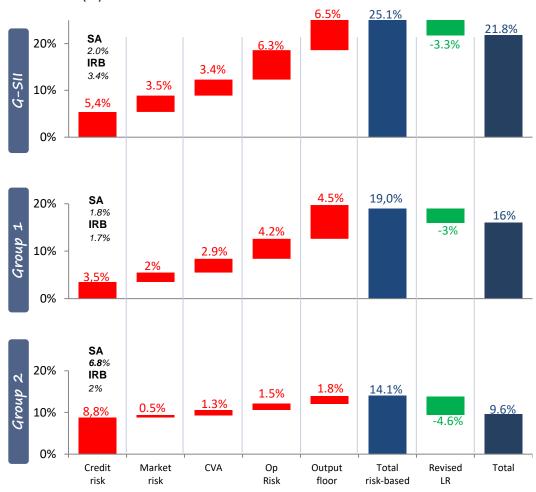
^{2.} These figures include the impact of the amended minimum capital requirements for market risk published in January 2019 and the revisions to the CVA framework in July 2020.

^{3.} Net of existing Basel I-based floor according to national implementation of the Basel II framework

Global impacts are much higher than the world average obtained by the BCBS. On the other hand, limited to the European region, the values are in a similar range

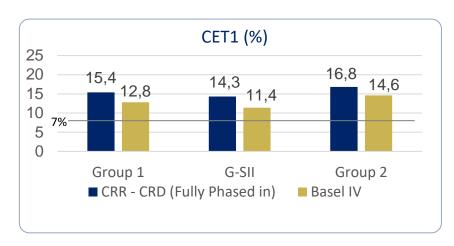


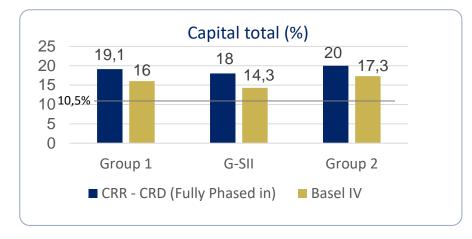
- Compared with the average for the banks analysed by the BCBS:
 - The average for European banks is much higher on their Q1 MRC (15.5% vs. 8.9% of the global average). The capital requirement impact is similar though slightly higher, but they do not benefit as much from the LR correction.
 - For Group 1, it is possible to limit the comparison to Europe, observing similar results: 16% global impact under the EBA approach vs. 17.3% under the IRB approach.

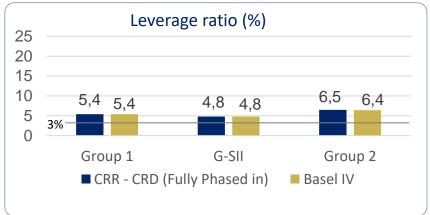


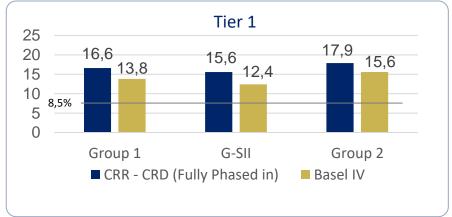
Substantial impact on risk-based capital ratios in all groups. In contrast, the leverage ratio hardly changes at all

Aggregated capital ratios ¹







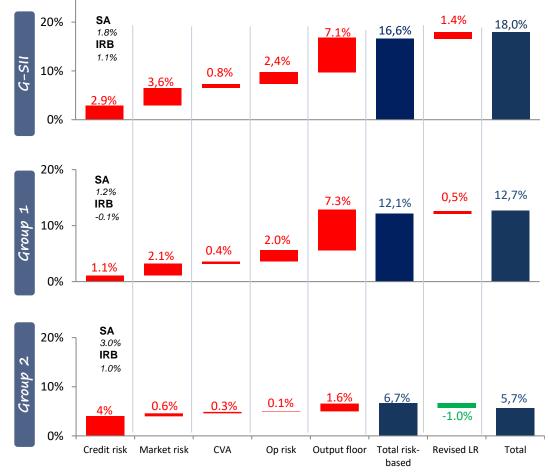


The BIS IV adaptations imply higher requirements across the board for all types of risk, being proportionally higher for larger institutions



- Higher requirements across the board, to a greater or lesser extent, for all types of risk:
 - Credit risk requirements increase for both approaches but to a greater extent for the standardised approach.
 - Very significant impact of the fully output floor on larger and internationally active institutions.
 - Proportionally greater impact of the new FRTB, CVA and SMA approach on larger institutions.

^{1.} Pillar 2 requirements (add-ons) and capital buffers have been included in this report. Data extracted from Table 7.



Why MS? Differential value in risk and capital management

MS has extensive experience in risk and capital management, particularly in the processes of compliance with the associated regulations (Basel/CRR/CRD)

MS offers differential value in risk and capital management

- **1. Experience with supervisory bodies.** MS is accredited as a "highly qualified external service provider" in internal capital modelling by different European and American Supervisors.
- 2. Regulatory modelling. MS has extensive experience in modelling: (i) credit risk (IRB, IFRS 9 & CECL, stress testing...), (ii) market risk, CCR and IRRBB (VaR, pensions, xVA); (iii) ALM and liquidity; (iv) residual value; and (v) economic capital, etc.
- **3. Independent validation.** MS collaborates with different institutions as an independent supervisor of internal models, verifying compliance with regulatory requirements (e.g. CRR, EBA, ECB Guidance on internal models...) to obtain approval from regulators (e.g. ECB, DNB, Bundesbank...).
- **4. Experience in the design and implementation of capital calculation engines.** MS has extensive experience in supporting institutions in the design and implementation of capital calculation and reporting solutions (including our proprietary MIR tool, already adapted to BIS IV), as well as in the execution of capital impact analysis, optimization analysis, etc.
- **5. Specialised team.** MS has a team of more than 1,000 experts in the field of risk and capital management (modelling, regulation, impacts, information systems, reporting, etc.), combining quantitative and technical knowledge with a solid understanding of regulation.





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