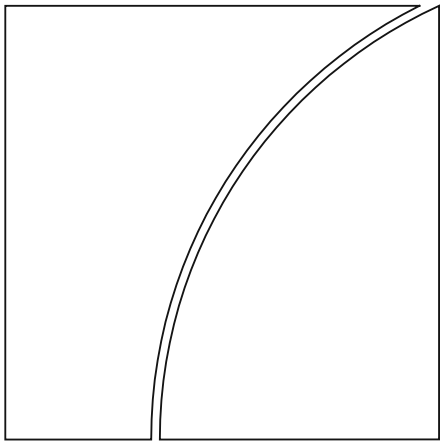
Basel Committee
on Banking Supervision



Basel III
Monitoring Report

February 2023

BIS

Queries regarding this document should be addressed to the Secretariat of the Basel Committee on Banking Supervision (e-mail: qis@bis.org).

Since the report published in September 2021, the monitoring reports no longer include a statistical annex. However, the data underlying the graphs are available for download as a separate Excel file. This presents the same data as the Annex in previous reports but in a format that is easier to use for readers' own analyses. Some analyses that were previously presented in the leverage ratio, liquidity and credit risk sections of the report have been published as Tableau dashboards. Additional analyses presented in the report will be made available in this innovative format in the coming months. The Committee welcomes any feedback on these new formats at qis@bis.org.

This publication is available on the BIS website (www.bis.org/bcbs/qis/).

Grey underlined text in this publication shows where hyperlinks are available in the electronic version.

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Basel III Monitoring Report

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Special feature

Annexes

Conventions used in this report

billion thousand million
trillion thousand billion
lhs, rhs left-hand scale, right-hand scale

Group 1 banks are those that have Tier 1 capital of more than €3 billion and are internationally active. All other banks are considered Group 2 banks.

Components may not sum to totals because of rounding.

The term "country" as used in this publication also covers territorial entities that are not states as understood by international law and practice but for which data are separately and independently maintained.

All data, including for previous reporting dates, reflect revisions received up to 18 January 2023.

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of the Basel Committee on Banking Supervision

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Highlights of the Basel III monitoring exercise as of 30 June 2022

After their record high at end-2021, initial Basel III capital ratios fall to pre-pandemic levels

Liquidity ratios decline but remain above pre-pandemic levels

To assess the impact of the Basel III framework on banks, the Basel Committee on Banking Supervision monitors the effects and dynamics of the reforms. For this purpose, a semiannual monitoring framework has been set up on the risk-based capital ratio, the leverage ratio and the liquidity metrics using data collected by national supervisors on a representative sample of institutions in each country. Since the end-2017 reporting date, the report also captures the effects of the Committee's finalisation of the Basel III reforms.[1] This report summarises the aggregate results using data as of 30 June 2022.[2] It includes a special feature on *Regional distributions of Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports*. The Committee believes that the information contained in the report will provide relevant stakeholders with a useful benchmark for analysis.

Information considered for this report was obtained by voluntary and confidential data submissions from individual banks and their national supervisors. On the jurisdictional level, there may be mandatory data collections ongoing, which also feed into this report. Data were included for 181 banks, including 114 large internationally active ("Group 1") banks, among them all 30 G-SIBs and 66 other ("Group 2") banks.[3] Members' coverage of their banking sector is very high for Group 1 banks, reaching 100% coverage for some countries, while coverage is lower for Group 2 banks and varies by country.

In general, this report does not consider any transitional arrangements such as grandfathering arrangements. Rather, the estimates presented generally assume full implementation of the Basel III requirements based on data as of 30 June 2022. No assumptions have been made about banks' profitability or behavioural responses, such as changes in bank capital or balance sheet composition, either since this date or in the future. Furthermore, the report does not reflect any additional capital requirements under Pillar 2 of the Basel III framework or any higher loss absorbency requirements for domestic systemically important banks, nor does it reflect any countercyclical capital buffer requirements.

[1] Basel Committee on Banking Supervision, *High-level summary of Basel III reforms*, December 2017, www.bis.org/bcbs/publ/d424_hlsummary.pdf; Basel Committee on Banking Supervision, *Basel III: Finalising post-crisis reforms*, December 2017, www.bis.org/bcbs/publ/d424.htm.

[2] A list of previous publications is included in the Annex.

[3] Group 1 banks are those that have Tier 1 capital of more than €3 billion and are internationally active. All other banks are considered Group 2 banks. Not all banks provided data relating to all parts of the Basel III framework.

Overview of results

Table 1

	31 December 2021[1]			30 June 2022		
	Group 1	Of which: G-SIBs	Group 2	Group 1	Of which: G-SIBs	Group 2
Initial Basel III framework						
CET1 ratio (%)	13.4	13.1	17.7	12.7	12.6	16.9
Target capital shortfalls (€ bn)[2]	0.0	0.0	0.0	0.0	0.0	0.0
TLAC shortfall 2022 minimum (€ bn)	7.5	7.5		35.1	35.1	
Total accounting assets (€ bn)	81,399	56,353	4,414	84,094	61,185	2,459
Leverage ratio (%)[3]	6.6	6.5	6.3	6.0	5.9	5.8
LCR (%)	140.9	138.5	221.9	138.4	137.5	220.1
NSFR (%)	125.1	126.9	134.3	123.5	125.2	132.5
Fully phased-in final Basel III framework (2028)						
Change in Tier 1 MRC at the target level (%)	2.4	2.3	5.7	2.8	3.2	-2.0
CET1 ratio (%)	13.0	12.9	14.4	12.5	12.5	14.5
Target capital shortfalls (€ bn); of which:	0.3	0.3	1.2	7.8	7.8	0.0
CET1	0.0	0.0	0.4	3.5	3.5	0.0
Additional Tier 1	0.0	0.0	0.4	1.9	1.9	0.0
Tier 2	0.3	0.3	0.5	2.4	2.4	0.0
TLAC shortfall 2022 minimum (€ bn)	7.5	7.5		29.8	29.8	
Leverage ratio (%)[3]	6.4	6.3	6.2	6.0	6.0	5.9

See Table A.4 for the target level capital requirements. [1] The values for the previous period may differ slightly from those published in the end-December 2021 report at the time of its release. This is caused by data resubmissions for previous periods to improve the underlying data quality and enlarge the time series sample. [2] Uses the 2017 definition of the leverage ratio exposure measure. [3] The leverage ratios reflect temporary exclusions from leverage exposures introduced in some jurisdictions.

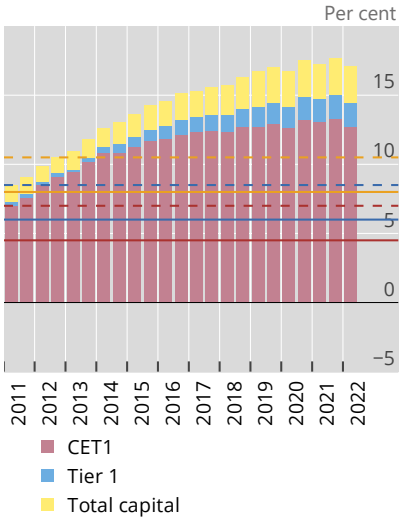
Source: Basel Committee on Banking Supervision.

- Compared with the end-December 2021 reporting period, the average Common Equity Tier 1 (CET1) capital ratio under the initial Basel III framework fell to 12.7% for Group 1 banks.
- The average impact of the final Basel III framework on the Tier 1 Minimum Required Capital (MRC) of Group 1 banks is slightly higher (+2.8%) when compared with the 2.4% increase at end-December 2021. The average increase for G-SIBs is 3.2%.
- After reporting an all-time low for capital shortfalls in December 2021, June 2022 shows an increase in capital shortfalls once again, marking the highest value since H1 2020 for Group 1 banks and G-SIBs due to an improvement in data reporting quality.
- Applying the 2022 minimum TLAC requirements and the initial Basel III framework, three of the 25 G-SIBs reporting total loss-absorbing capacity (TLAC) data reported an aggregate incremental shortfall of €35.1 billion when adding back temporary leverage ratio exemptions.
- Group 1 banks' average Liquidity Coverage Ratio (LCR) fell from 140.9% to 138.4% while the average Net Stable Funding Ratio (NSFR) fell from 125.1% to 123.5%.
- Group 2 banks' results based on the unbalanced sample should not be compared with the previous period due to significant changes in the sample.

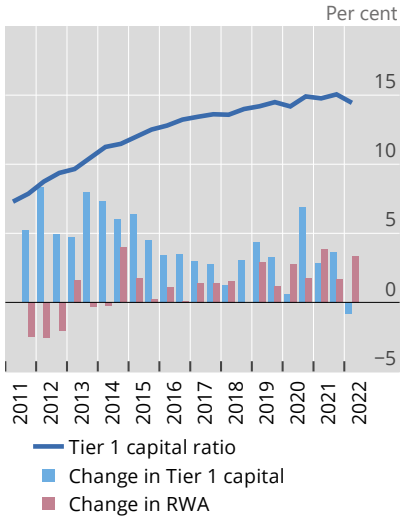
After their record high end-2021, initial Basel III capital ratios decreased to pre-pandemic levels

Group 1 banks, balanced data set — Graph 1

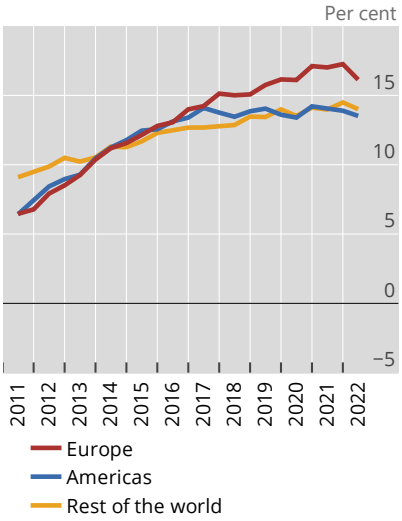
CET1, Tier 1 and total capital ratios[1]



Determinants of changes[2]



Tier 1 ratios by region[3]



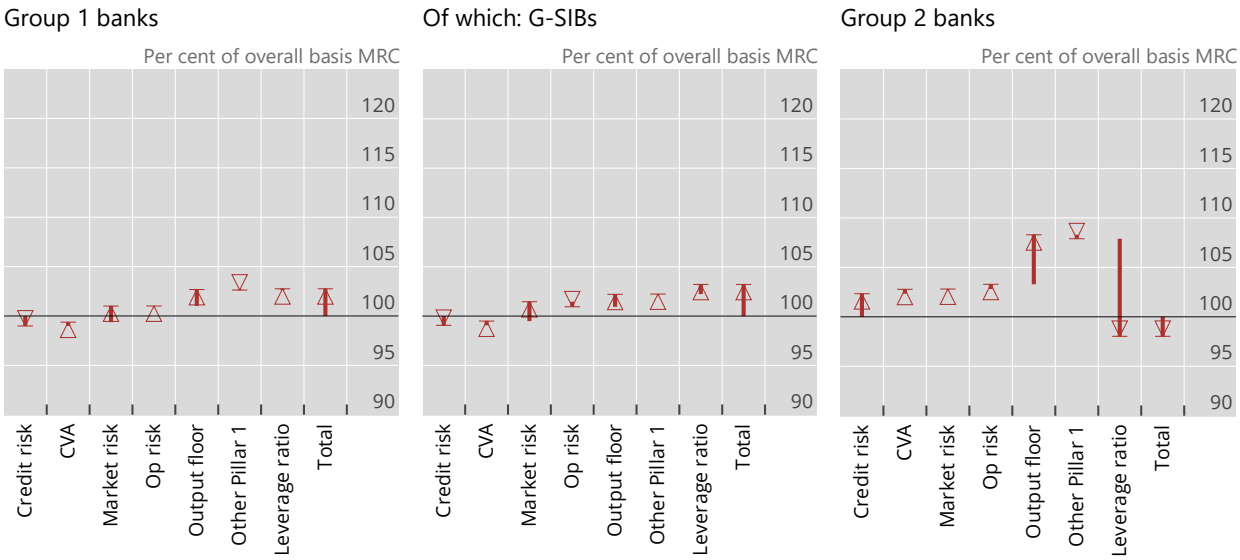
[1] The solid lines depict the relevant minimums, the dotted lines the minimums plus the capital conservation buffer. See Table A.4 for the relevant levels. [2] Exchange rates as of the current reporting date. [3] See Table B.1 for the composition of the regions.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- The balanced data set for Group 1 banks showed a decrease in initial Basel III capital ratios in H1 2022, driven by an increase in RWA and a decrease in Tier 1 capital. Capital ratios are back to their pre-pandemic levels. The overall CET1 capital ratios for Group 1 banks in the balanced data set were 12.7% in June 2022.
- Currently, the Tier 1 capital ratios are higher in Europe than in the Americas and the rest of the world region. However, when compared with data starting from 2011, this relationship used to be reversed before 2014. Also, the decrease over H1 2022 has been particularly strong in Europe.

Impact of final Basel III standards for Group 1 banks slightly higher compared with previous exercise

Change in Tier 1 MRC at the target level due to the final Basel III standards — Graph 2



Credit risk shows the change in MRC due to revised standardised and internal ratings-based approaches, including securitisation. Operational risk figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, changes in MRC may be overestimated. Output floor results are net of the existing Basel I-based floor according to national implementation of the Basel II framework. The target level accounts for Tier 1 minimum capital requirements and the capital conservation buffer (ie resulting in an 8.5% Tier 1 capital requirement), as well as any applicable G-SIB surcharge.

Source: Basel Committee on Banking Supervision. See also Table 4.

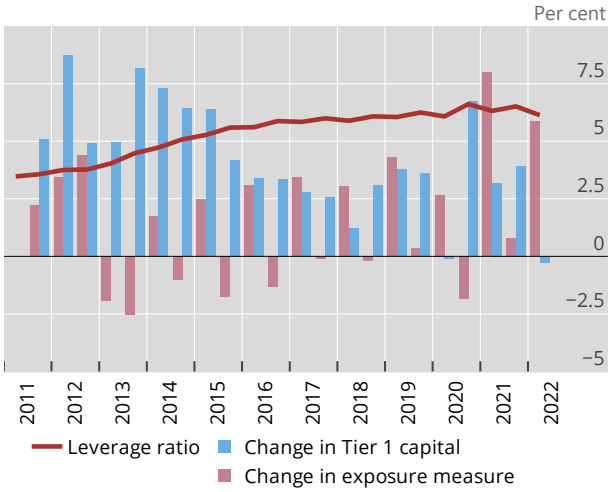
- For Group 1 banks, the Tier 1 minimum required capital (MRC) would increase by 2.8%, following the full phase-in of the final Basel III standards. This increase comprises a 2.7% rise in the combined risk-based components. Those are driven by positive contributions of the output floor (+1.7%), market risk (+1.6%), CVA (+0.4%) on the one hand and a reduction in credit risk (-1.0%) on the other hand. The rise of the combined risk-based components is accompanied by the positive effect of the leverage ratio requirements (+0.1%).
- The impact on MRC across regions varies considerably for Group 1 banks with a moderate decrease in the rest of the world (–3.9%), a small increase shown in the Americas (+1.9%) and, in contrast, a strong increase in MRC for European banks (+15.9%).
- For Group 2 banks, the overall 2.0% decrease in Tier 1 MRC is driven by an increase in the risk-based measure of 7.9%, stemming mainly from the output floor (+5.0%) and credit risk (+2.3%), while the leverage ratio measure partially offsets this increase at –9.9%.
- The average impact of the final Basel III framework on Group 1 banks at +2.8% is 40 basis points higher than at end-2021 (+2.5%), driven by a smaller decrease in the rest of the world region.
- For Group 2 banks, we notice two important changes in the recent period. One being a noticeable spike in the upper bound and in dispersion in June 2021 reflecting improvements in data reporting quality and leverage ratio exemptions accounting approach. The other being a significant drop in Group 2 overall impact and dispersion towards the negative reflecting a change in the Group 2 banks sample[4] for the June 2022 exercise.

[4] Please refer to the special feature on *Regional distributions of Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports* on page 105 at the end of this report.

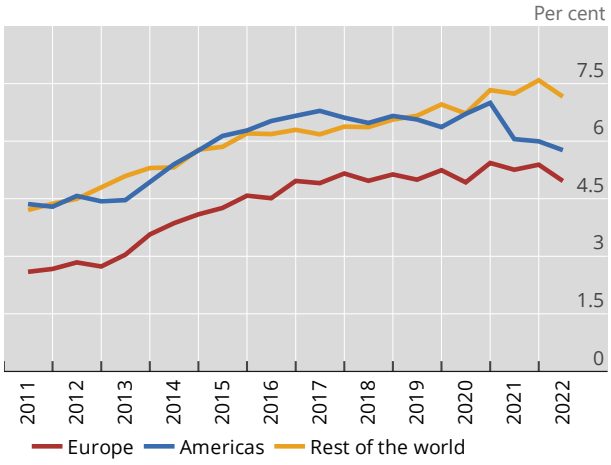
Fully phased-in Basel III leverage ratios[1] of large internationally active banks decreased in H1 2022

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 3

Leverage ratios and their determinants



Leverage ratios by region



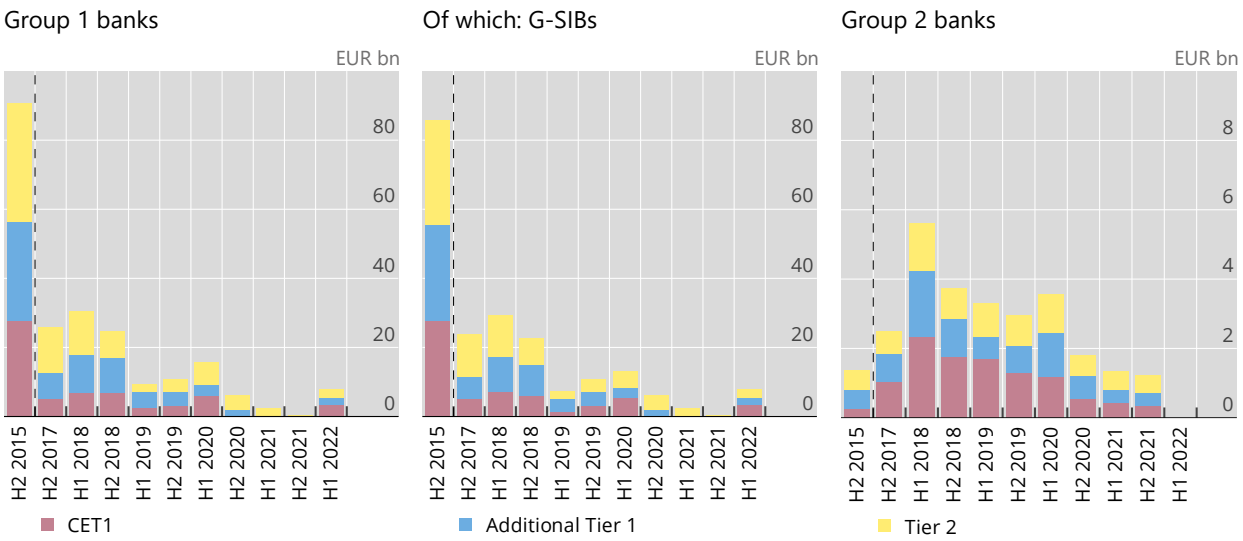
[1] Data points from H1 2011 to H2 2012 use the original definition of the leverage ratio. Data points from H1 2013 to H1 2017 use the definition of the leverage ratio set out in the 2014 version of the framework. Note that the data points for H1 2013 use an approximation for the initial definition of the Basel III leverage ratio exposure where gross instead of adjusted gross securities financing transaction values are used. Data points from H2 2017 onwards use the final definition of the leverage ratio to the extent data are available. Temporary exclusions from the leverage ratio exposure measure in the context of Covid-19 have not been added back.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- For the full sample at the end-June 2022 reporting date, the average fully phased-in final Basel III Tier 1 leverage ratios are 6.0% for Group 1 banks and G-SIBs and 5.9% for Group 2 banks.
- For the balanced data set of Group 1 banks, the leverage ratio decreased from the prior period, driven by banks in Europe and the Americas. Leverage ratios in the Americas are at their lowest level since end-June 2014.
- Leverage ratios are still lower in Europe (5.0%) as compared with the Americas (5.8%) and the rest of the world (7.2%).

Combined capital shortfalls at the target level under the final Basel III standards increased for large internationally active banks

Fully phased-in final Basel III standards,[1] sample and exchange rates as at the reporting dates — Graph 4



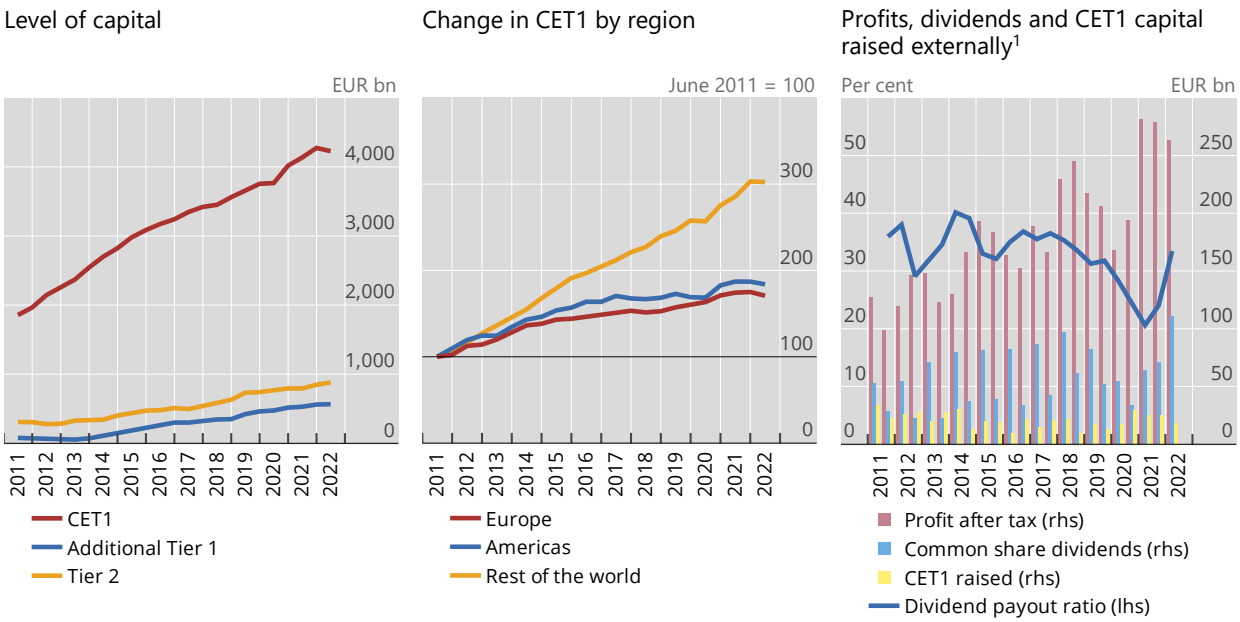
[1] Results for H2 2015 are based on the Committee's cumulative Quantitative Impact Study and are not fully comparable from a methodological point of view. Compared with H2 2017 and H1 2018, the results since H2 2018 include the revised market risk framework as finalised in January 2019.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- For this reporting date, Group 1 banks registered total regulatory capital shortfalls amounting to €7.8 billion, compared with €0.1 billion at end-June 2020. This marks the highest value since H1 2020 for Group 1 banks and G-SIBs due to an improvement in data reporting quality.
- For Group 2 banks, H1 2022 is the first reporting date that shows no CET1, additional Tier 1 or total regulatory capital shortfall at the target level. This is in line with the aggregate total capital shortfall steadily decreasing since 2018. The total absence of capital shortfalls of Group 2 banks is due to a change in the sample.

Fully phased-in regulatory CET1 decreased during H1 2022 for large internationally active banks, dividend payout ratio back to pre-pandemic levels

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 5



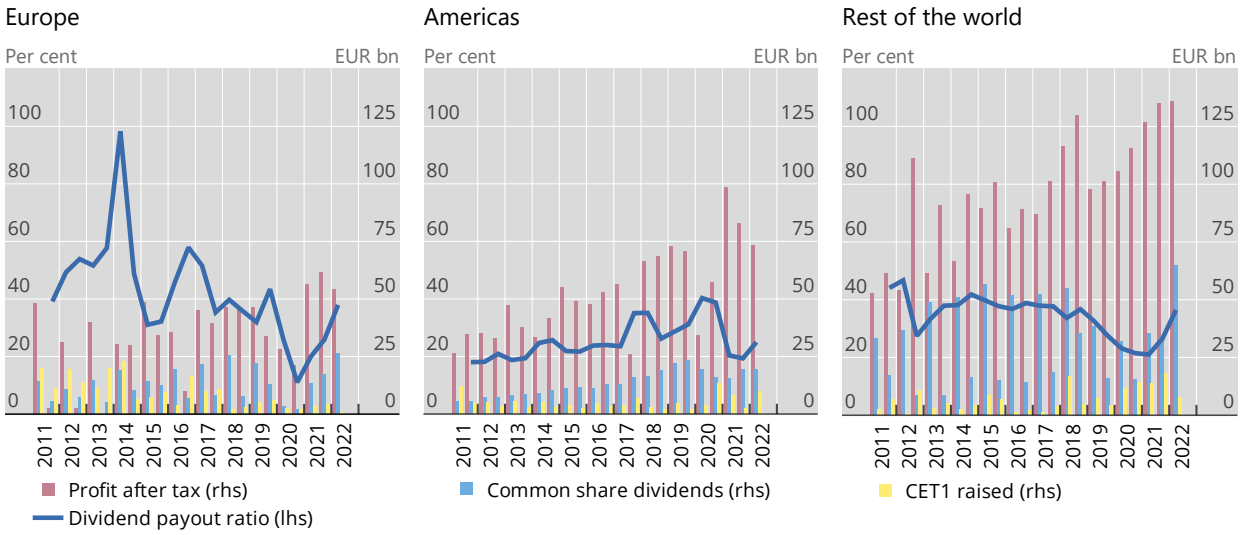
[1] The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12-month window.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheets "Graph 33a", and "Graph 36" provide an additional regional breakdown for Group 1 banks.

- From end-June 2011 to end-June 2022, the level of Group 1 banks' CET1 capital has increased by 128% from €1,860 billion to €4,227 billion. Since end-December 2021, Group 1 CET1 capital has decreased by €47 billion (or 1.1%).
- At a regional level, while CET1 capital in the rest of the world is now more than three times its value in 2011, the increase in Europe and in the Americas was more limited at 71% and 84%, respectively. The decrease over H1 2022 was particularly strong in Europe.
- Overall, Group 1 banks' profits after tax decreased only marginally for the banks in the sample and stand at €263 billion in H1 2022. The dividend payout ratio stands at 33.5%, its highest value since end-2018. This can be explained by banks no longer facing the dividend payout restrictions that were introduced at the beginning of the Covid-19 pandemic.

Profits remained at or near record high levels across all regions

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 6



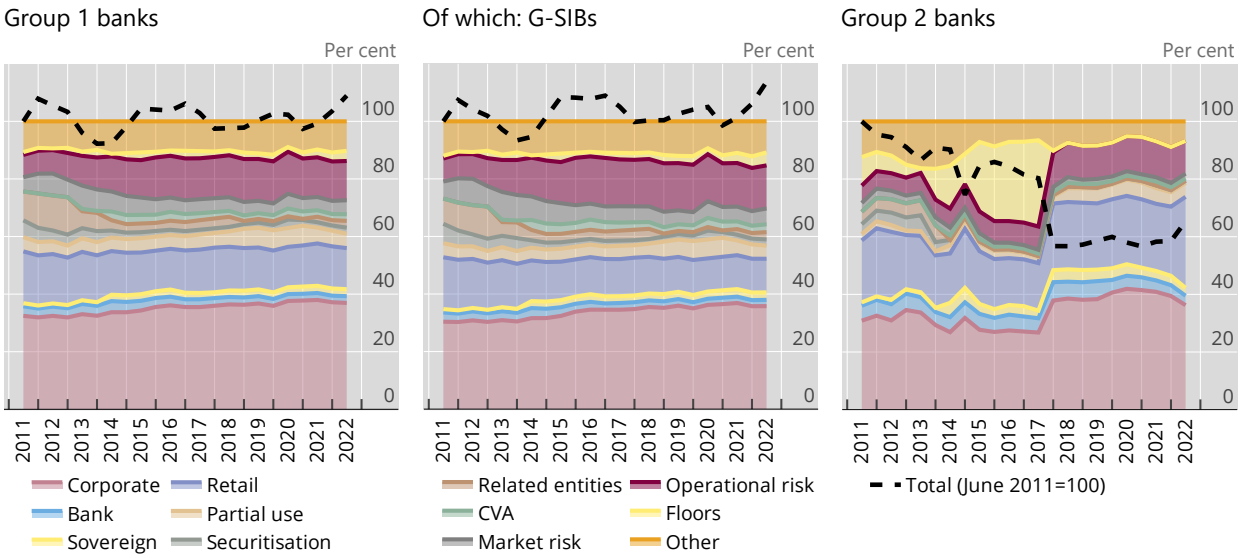
The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12-month window.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- Annual after-tax profits for the Group 1 banks in the sample saw a particularly strong increase in Europe and the rest of the world compared with the 12-month period ending June 2021.
- Since the previous reporting date, the annual dividend payout ratios have increased in all regions, reaching pre-pandemic levels. In the Americas, they are still significantly below the record-high ratios observed in 2019 and 2020.

Analysis of share of MRC by asset class[1] according to current rules shows increase in operational risk MRC and decreased in securitisations and market risk

Balanced data set — Graph 7



[1] Exposures subject to partial use of the standardised approach for credit risk that cannot be assigned to a specific portfolio, as well as past-due items under the standardised approach, are listed separately as "partial use". "Related entities" includes capital requirements specified in Part 1 of the Basel II framework. The category "other" includes capital requirements for other assets; the current Basel I-based output floor; Pillar 1 capital requirements in member countries for risks not covered by the Basel framework; reconciliation differences; and additional capital requirements due to regulatory calculation differences and general provisions. The latter item can lead to negative capital requirements in cases where there is an excess in provisions, which can be recognised in a bank's Tier 2 capital. Furthermore, for banks that apply the standardised approach, general provisions may be recognised to some extent as Tier 2 capital; consequently, MRC is reduced by this amount. The term "reconciliation differences" refers to the difference between MRC reported at the entire bank level and the sum of MRC reported for the individual portfolios.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

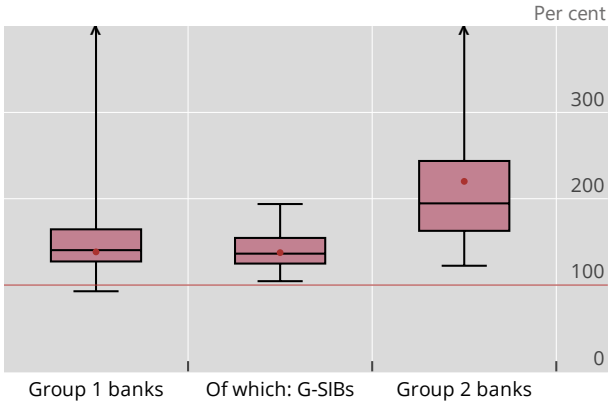
- As of end-June 2022 and for a balanced data set of Group 1 banks, credit risk[5] continues to compose the dominant portion of overall minimum required capital (MRC), on average comprising 65.4% of total MRC. However, the share of credit risk has declined significantly from 75.6% at the end of June 2011.
- Conversely, the share of operational risk MRC increased sharply from 7.7% at end-June 2011 to 14.5% at end-2015 and decreased slightly since. The increase in the early 2010s was attributed in large part to the surge in the number and severity of operational risk events during and after the financial crisis, which are factored into the calculation of MRC for operational risk under the advanced measurement approach. More recently, we have observed some "fading out" of the financial crisis losses so that, in 2020, the lowest loss level of the past 10 years was observed. This explains the latest decrease in capital requirements especially for the banks heavily affected in the financial crisis. On the other hand, losses triggered by the Covid-19 pandemic have not yet had a significant impact on the loss severity level but this may change given that the pandemic is still ongoing.
- Among the credit risk asset classes, the share of MRC for corporate exposures increased from 31.9% to 38.0% between June 2011 and June 2021 before decreasing again to 37.0% at end-June 2022. The share of MRC for securitisation exposures declined from 5.8% to 2.1% between June 2011 and June 2022.

[5] Here overall credit risk is defined as the sum of corporate, bank, retail, sovereign, partial-use, securitisations and related entities as illustrated in the graph.

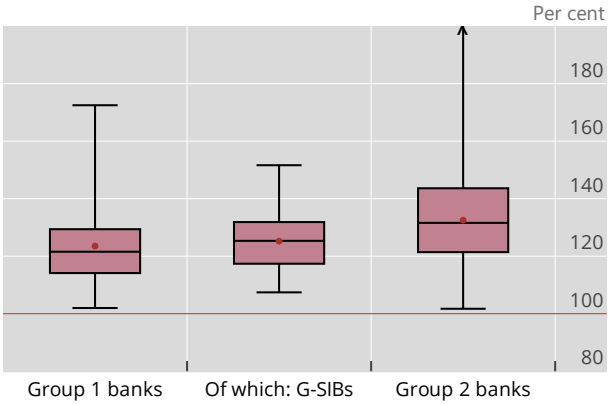
Average LCRs and NSFRs declined, and some banks in the Americas and the rest of the world continued to use LCR reserves during the Covid-19 pandemic[1]

Overall distribution — Graph 8

Liquidity Coverage Ratio[2]



Net Stable Funding Ratio



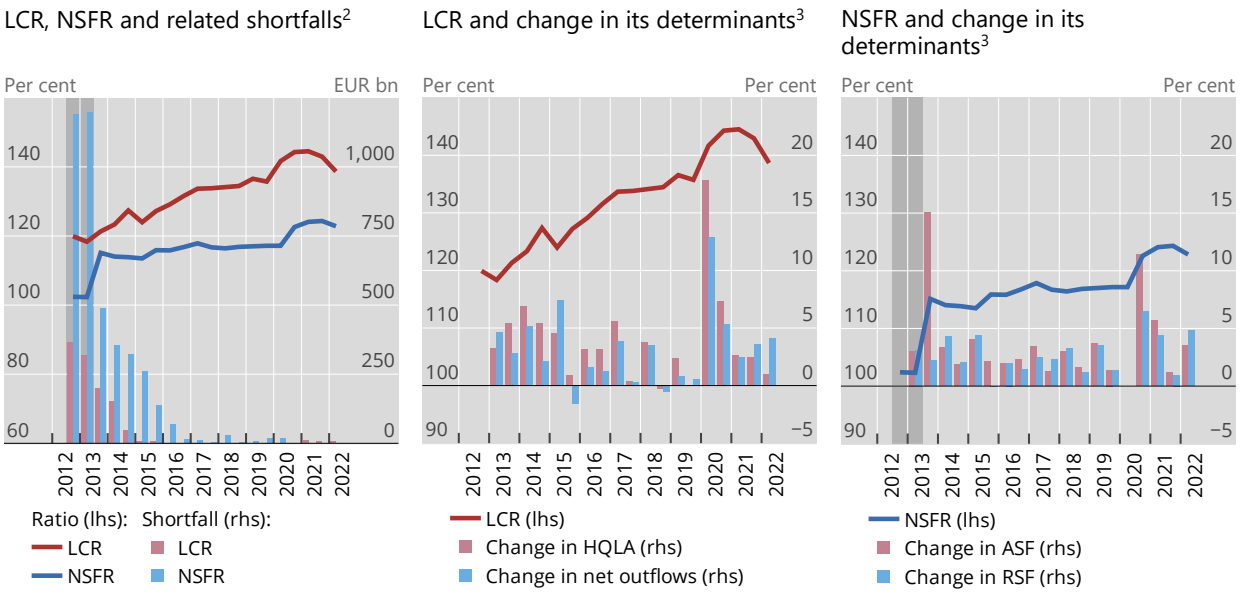
[1] The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines show the range of the entire sample. In some cases, arrows at the top of the vertical line indicate banks with ratios outside the range shown in the graph. The dots represent weighted averages. [2] The sample is capped at 400%, meaning that all banks with an LCR above 400% were set to 400%. The dots represent weighted averages. The horizontal line represents the 100% minimum (applicable from 1 January 2019).

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- The weighted average LCR at end-June 2022 is 138.4% for Group 1 banks and 220.1% for Group 2 banks.
- In the current reporting period there are three Group 1 banks with an LCR below 100% and hence a shortfall (ie the difference between high quality liquid assets and net cash outflows) which amounts to €14.8 billion.
- The weighted average NSFR was 123.5% for Group 1 banks and 132.5% for Group 2 banks at end-June 2022.
- All banks reported an NSFR that met or exceeded 100%.

For Group 1 banks, LCRs and NSFRs decreased on average but remain above pre-pandemic levels; LCR shortfall remained stable during H1 2022

Group 1 banks, balanced data set[1] Graph 9



[1] As described in Section 6.3, footnote 49, the NSFR time series depicts data reflecting NSFR standards released in December 2010, January 2014 and October 2014. [2] Exchange rates as at the reporting dates. [3] Exchange rates as of the current reporting date.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The worksheets "Graph 82", "Graph 85" and "Graph 89" provide additional regional breakdowns for Group 1 banks. The liquidity dashboards on the Committee's website provide the same breakdowns also for G-SIBs.

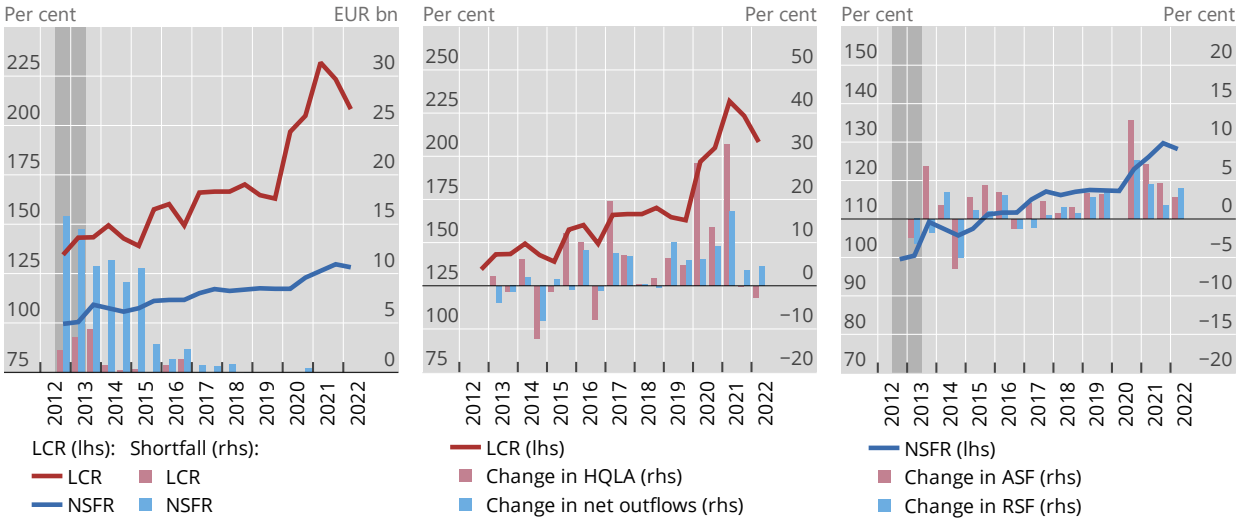
- For a balanced data set of Group 1 banks, not all banks meet a 100% LCR at end-December 2021, resulting in an aggregate shortfall of €6.6 billion.[6] The shortfall has increased by €0.6 billion since end-2021. The average LCR for this sample decreased to 138.7% from 143.0% at end-2021.
- There was again no aggregate NSFR shortfall for the balanced data set of Group 1 banks. The average NSFR for the same sample of banks has decreased to 122.8% from 124.3% at end-2021.
- Both ratios are still above pre-pandemic levels.

[6] Note that the LCR shortfall in the entire sample at end-June 2022 is €14.8 billion.

Group 2 banks showed a decrease in the LCR and NSFR with no shortfalls; both liquidity ratios remained significantly above pre-pandemic levels

Group 2 banks, balanced data set[1] Graph 10

LCR, NSFR and related shortfalls[2] | LCR and change in its determinants[3] | NSFR and change in its determinants[3]



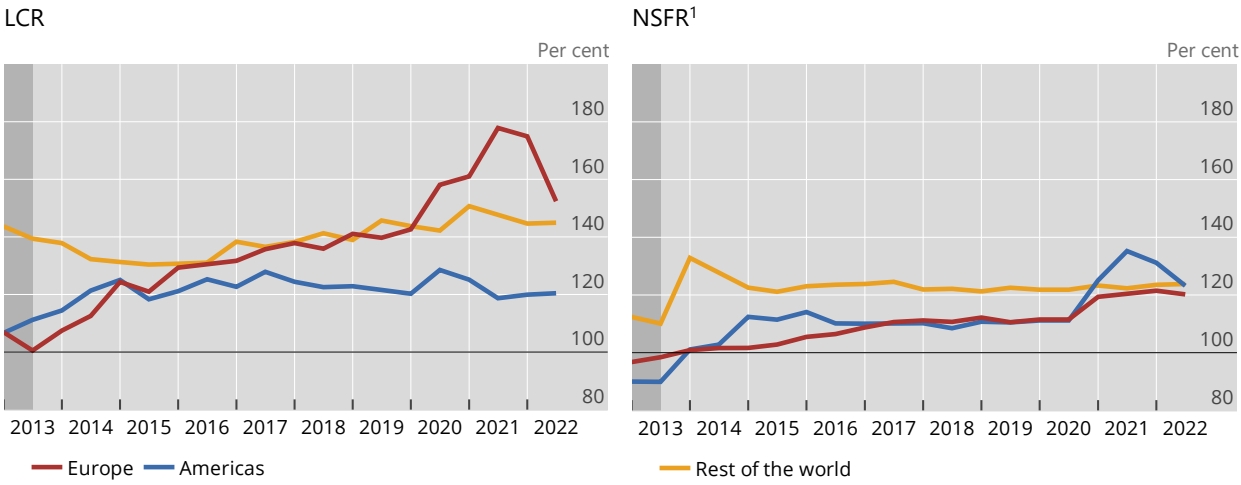
[1] As described in Section 6.3, footnote 49, the NSFR time series depicts data reflecting NSFR standards released in December 2010, January 2014 and October 2014. [2] Exchange rates as at the reporting dates. [3] Exchange rates as of the current reporting date.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- For a balanced data set of Group 2 banks, the LCR shortfall has remained at zero since June 2019. The average LCR for the same sample of banks decreased by 15.1 percentage points to 208.3%.
- The aggregate NSFR shortfall remained at zero for the balanced data set of Group 2 banks. The average NSFR for the same sample of banks decreased by 1.5 percentage points to 128.2%.
- Both liquidity ratios remain significantly above pre-pandemic levels. At end-2019, the LCR of the same sample of Group 2 banks stood at 163.0%, the NSFR at 117.3%.

For Group 1 banks, LCRs decreased in Europe during H1 2022, while NSFRs continued to decrease in the Americas

Group 1 banks, balanced data set — Graph 11



[1] As described in the Section 6.2, the NSFR time series depicts data reflecting NSFR standards released in December 2010, January 2014 and October 2014.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- Since 2019, the weighted average LCR for each of Europe and the rest of the world was above 140%, while the average LCR of the Americas is around 120%. While Europe and the Americas had initially lower average LCRs compared with the rest of the world, the average LCRs of Europe and the rest of the world tended to converge gradually before the onset of the pandemic. The regions with lower end-2012 average ratios saw important increases in particular between end-2012 and June 2014, and Europe again since the start of the pandemic. The increase in Europe is now reversing, although the LCR of European banks is still above end-2019 levels.
- The weighted average NSFR at end-June 2021 for Group 1 banks in each of the three regions was well in excess of 100%. The average NSFRs in Europe and the Americas have increased from 111.5% and 111.2% at end-December 2019, respectively, to 120.2% and 123.2% at end-June 2022. The increase in the Americas to an all-time high of 135.2% at end-June 2021 has been reversed. Both Europe and the Americas are now roughly in line with the rest of the world, which on average reports an NSFR of 123.8%.

Detailed results of the Basel III monitoring exercise as of 30 June 2022

1. General remarks

At its 12 September 2010 meeting, the Group of Governors and Heads of Supervision (GHOS), the oversight body of the Basel Committee on Banking Supervision, announced a substantial strengthening of existing capital requirements and fully endorsed the agreements it had reached on 26 July 2010.[1] These capital reforms, together with the introduction of two international liquidity standards, are collectively referred to as "initial phase of Basel III reforms" or in short "initial Basel III" within this report. On 7 December 2017, the GHOS finalised the Basel III reforms[2] with a number of revisions that seek to restore credibility in the calculation of risk-weighted assets (RWA) and capital ratios of banks (referred to as "final Basel III" in this report). The Committee monitors and evaluates the impact of these capital, leverage and liquidity requirements on a semiannual basis.[3] This report summarises the results of the latest Basel III monitoring exercise using data as of 30 June 2022.[4] It includes a special feature on *regional distribution of the Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports*. The Committee believes that the information contained in the report will provide relevant stakeholders with a useful benchmark for analysis.

Since the report published in September 2021, the monitoring reports no longer include a statistical annex. However, the data underlying the graphs are available for download as a separate Excel file. This presents the same data as the Annex in previous reports but in a format that is easier to use for readers' own analyses. Furthermore, some analyses that were previously presented in the leverage ratio, liquidity and credit risk sections of the report have been published as Tableau dashboards instead. Additional analyses presented in the report will be made available in this innovative format in the coming months. The Committee welcomes any feedback on these new formats at qis@bis.org.

[1] See the 26 July 2010 press release "The Group of Governors and Heads of Supervision reach broad agreement on Basel Committee capital and liquidity reform package", www.bis.org/press/p100726.htm, and the 12 September 2010 press release "Group of Governors and Heads of Supervision announces higher global minimum capital standards", www.bis.org/press/p100912.htm.

[2] Basel Committee on Banking Supervision, *High-level summary of Basel III reforms*, December 2017, www.bis.org/bcbs/publ/d424_hlsummary.pdf; Basel Committee on Banking Supervision, *Basel III: Finalising post-crisis reforms*, December 2017, www.bis.org/bcbs/publ/d424.htm.

[3] A list of previous publications is included in the Annex.

[4] The data for Japan are as of the end of March 2022, as banks in that country report on a biannual basis as of the end of March and the end of September to correspond to the fiscal year-end period. Further, the data for Canada reflect a reporting date of 30 April 2022, which corresponds to Canadian banks' year-end.

1.1 Scope of the monitoring exercise

Almost all Committee member countries participated in the Basel III monitoring exercise as of 30 June 2022. The estimates presented are based on data submitted by the participating banks and their national supervisors in reporting questionnaires and in accordance with the instructions prepared by the Committee.[5] The questionnaire covered components of eligible capital, the calculation of all aspects of RWA, the calculation of a leverage ratio and components of the liquidity metrics. Table A.3 in Annex A shows which standards are relevant for the relevant Basel III regime (initial Basel III, transitional Basel III and the fully phased-in Basel III framework). Technically, the remaining difference between the transitional and the fully phased-in Basel III frameworks is the level of the output floor which is 50% in 2023 (transitional final Basel III framework) and 72.5% in 2028 (fully phased-in final Basel III framework). This report reflects the finalisation of the market risk framework published in January 2019.[6]

The final data were submitted to the Secretariat of the Committee by 18 January 2023. The purpose of the exercise is to provide the Committee and the public with an ongoing assessment of the impact on participating banks of the capital and liquidity standards set out in the Basel standards.

The Committee appreciates the significant efforts contributed by both banks and national supervisors to this ongoing data collection exercise.

1.2 Sample of participating banks

Data on the initial Basel III framework were included for 182 banks, including 115 Group 1 banks and 66 Group 2 banks.[7] Group 1 banks are those that have Tier 1 capital of more than €3 billion and are internationally active. All other banks are considered Group 2 banks. Compared with end-December 2021 with 117 Group 1, 65 Group 2 banks and 182 banks overall, the sample decreased by four banks for Group 1 and increased by two banks for Group 2; in addition, one former Group 2 bank was reclassified as Group 1. However, while data availability from supervisory reporting was rather stable, the number of banks providing data on the final Basel III framework declined significantly. Therefore, the impact of the final Basel III framework could only be assessed for a sample of 126 banks, among which 86 Group 1 banks and 40 Group 2 banks, which is a decrease by eight Group 1 banks and 17 Group 2 banks compared with the previous report.[8]

Banks were asked to provide data at the consolidated level as of 30 June 2022. Subsidiaries are not included in the analyses to avoid double-counting. For Group 1 banks, members' coverage of their banking sector was very high, reaching 100% coverage for some countries. Coverage for Group 2 banks was lower and varied across countries.

For a number of banks data relating to some parts of the Basel III framework were unavailable. Accordingly, these banks are excluded from individual sections of the Basel III monitoring analysis due to incomplete data. In certain sections, data are based on a balanced data set. This data set represents only those banks that reported necessary data at the June 2011 (labelled "H1 2011") through June 2022 ("H1 2022") reporting dates, to make more meaningful period-to-period comparisons. The balanced data set differs for the various analyses; typically, it includes around 82 Group 1 banks, of which 27 are G-SIBs,

[5] See Basel Committee on Banking Supervision, *Instructions for Basel III monitoring*, January 2021, www.bis.org/bcbs/qis/.

[6] Basel Committee on Banking Supervision, *Minimum capital requirements for market risk*, January 2019 (rev February 2019), www.bis.org/bcbs/publ/d457.htm.

[7] See Table B.1 in the Statistical Annex for details on the sample. Also note that this table shows banks for which data were generally included for the specific topics, but not necessarily sufficiently complete to be used in all analyses.

[8] See Table B.3 in the Statistical Annex for details on the sample for the assessment of the final Basel III framework. Also note that while all these banks provided data on the final Basel III credit and operational risk standards, some of them were unable to provide data on some other aspects of the final framework. To that extent, it was assumed that capital requirements would remain unchanged compared with the initial Basel III framework.

and around 20 Group 2 banks. The G-SIBs in the time series analyses are among those banks that have been classified as G-SIBs as of November 2022, irrespective of whether they have also been classified as G-SIBs previously.

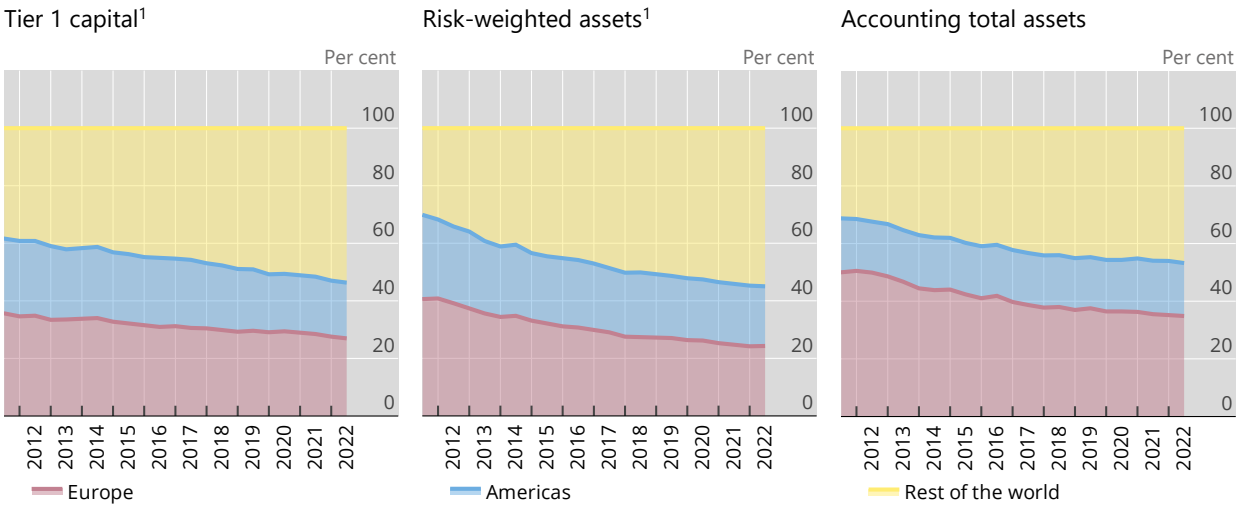
This report shows some of the results for three regional groupings – Europe, the Americas and the rest of the world. Table B.1 in the Statistical Annex provides detail on the composition of these country groupings. Table B.2 provides some additional sample statistics for the banks included in the exercise at the reporting date both overall and by region for Group 1 banks.

For a balanced data set of Group 1 banks participating in this exercise, Graph 12 shows the share of the three regions distinguished in this report in three key indicators: Tier 1 capital, risk-weighted assets and accounting total assets, using exchange rates as at the current reporting date. Since end-June 2011, the share of the Americas in Tier 1 capital has declined by 6.6 percentage points to 19.3%, while the share in RWA decreased by 8.6 percentage points to 20.7%. The Americas' share in accounting total assets decreased slightly from 18.7% to 18.3%. The share of European banks decreased by 8.7 percentage points to 26.9% in terms of Tier 1 capital, by 16.3 percentage points to 24.2% in terms of RWA and by 15.1 percentage points to 34.8% in terms of accounting total assets. Conversely, the share of banks in the rest of the world increased by 15.3 percentage points to 53.8% in terms of Tier 1 capital, by 24.9 percentage points to 55.1% in terms of RWA and by 15.5 percentage points to 46.9% in terms of accounting total assets.

Regional share of Tier 1 capital, total RWA and accounting total assets over time

Fully phased-in initial Basel III standards[1], Group 1 banks, balanced data set, exchange rates as of the current reporting date

Graph 12



[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

1.3 Methodology

1.3.1 Aggregation

Reported average amounts in this report have been calculated by creating a composite bank at a total sample level, which effectively means that the total sample averages are weighted. For example, the average common equity Tier 1 capital ratio is the sum of all banks' common equity Tier 1 (CET1) capital for the total sample divided by the sum of all banks' RWA for the total sample. Similarly, the average fully

phased-in Basel III Tier 1 leverage ratio is the sum of all banks' fully phased-in Tier 1 capital for the total sample divided by the sum of all banks' Basel III leverage ratio exposures for the total sample.

1.3.2 Impact metrics

Throughout the report, effects of the reforms are frequently shown in terms of: (i) changes in minimum required capital (MRC); (ii) impact on capital ratios; and (iii) estimated capital shortfalls. MRC and shortfalls can be computed based on banks' minimum and target requirement levels. While the *minimum* levels reflect a risk-based 4.5% CET1, a 6% Tier 1 and an 8% total capital requirement as well as a 3% requirement for the Basel III leverage ratio, the *target* level also accounts for the capital conservation buffer (ie resulting in a 7% CET1, an 8.5% Tier 1 and a 10.5% total capital requirement), as well as any applicable G-SIB surcharge. Under the final Basel III framework, the target capital requirements also include the G-SIB buffer on the leverage ratio. Consistent with previous reports, this report does not reflect any additional capital requirements under Pillar 2 of the Basel framework, any higher loss absorbency requirements for domestic systemically important banks, nor does it reflect any countercyclical capital buffer requirements. However, it reflects any additional Pillar 1 RWA as reported by banks and their supervisors.

Reference points

Unless otherwise noted, the assessment of the final Basel III framework compares the fully phased-in final Basel III framework with the fully phased-in initial Basel III framework as implemented by the national supervisor.

Minimum required capital

Because the suite of post-crisis reforms includes revisions to RWA, expected loss (EL) amounts and the Basel III leverage ratio framework, the analysis of the final Basel III framework mainly focuses on MRC as a broad and integrated capital impact measure to aggregate the results. At the bank level, MRC is defined in this report as the sum of:

- the relevant target capital ratio level based on the Basel requirements times RWA, after consideration of all relevant floors;
- any capital effects from the treatment of EL amounts for credit risk and provisions at the relevant tier of capital, taking into account the split between defaulted and non-defaulted assets for those jurisdictions that require such a split;
- any capital effects from deductions which are an alternative to a 1,250% risk weighting treatment in certain national implementations of the Basel framework; and
- any incremental capital requirement (over and above the risk-based requirements including any floors) resulting from the Basel III leverage ratio.

This calculation is conducted for both the current *basis* and the *revised* regimes. Changes in MRC are hence calculated as follows:

$$\%\Delta MRC = \frac{MRC_{revised} - MRC_{basis}}{MRC_{basis}}.$$

Therefore, this formula reflects, among other elements:

- changes to the calculation of RWA (at the portfolio or risk type level RWA before output floors);
- changes to capital resulting from changes in the calculation of EL amounts for credit risk and the treatment of provisions;

- changes resulting from the move from the national implementation of the transitional Basel I-based floor (as collected through supervisory reported systems) to the aggregate output floor under the final Basel III framework; and
- changes to the definition of the Basel III leverage ratio exposure measure for all banks and to its level for G-SIBs (see below for the treatment of Covid-19-related exclusions).

Capital ratios

The impact of the reforms is also expressed in terms of its impact on capital ratios reflecting changes due to the reforms in both the numerator (through any effects on the treatment of EL amounts and provisions) and the denominator (through changes in RWA).

Leverage ratio

Temporary exclusions from the leverage ratio exposure measure in the context of Covid-19 have been added back to both the current and the fully phased-in leverage ratio exposure measures for the calculation of changes in MRC from the final Basel III framework. This separates the impact of the implementation of the final framework from the impact of the exclusions expiring. The exclusions have also been added back for the analysis of the combined shortfalls in Section 2.4 and for the analysis of the interactions between the regulatory measures in Section 5.2. The standalone analysis of the leverage ratio in Section 2.3 consistently reflects exclusions as applicable at the reporting date.

Combined shortfall analysis

In addition, a combined shortfall analysis at the three tiers of the Basel III capital ratios is conducted at the target level. The combined net shortfall at any capital tier is calculated as the difference (where positive) between the total required capital (accounting for both the risk-based requirements and the Basel III leverage ratio) at a given capital tier and the actual capital of the same tier held, net of any shortfall stemming from higher capital tiers. The last term is included since any higher tier capital (eg CET1) raised to meet a specific higher tier capital shortfall (eg CET1 shortfall) can also be used to meet any possible specific shortfall of a lower tier capital (eg any *additional* Tier 1 shortfall caused by risk-based and/or Basel III leverage ratio Tier 1 capital requirements).

1.3.3 Presentation

To preserve confidentiality, some of the results shown in this report are presented using box plot charts. The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the thin vertical lines generally show the range of the entire sample; in some cases, arrows at the top of the vertical line indicate banks with changes outside the range shown in the graph. Finally, weighted averages are represented by dots.

Since most of the transitional arrangements for the initial Basel III framework expired at the end of 2018 (see Box A), this report no longer distinguishes the transitional and fully phased-in initial Basel III framework in the body of the text. Rather, relevant time series show the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter. Interested readers will find a selection of tables showing time series for the transitional initial Basel III framework in the Excel files accompanying this report; these are in line with the presentation in previous reports. Furthermore, to the extent data are available, all data for the initial Basel III framework consistently reflect the impact of the output floor in the Basel II framework and any national floors in place.

1.3.4 Time series analysis and comparisons

To provide additional operational capacity for banks and supervisors to respond to the immediate financial stability priorities resulting from the impact of Covid-19, the Committee decided not to collect Basel III

monitoring data for the end-June 2020 reporting date. Therefore, only data from supervisory reporting were collected. Graphs and tables that fully or partially use data from the monitoring exercise use banks' end-December 2019 data points also for the end-June 2020 reporting date. Where this is the case, it is mentioned in a footnote. Such graphs show no change between end-December 2019 and end-June 2020, and the change for the full year 2020 is shown between the end-June 2020 and end-December 2020 data points.

Box A

Phase-in provisions for risk-based capital requirements

The initial Basel III framework includes the following phase-in provisions for capital ratios:

- Regulatory adjustments (ie possibly stricter sets of deductions that apply under Basel III) were fully phased in by 1 January 2018;
- Capital instruments that no longer qualify as non-common equity Tier 1 or Tier 2 capital are phased out beginning 1 January 2013. Fixing the base at the nominal amount of such instruments outstanding on 1 January 2013, their recognition is capped at 90% from 1 January 2013, with the cap reducing by 10 percentage points in each subsequent year;
- An additional 2.5% capital conservation buffer above the regulatory minimum capital ratios, which must be met with CET1 capital, was phased in by 1 January 2019; and
- The additional loss absorbency requirement for G-SIBs, which ranges from 1.0% to 2.5%, was fully phased in by 1 January 2019. It is applied as an extension of the capital conservation buffer and must be met with CET1.

The final Basel III framework as amended by the 27 March 2020 press release includes phase-in provisions for the output floor, which will start at 50% on 1 January 2023, rise in annual steps of 5% and be fully phased-in at the 72.5% level from 1 January 2028. Furthermore, the increase in RWA can be capped at 25% during the phase-in period at national discretion.

Table A.4 in Annex A includes a detailed overview of the Basel Committee's phase-in arrangements.

1.4 Data quality

For this monitoring exercise, participating banks submitted comprehensive and detailed non-public data on a voluntary and best-efforts basis. On jurisdictional level, there may be mandatory data collections ongoing which also feed into this report. As with the previous studies, national supervisors worked extensively with banks to ensure data quality, completeness and consistency with the published reporting instructions. In addition, particular attention has been paid on the reconciliation of reported data with existing data from supervisory reporting systems. Banks are included in the various analyses below only to the extent that they were able to provide data of sufficient quality to complete the analyses.

1.5 Interpretation of results

The following caveats apply to the interpretation of results shown in this report:

- When comparing results to prior reports, sample differences as well as minor revisions to data from previous periods need to be taken into account. Sample differences also explain why results presented for the December 2021 reporting date may differ from the H2 2021 data point in graphs and tables showing the time series for the balanced data set as described above.
- The actual impact of those new requirements that are covered in this analysis will almost certainly be less than shown in this report given banks' difficulty to assess the exact impact of the

framework before its full implementation and interim adjustments made by the banking sector to changing economic conditions and the regulatory environment. Banks may use approximations when the implementation of an accurate impact assessment would be too costly. For example, the results do not consider bank profitability, changes in capital or portfolio composition or other management responses to the policy changes since 30 June 2022 or in the future. For this reason, the results are not comparable to industry estimates, which tend to be based on forecasts and consider management actions to mitigate the impact, as well as incorporate approximations where information is not publicly available.

- Except for the results for the initial Basel III framework, the Basel III capital amounts shown in this report assume that all non-qualifying capital instruments are fully phased out (ie it is assumed that none of these capital instruments will be replaced by eligible instruments). As such, these amounts underestimate the amount of Tier 1 capital and Tier 2 capital held by a bank in some countries, as they do not give any recognition for non-qualifying instruments that may actually be phased out after the Committee's 1 January 2022 deadline. The treatment of non-qualifying capital instruments also affects figures reported in the section on the Basel III leverage ratio.
- For banks that could not provide data on the impact of the revised standards for securitisation, CVA or market risk, it was assumed that the respective capital requirements would remain unchanged in the assessment of the overall impact. Such banks were however excluded from the analysis of the relevant policy topic.
- Given the output floor of the final Basel III framework only applies to overall capital requirements, it is not applied to individual risk types or asset classes in this report. To this extent, the results are not comparable to analyses in other reports, which may apply the output floor at more granular levels than required by the final Basel III framework.
- This report disregards any effects stemming from the upcoming changes in accounting frameworks that may influence capital requirements and eligible capital.
- Several G-SIBs report conservative assumptions under the revised market risk framework.[9] Therefore, the results for market risk since the end-2020 reporting date only reflect 20%[10] of the contribution from equity investments in funds subject to the "other sector bucket" treatment, while all other changes from the revised market risk framework are included in the calculations as reported. This also impacts the results of several G-SIBs in particular and also of a number of other banks, albeit to a significantly smaller extent. Please refer to the previous reports for the treatment in previous reporting dates.
- Some capital requirements, such as D-SIB buffer and Pillar 2 requirements, are not considered in the analysis. This tends to give more importance to leverage ratio requirements relative to risk-based requirements, compared with the actual situation where those additional requirements would be considered.

[9] Specifically, the banks are treating all trading book positions in equity investment in funds that may no longer be allowed to be modelled, using the most conservative standardised approach, ie the "other bucket" treatment subject to the highest applicable risk weights. They assumed that they are unable to use other treatments such as the index treatment or the mandate-based approach as set out in MAR21.36.

[10] This assumption is based on moving some equity investments in funds subject to the "other sector bucket" treatment to the "look-through" treatment, which would result in lower delta, vega and curvature requirements and higher diversification benefits.

2. Regulatory capital requirements and TLAC

Table 2 shows the aggregate capital ratios under the current (or transitional initial), transitional final and fully phased-in final Basel III frameworks, as well as the related capital shortfalls. Table 3 shows CET1 capital ratios by regions. Details of capital ratios and capital shortfalls are provided in Section 2.1 and Section 2.4.

Aggregate capital ratios and (incremental) combined capital shortfalls at the target level[1]

Table 2

	Basel III capital ratios, in per cent			Combined risk-based capital and leverage ratio shortfalls at the target level, in billions of euros[2]		
	Initial	Final		Initial	Final	
	Current	Transitional	Fully phased-in	Current	Transitional	Fully phased-in
Group 1 banks						
CET1 capital	12.7	13.0	12.5	0.0	0.0	3.5
Tier 1 capital[3]	14.4	14.7	14.2	0.0	0.0	1.9
Total capital[4]	16.9	17.2	16.6	0.0	0.0	2.4
Sum				0.0	0.0	7.8
Of which: G-SIBs						
CET1 capital	12.6	12.9	12.5	0.0	0.0	3.5
Tier 1 capital[3]	14.3	14.7	14.2	0.0	0.0	1.9
Total capital[4]	17.0	17.4	16.8	0.0	0.0	2.4
Sum				0.0	0.0	7.8
Group 2 banks						
CET1 capital	17.1	15.3	14.5	0.0	0.0	0.0
Tier 1 capital[3]	18.1	16.3	15.4	0.0	0.0	0.0
Total capital[4]	20.3	18.3	17.3	0.0	0.0	0.0
Sum				0.0	0.0	0.0

[1] The target level includes the capital conservation buffer and the capital surcharges for 30 G-SIBs as applicable but does not include any countercyclical capital buffers. Samples for the initial and final Basel III frameworks are not consistent. [2] The shortfall is calculated as the sum across individual banks where a shortfall is observed. The calculation includes all changes to RWA (eg definition of capital, counterparty credit risk, trading book and securitisation in the banking book). The Tier 1 and total capital shortfalls are incremental assuming that the higher-tier capital requirements are fully met. All columns use the 2017 definition of the leverage ratio exposure measure. [3] The shortfalls presented in the Tier 1 capital row are *additional* Tier 1 capital shortfalls. [4] The shortfalls presented in the total capital row are *Tier 2* capital shortfalls.

Source: Basel Committee on Banking Supervision.

CET1 capital ratios

In per cent

Table 3

	Initial Basel III standards		Final Basel III standards		
	Number of banks	Current	Number of banks	Transitional	Fully phased-in
Group 1 banks	114	12.7	90	13.0	12.5
Of which: Europe	39	14.3	30	12.5	11.7
Of which: Americas	23	11.8	21	12.1	11.8
Of which: RW	52	12.5	39	13.8	13.4
Of which: G-SIBs	30	12.6	30	12.9	12.5
Group 2 banks	65	16.9	38	15.3	14.5

Source: Basel Committee on Banking Supervision.

2.1 Risk-based capital ratios

2.1.1 Initial Basel III standards

When observing initial Basel III capital ratios, Group 1 banks show less dispersion compared with the previous reporting date, whereas Group 2 banks continue to show quite significant dispersion across banks as shown in Graph 13.

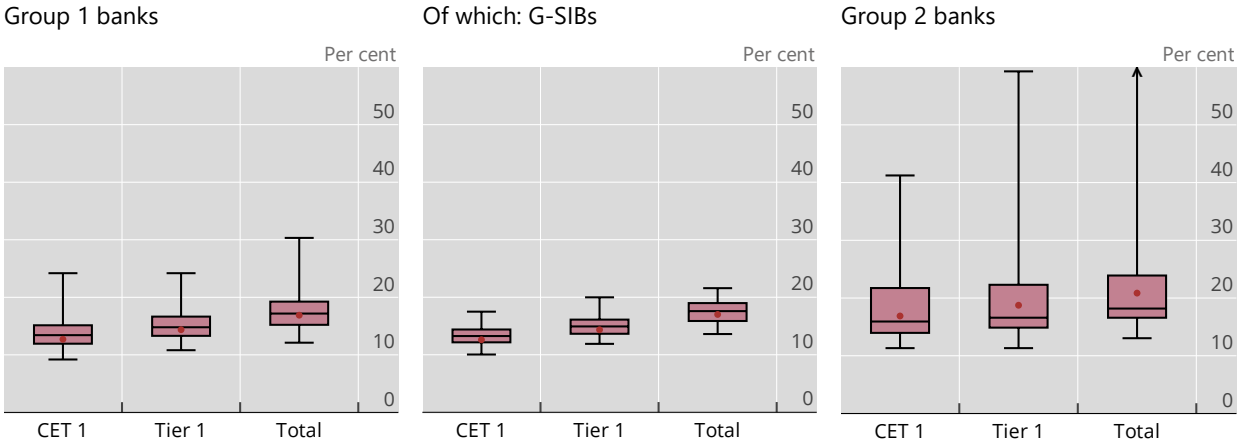
For Group 1 banks, the initial Basel III CET1 capital ratio ranges between 9.2% and 24.2%. The range is roughly the same for initial Basel III Tier 1 and total capital ratios, even though lower and upper bounds are slightly higher. Only considering the participating G-SIBs, the range is even lower with less than 8 percentage points. The lowest initial Basel III CET1 capital ratio amounts to 10.0%, while the highest reported initial Basel III CET1 capital ratio amounts to 17.5%.

In contrast, Group 2 banks continue to show particularly high dispersion. The initial Basel III CET1 capital ratio ranges between 11.3% and 41.2%. For initial Basel III Tier 1 and total capital ratios the range is even higher, nearly amounting to 50 percentage points, because the highest reported capital ratio is as high as about 60%.

Apart from that, nearly 95% of Group 1 banks report initial Basel III CET1 capital ratios above 10%. More than half of them even exceed the 13% mark. For Group 2 banks, all participants report initial Basel III CET1 capital ratios above 10%, nearly 85% even show capital ratios above 13%.

Initial Basel III CET1, Tier 1 and total capital ratios[1]

Graph 13



[1] See Section 1.3.3 for details on box plots.

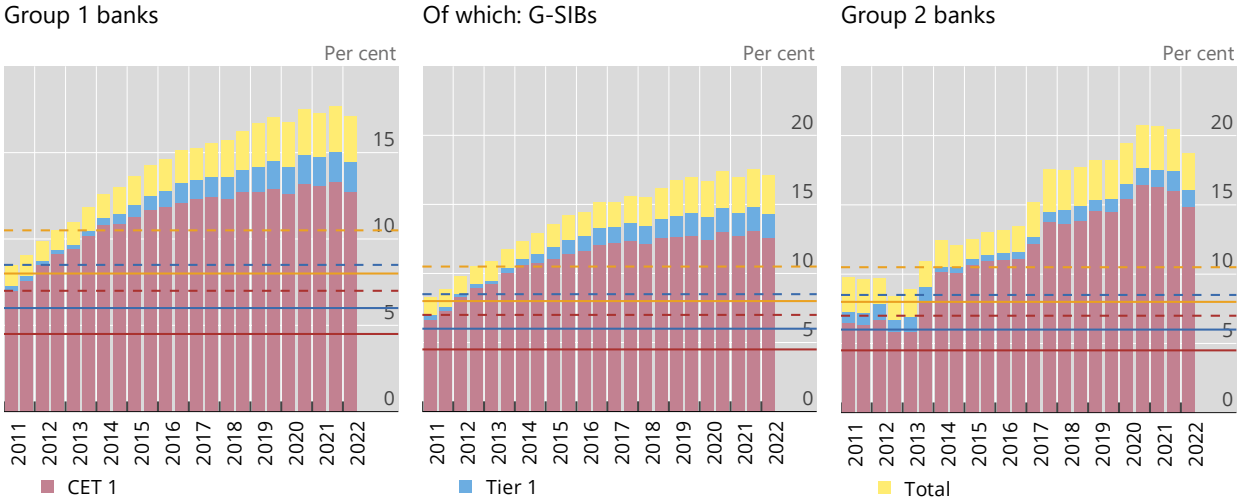
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 13a" provides related information for the fully phased-in initial Basel III capital ratios.

In recent years, Group 1 banks, as well as G-SIBs, showed a drop in capital ratios in the first half of each year. In the second half, the capital ratios used to rise again. Usually, the decline in the first half of each year was less pronounced than the increase in the second half. Consequently, there was still an upwards trend observable for these years. Nevertheless, for H1 2022, the decline is steeper than in the previous years. For Group 1 banks and G-SIBs, the CET1 capital ratios decreased from 13.3% in H2 2021 to 12.7% in H1 2022 and from 13.1% in H2 2021 to 12.6% in H1 2022, respectively. Considering the current macroprudential situation banks face, this is in line with expectations. Group 2 banks show an even more pronounced decline in capital ratios: Compared with H2 2021, the CET1 capital ratio dropped by 1.1 percentage points to 14.9%.

Initial Basel III CET1, Tier 1 and total capital ratios[1]

Balanced data set

Graph 14



The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

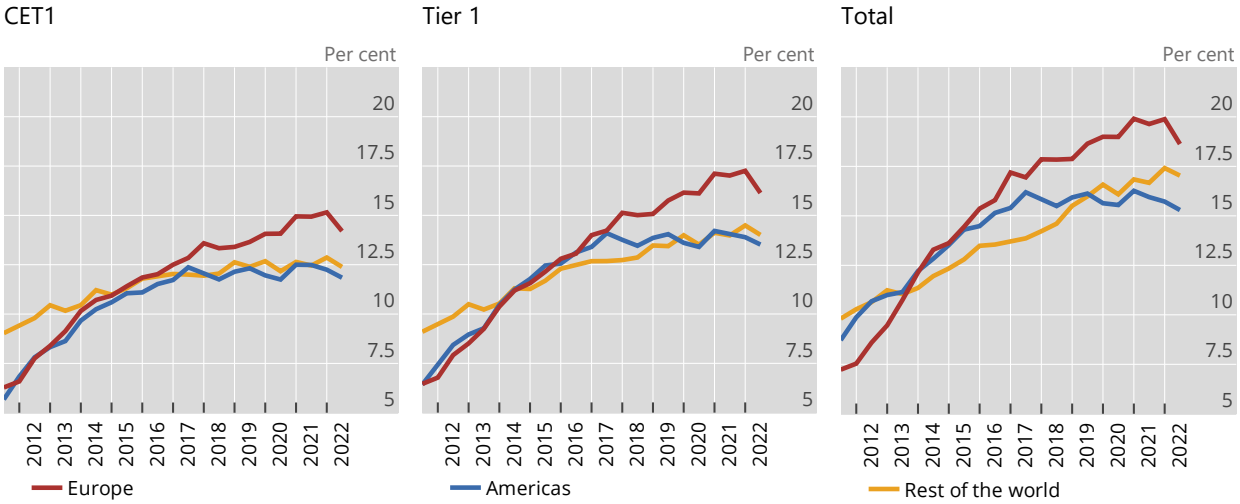
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Note that the Excel file shows Tier 1 and total capital ratios as increments over the next lower Tier of capital.

In 2011, initial Tier 1 capital ratios were more than two percentage points lower in the Americas and in Europe than in the rest of the world region (Graph 15). However, for European banks and banks in the Americas the capital ratios rose remarkably stronger than in the rest of the world. Consequently, the original relationship reversed around 2014, when these banks started reporting higher average capital ratios than banks in the rest of the world. In 2017, capital ratios in the Americas started to decrease again, thus moving into line with the capital ratios in the rest of the world. Since then, the average initial Tier 1 capital ratio in the Americas is similar to the one in the rest of the world.

Over H1 2022, capital ratios showed comparable developments across all regions. All capital ratios decreased during the first half of 2022. European banks report the most pronounced decrease.

Initial Basel III CET1, Tier 1 and total capital ratios,[1] by region

Group 1 banks, balanced data set — Graph 15



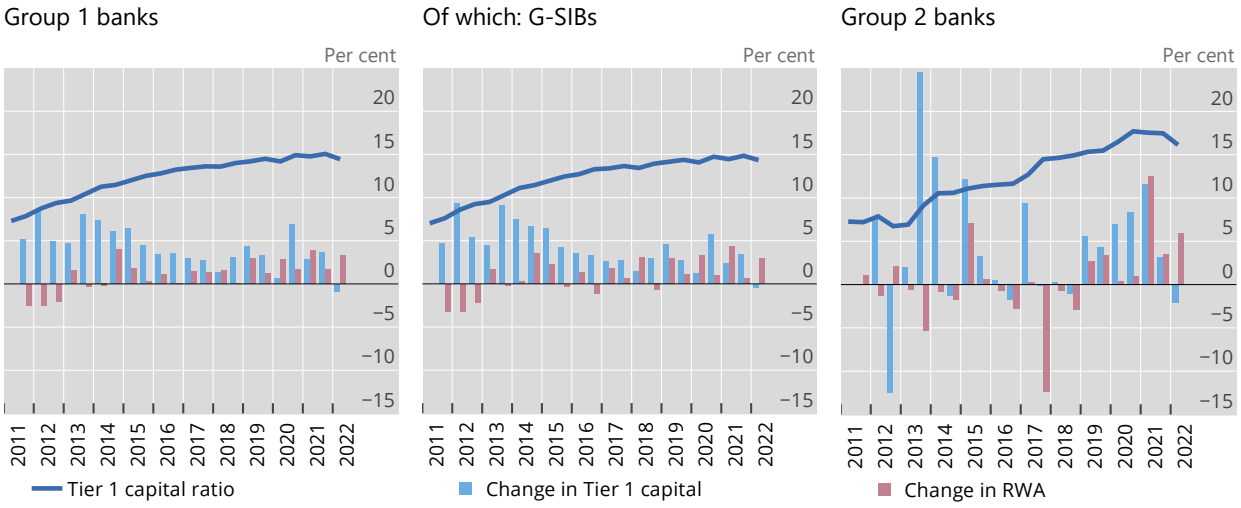
[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 15a" provides the same breakdown for G-SIBs.

Across all regions and groups, the decrease in capital ratios is due to increasing RWA during the first half of 2022. For European Group 1 banks, the RWA increase of 4.1% is accompanied by a reduction in Tier 1 capital of 2.7%. This is the reason for the sharper decline in capital ratios for European banks compared with American banks and banks in the rest of the world. The RWA increase is particularly high for Group 2 banks (+5.9%), thus explaining the comparably high reduction in capital ratios.

Initial Basel III Tier 1 capital ratios and changes in RWA and Tier 1 capital[1]

Balanced data set, exchange rates as of the current reporting date — Graph 16

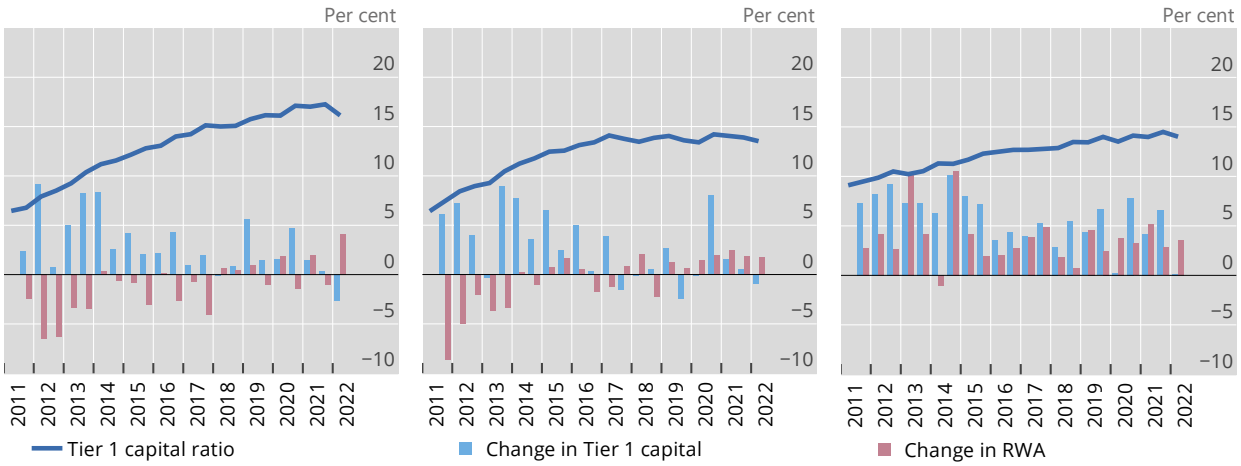


[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Initial Basel III Tier 1 capital ratios and changes in RWA and Tier 1 capital,[1] by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 17



[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

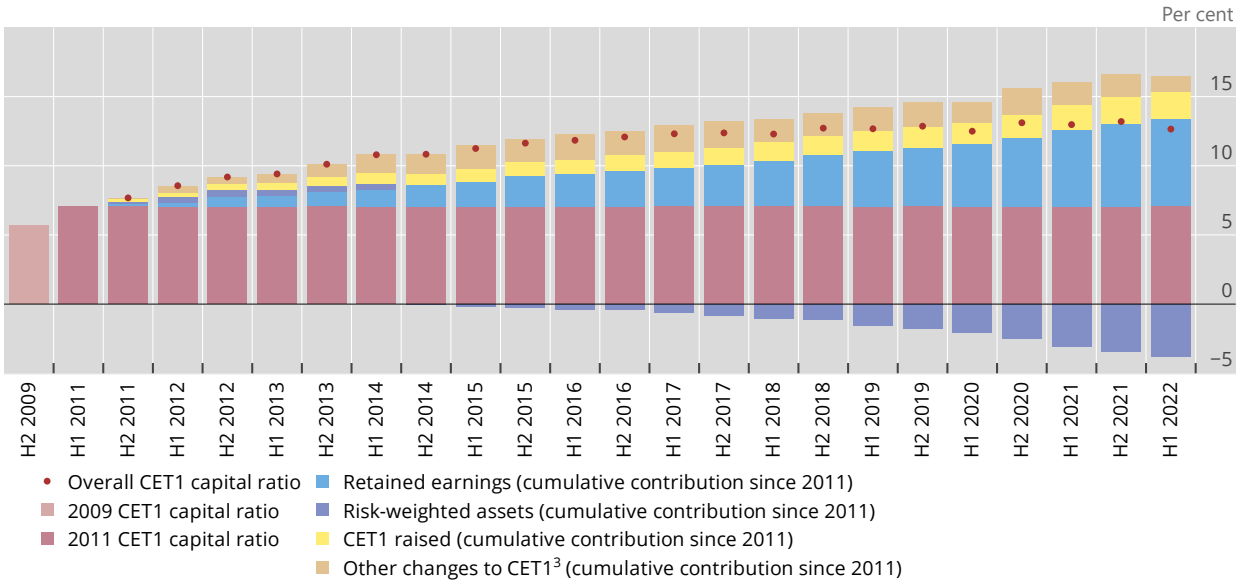
Graph 18 and Graph 19 below show the evolution of initial Basel III CET1 capital ratios and their drivers. Starting with the June 2011 CET1 capital ratio, the cumulative effect on the ratio of CET1 capital raised, retained earnings and other increases in CET1 capital (such as any reduction in regulatory adjustments) is added to the capital ratio. Furthermore, the impact of cumulative reductions in RWA has a

positive impact on capital ratios, while the impact of cumulative increases in RWA is subtracted from the baseline capital ratio.

Overall, Graph 18 suggests that retained earnings were the by far most significant contributor to the improvements in CET1 capital ratios since 2011. A more detailed observation shows that the development and the main contributors are very heterogeneous across regions. Indeed, in Europe, the improvement of CET1 capital ratios stems mainly from a reduction in total RWA, whereas in the Americas, the main driver of strengthening the CET1 ratio is the category "Other changes to CET1". In both regions, the cumulative impact of the individual main contributor decreased during H1 2022. In contrast, in the rest of the world the different contributors to the CET1 capital ratio development counteract. While the negative cumulative impact of RWA continues to increase, the positive cumulative impact of retained earnings rose as well. This development was completely offset by a decline in the cumulative impact of "Other changes to CET1".

Evolution of initial Basel III CET1 capital ratios and their drivers[1]

Group 1 banks, balanced data set[2] Graph 18

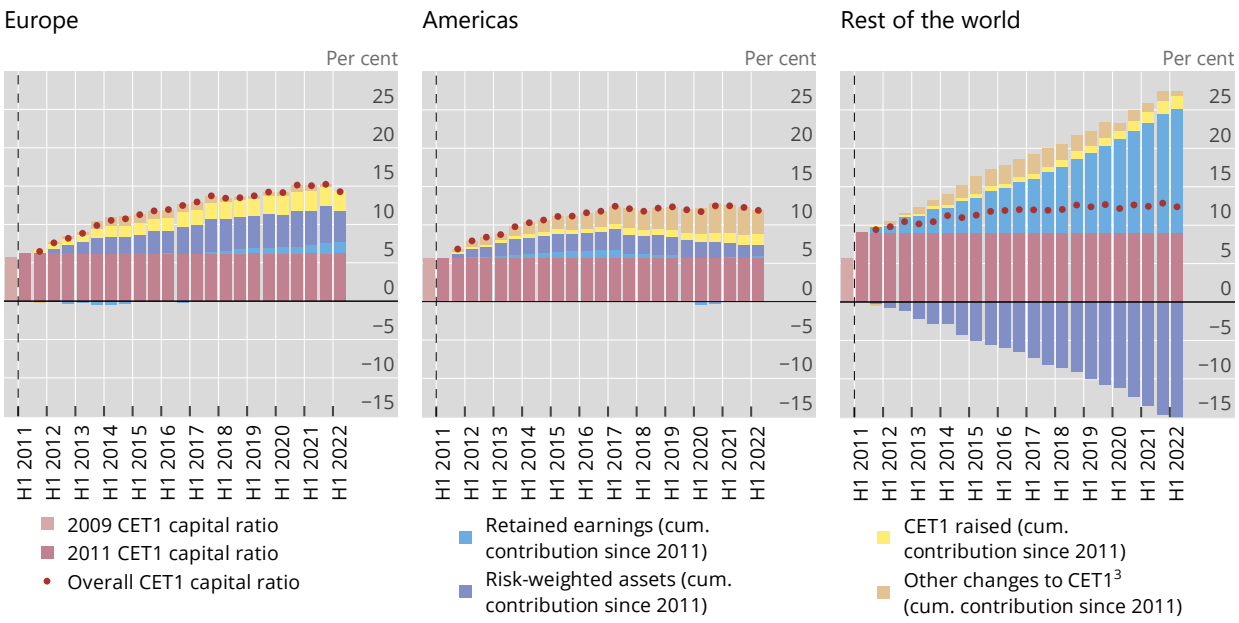


[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter. [2] Except the ratio for H2 2009, which is based on the different sample of the Committee's comprehensive Quantitative Impact Study and therefore not fully comparable. [3] Other changes include changes in regulatory adjustments to CET1 capital and any other changes in CET1 capital between two reporting dates that are not reported separately.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Evolution of initial Basel III CET1 capital ratios and their drivers,[1] by region

Group 1 banks, balanced data set[2] Graph 19



[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter. [2] Except the ratio for H2 2009, which is based on the different sample of the Committee's comprehensive Quantitative Impact Study and therefore not fully comparable. [3] Other changes include changes in regulatory adjustments to CET1 capital and any other changes in CET1 capital between two reporting dates that are not reported separately.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

2.1.2 Final Basel III standards

On average, the initial Basel III CET1 capital ratio of Group 1 banks (Graph 13) compared with the fully phased-in final Basel III CET1 capital ratio (Graph 20) would decline by about 20 basis points from 12.7% to 12.5%. The difference for G-SIBs is similar, with the CET1 ratio dropping by 10 basis points from 12.6% to 12.5%. Apart from that, Group 2 banks show a larger CET1 capital ratio decline by 240 basis points from 16.9% to 14.5%.

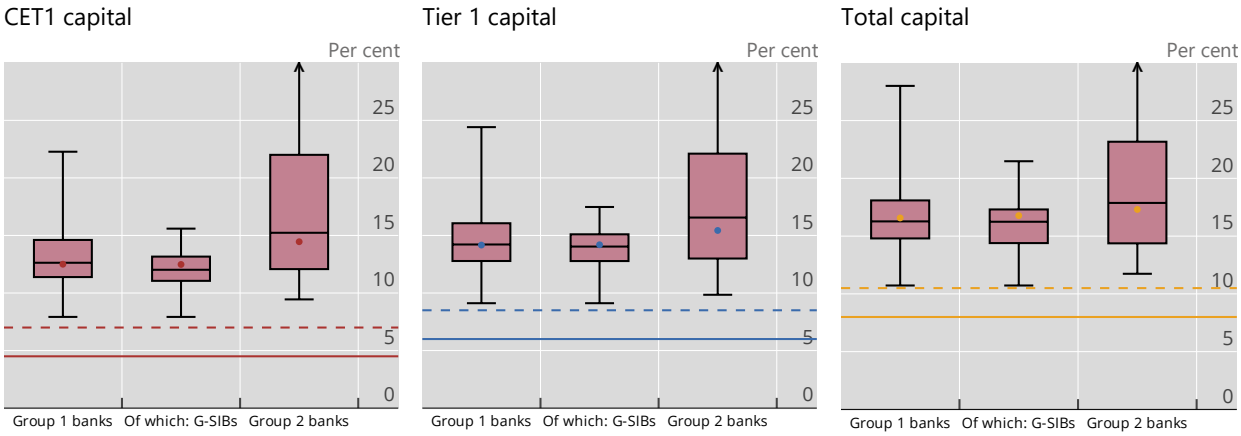
Similar to CET1 capital ratios, Tier 1 and total capital ratios would also decline for all groups. For Group 1 banks and G-SIBs, the decline in Tier 1 capital ratio is similar to the decline in CET1 capital ratio. Both groups show a slightly more pronounced decline in total capital ratio of around 20 basis points. Group 2 banks continue to show a larger impact due to the fully phased-in final Basel III framework. The Tier 1 capital ratio reduces by 330 basis points, while the total capital ratio even reduces by 350 basis points.

All Group 1 banks in the sample meet the 4.5% CET1 minimum ratio as well as the 7.0% target ratio under fully phased-in final Basel III standards. Moreover, 44% of Group 1 banks report a CET1 ratio higher than 13% and roughly 90% have a CET1 ratio amounting to more than 10%. Nevertheless, one Group 1 bank does not meet the target total capital ratio of 10.5%. For Group 2 banks, all banks meet the minimum and target fully phased-in capital requirements under the final Basel III framework. The vast majority (over 90%) of Group 2 banks has a CET1 capital ratio that is higher than 10%. Almost two thirds even exceed the 13% mark.[11]

[11] Worksheet "Graph 20a" in the Excel data file provides additional information.

Fully phased-in CET1, Tier 1 and total capital ratios under the final Basel III standards[1]

Graph 20



[1] See Section 1.3.3 for details on box plots. The solid horizontal line represents the relevant minimum requirement and the dotted horizontal line represents the relevant target (excluding any bank-specific G-SIB surcharges).

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The worksheet "Graph 20b" provides the same information for the transitional final Basel III standards.

2.2 Impact of the final Basel III framework on minimum required capital

On average, Group 1 banks report a total change in Tier 1 MRC at the target level due to the final Basel III framework of +2.8%. The average Tier 1 MRC change for G-SIBs is slightly higher (+3.2%). Compared with that, Group 2 banks show an overall decrease in Tier 1 MRC with -2.0% (see Table 4). In contrast to the results of the cumulative Quantitative Impact Study (CQIS),[12] these numbers include the impact of the amended minimum capital requirements for market risk published in January 2019 and the targeted revisions to the CVA framework in July 2020.

In more detail, Graph 21 depicts the dispersion of the MRC changes across Group 1 banks, G-SIBs and Group 2 banks in the sample. The change in MRC (including market risk and CVA) for the current period ranges between -1.5% and 10.9% for half of the Group 1 banks with a median of 2.2%. The distribution for G-SIBs is shifted towards a much higher median impact on MRC of 16.5% and a wider interval from -2.2% and 19.3%. Meanwhile for this exercise, half of Group 2 banks report a negative increase the median being -0.0% with an interval ranging from -6.6% to 1.3%.

For Group 2 banks, we notice two important changes in the recent period. One being a noticeable spike in the upper bound and in dispersion in June 2021 reflecting improvements in data reporting quality and leverage ratio exemptions accounting approach.[13] The other being a significant drop in Group 2

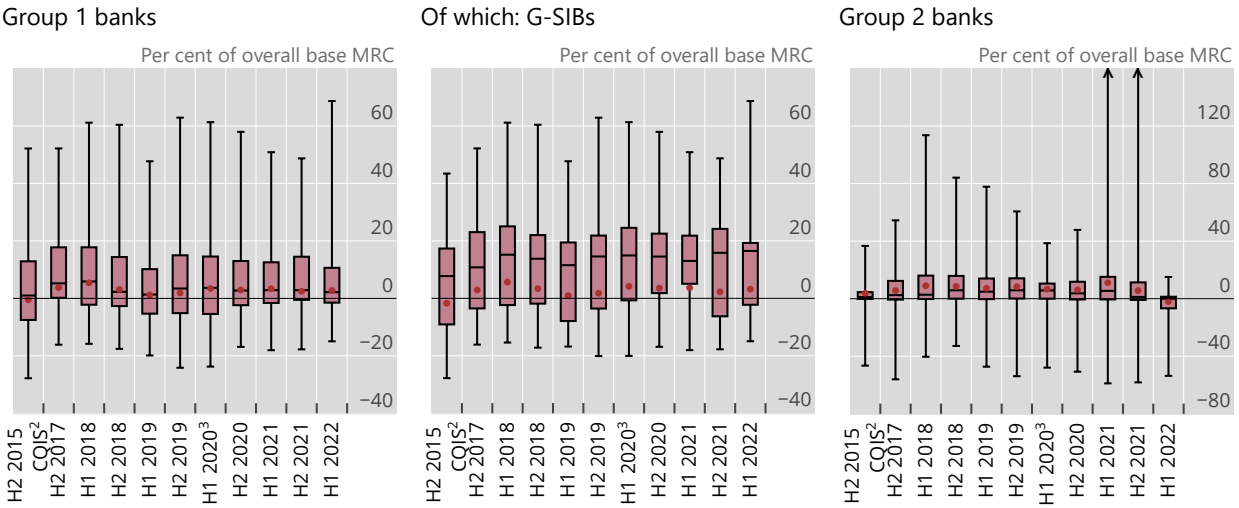
[12] In the cumulative QIS, all changes from the revised market risk framework were are already added to MRC under the current rules such that they were not reflected in the *change* in MRC.

[13] The surge in the upper bound and dispersion is mostly due to the capital requirements reporting of one Group 2 bank that correctly reflected in June 2021 the leverage ratio exposures measurement treatment aligned with its specific business model and legal status under the current framework. Due to the methodological approach in the calculation of the change in MRC taking into account the interactions between leverage ratio and risk-based requirements, the changes in leverage ratio requirements are no longer compensating the increase in the risk-based change in MRC. At the same time, the level of MRC of this bank under the final framework remains unaffected by this change.

overall impact and dispersion towards the negative reflecting a change in the Group 2 banks sample[14] for the June 2022 exercise.

Total change in Tier 1 MRC at the target level[1,2]

Unbalanced data set — Graph 21



[1] See Section 1.3.3 for details on box plots. [2] Results for H2 2015 are based on the Committee's cumulative Quantitative Impact Study and are not fully comparable from a methodological point of view, in particular since all changes from the revised market risk framework were already added to MRC under the current rules such that they were not reflected in the *change* in MRC. [3] Since the Committee did not collect the relevant data through its Basel III monitoring exercise for the end-June 2020 reporting date, results for H1 2020 use data from banks as of end-2019 and supervisory data for June 2020. Consequently, the change in MRC for the various risk types is kept constant from end-2019 to June 2020, but the basis on which these changes are calculated is updated for end-June 2020 based on supervisory data.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

The results are summarised in Table 4 and Graph 22 that include the following columns that provide an additional breakdown of the total change in MRC:

- *Total* shows overall changes in Tier 1 MRC, including the risk-based requirements (ie including output floors) and the Basel III leverage ratio.
- *Total: risk-based capital requirements* shows changes to the risk-based Tier 1 MRC (ie excluding the Basel III leverage ratio).
- *Credit risk* shows the change in Tier 1 MRC due to the revisions to the standardised and internal ratings-based (IRB) approaches for credit risk,[15] including the effect from migration of approaches[16] and changes to the securitisation framework.
- *CVA* shows the change in Tier 1 MRC due to the revisions to the CVA framework.[17]

[14] Please refer to the special feature on *regional distributions of Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports* on page at the end of this report.

[15] The credit risk MRC impact since the end-December 2019 reporting date reflects the split between defaulted and non-defaulted assets in the treatment of EL amounts and provisions for those jurisdictions that require such a split. As a consequence of this methodological change banks in these jurisdictions may show slightly increased credit risk MRC impacts. This is most pronounced for banks in the European regional breakdown since European Union rules require the aforementioned split.

[16] Migration of approaches refers to the application of a different approach for determining risk weights than the one currently used, as a consequence of the revisions which remove certain modelling approaches for selected (sub-)asset classes.

[17] Targeted revisions to the revised CVA framework were published in July 2020. See Basel Committee on Banking Supervision, *Targeted revisions to the credit valuation adjustment risk framework, July 2020*, www.bis.org/bcbs/publ/d507.htm.

- *Market risk* shows the change in Tier 1 MRC due to the revisions to the market risk framework.
- *Operational risk* shows the change in Tier 1 MRC due to the revisions to the operational risk standards.
- *Output floor* presents the change in the level of Tier 1 MRC due to the aggregate output floor when the total RWA fall below the threshold level of 72.5%. The impact is measured relative to the current national implementation of the Basel I-based transitional floor set out in the Basel II framework, as reported by member countries.
- *Other Pillar 1* presents the change in Tier 1 MRC due to changes to Pillar 1 requirements not specifically captured in the reporting template, including requirements by individual jurisdictions which are not based on a Basel Committee standard.
- *Leverage ratio* shows the change in Tier 1 MRC resulting from the changes to the Basel III leverage ratio framework. This captures the change in the definition of the Basel III leverage ratio exposure measure and the introduction of a G-SIB buffer on top of a 3% leverage ratio minimum which amounts to 50% of the surcharge on risk-based capital requirements. Note that increases to risk-based Tier 1 MRC and leverage ratio Tier 1 MRC do not add up, since the total MRC increases only to the extent the risk-based or leverage ratio requirement exceeds the other capital measure. Therefore, the leverage ratio column is adjusted to capture this effect (which can be positive or negative, even where the leverage ratio Tier 1 MRC remains unchanged). This results in an overall *incremental* leverage ratio change in MRC which can be either positive or negative. This mechanism is described in Box B.

For 86 Group 1 banks, the Tier 1 MRC would increase by 2.8%, applying a fully phased-in definition of the final Basel III standards. This increase is composed of a 2.6% rise in the risk-based components combined, driven by the positive contributions of the output floor (+1.7%), market risk (+1.6%), CVA (+0.4%), as well as a reduction in credit risk (-1.0%). The rise of the combined risk-based components is accompanied by a positive effect of the leverage ratio Tier 1 MRC (+0.1%).

The impact on MRC is very heterogeneous across regions for Group 1 banks (see Table 4). European banks show the biggest increase in MRC (+15.9%), mostly driven by the output floor (+7.0%). Nearly all other risk-based components also contribute to the increase: credit risk (+4.3%), operational risk (+4.2%), market risk (+2.2%) and CVA (+1.6%). Other Pillar 1 requirements as well as the leverage ratio slightly offset this development (-0.3% and -3.2%, respectively). In comparison, banks in the Americas report a moderate increase of MRC amounting to 1.9%. Both, risk-based and leverage ratio requirements contribute to this development with the impact of the leverage ratio requirements being the main contribution (+1.6% and +0.3%, respectively). The reason for the marginal risk-based increase is the contrary impacts of the individual risk-categories: the positive effects of market risk (3.4%), credit risk (0.4%) and other Pillar 1 requirements (0.1%) are compensated by the negative effects of CVA (-0.2%), operational risk (-1.1%) and the output floor (-2.4%). Contrary to the observations in the Americas and Europe, banks in the rest of the world report a decrease of MRC (-3.9%), the main driver of this decrease being credit risk (-4.8%). Negative effects are also observed for operational risk (-1.5%), whereas the output floor contributes positively (+1.6%). Consequently for this region, risk-based requirements overall decrease MRC, which is being partly compensated by a positive contribution of leverage ratio requirements (+0.9%).

G-SIBs (29 banks) show an overall increase of 3.2%, decomposed between 2.2% and 1.0% increases on risk-based measure and leverage ratio, respectively. The risk-based increase is mostly driven by market risk[18] (2.0%) and the output floor (1.3%) and compensated by credit risk (-0.9%) and operational risk (-0.5%).

[18] Taking into account the retreatment of overly conservative treatment of investment in funds for several G-SIBs. For more details please see footnotes 9 and 10.

For Group 2 banks, the overall -2.0% decrease in Tier 1 MRC is driven by a negative contribution of the leverage ratio requirements (-9.9%), which offsets the risk-based measures increase of 7.9%. Main contributors of the risk-based increase are the output floor (5.0%) and credit risk (2.4%).

Note that Group 1 and Group 2 bank samples are not directly comparable due to different business models and different regional distribution of the samples.[19]

Changes in Tier 1 MRC at the target level due to the final Basel III standards

In per cent of overall basis MRC Table 4

	Number of banks	Total	Risk-based requirements							Leverage ratio
			Total	Of which:						
				Credit risk[1]	CVA	Market risk	Op risk[2]	Output floor[3]	Other Pillar 1	
Group 1 banks	86	2.8	2.6	–1.0	0.4	1.6	0.0	1.7	–0.1	0.1
Of which: Europe	29	15.9	19.0	4.3	1.6	2.2	4.2	7.0	–0.3	–3.2
Of which: AM	21	1.9	0.3	0.4	–0.2	3.4	–1.1	–2.4	0.1	1.6
Of which: RW	36	–3.9	–4.8	–4.9	0.1	0.0	–1.5	1.6	0.0	0.9
Of which: G-SIBs	29	3.2	2.2	–0.9	0.4	2.0	–0.5	1.3	0.0	1.0
Group 2 banks	40	–2.0	7.9	2.3	0.4	0.0	0.5	5.0	–0.4	–9.9

[1] Including securitisation. [2] Figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, increases in MRC may be overstated and reductions may be understated. [3] Net of existing Basel I-based floor according to national implementation of the Basel II framework.

Source: Basel Committee on Banking Supervision.

Box B

Aggregation of changes in risk-based and leverage ratio MRC

Example 1 shows an illustrative bank that is currently constrained① by the Basel III leverage ratio, resulting in an additional Tier 1 MRC. Under the revised framework, the additional requirement is instead "charged" by the risk-based Tier 1 MRC with the total change indicated by △RB. This replacement effect is represented as a negative effect in leverage ratio Tier 1 MRC to avoid double-counting, as shown by the blue arrow (△LR) in the diagram. Example 2 shows an alternative case where the bank is still constrained by the Basel III leverage ratio after the reforms. In this case, the contribution of the leverage ratio Tier 1 MRC is the net of (i) the additional leverage ratio Tier 1 MRC in the revised framework (△LR'); and (ii) the replacement effect captured by the risk-based Tier 1 MRC (△LR), which may be positive or negative.

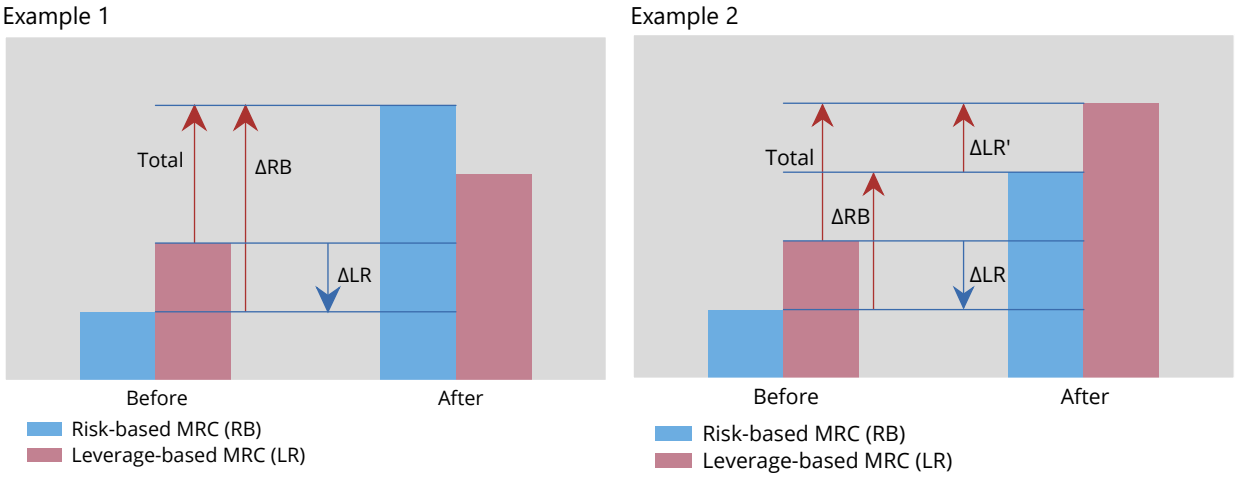
Note that even for banks that already adopted the final leverage ratio standards (ie △LR'=0) there may be a non-zero contribution of the leverage ratio Tier 1 MRC, which is in this case equal to the replacement effect (△LR).

① A requirement is called constraining if it imposes the largest amount of MRC among the requirements under consideration (here risk-based and leverage ratio). A requirement is binding on a bank if the resulting MRC are higher than a bank's corresponding actual Basel III capital amounts.

[19] Please refer to the special feature on *regional distributions of Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports* on page at the end of this report.

Aggregation of changes in risk-based and leverage ratio MRC

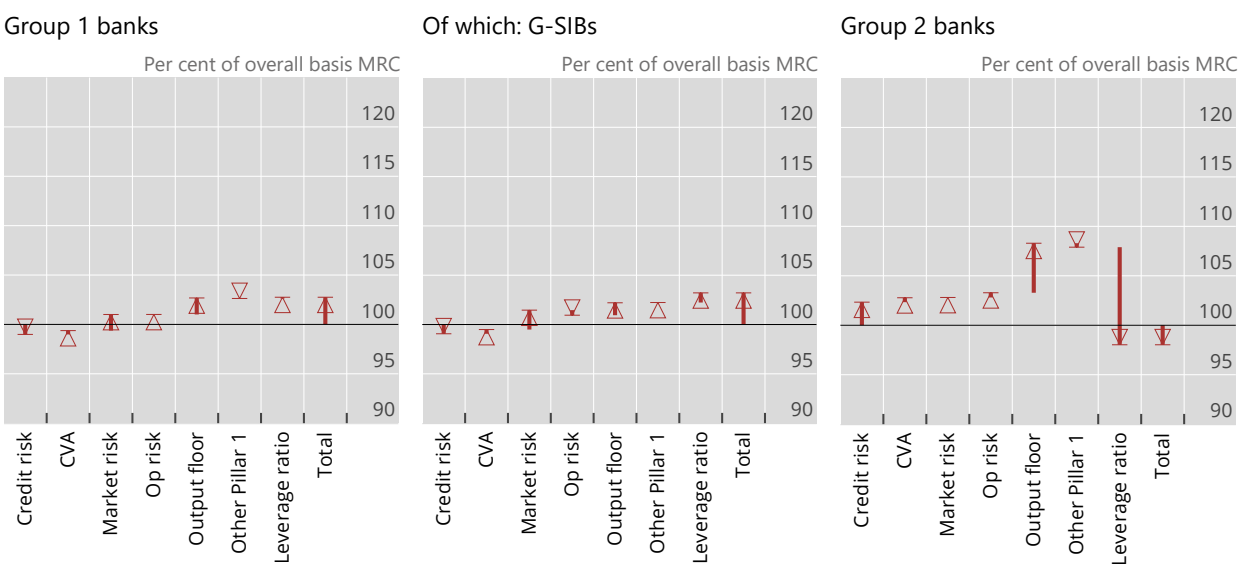
Graph A



Graph 22 displays the contributions of each MRC component relative to the current basis for Group 1 banks, G-SIBs and Group 2 banks, respectively. The arrows pointing upwards (downwards) highlight the positive (negative) contributions induced by the different parts of the final Basel III framework, except for the rightmost arrow that represents the total MRC impact. Graph 23 provides the regional breakdown for Group 1 banks.

Changes in Tier 1 MRC at the target level due to the final Basel III standards

Graph 22

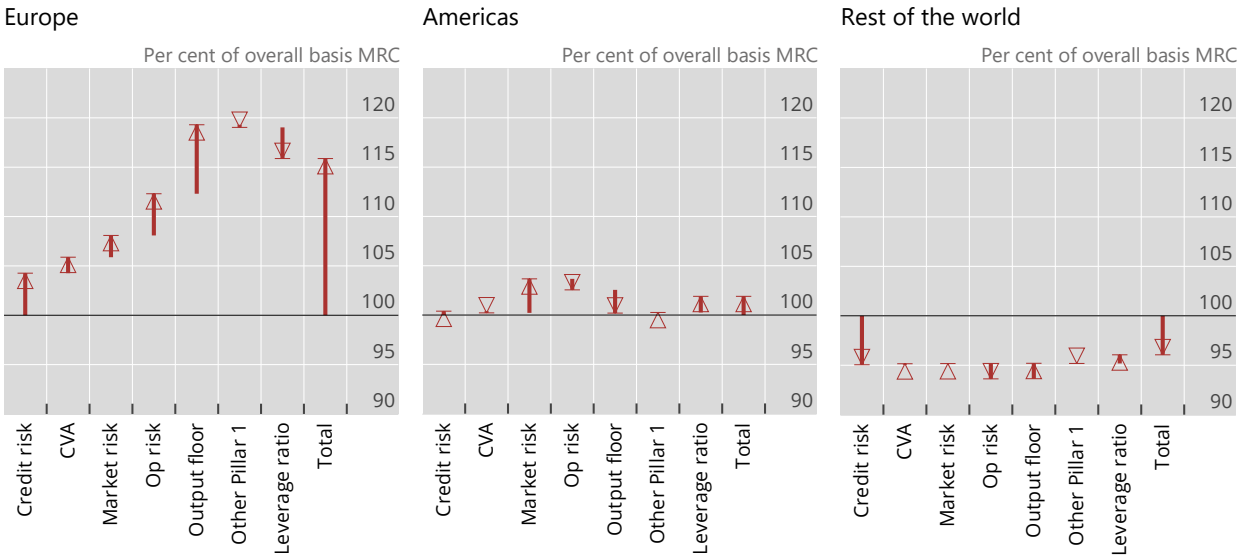


Credit risk includes securitisation. Operational risk figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, increases in MRC may be overstated and reductions may be understated. Output floor results are net of the existing Basel I-based floor according to national implementation of the Basel II framework.

Source: Basel Committee on Banking Supervision.

Changes in Tier 1 MRC at the target level due to the final Basel III standards

Group 1 banks — Graph 23



Credit risk includes securitisation. Operational risk figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, increases in MRC may be overstated and reductions may be understated. Output floor results are net of the existing Basel I-based floor according to national implementation of the Basel II framework.

Source: Basel Committee on Banking Supervision.

2.3 Leverage ratio

2.3.1 Overall results

The results regarding the Basel III leverage ratios are provided using the following measures for the numerator and the denominator:

- *numerator:* the numerator includes two alternative measures of Tier 1 capital:
  - *initial Basel III Tier 1*, which is the Tier 1 capital eligible under the national implementation of the Basel III framework in place in member countries at the reporting date, including any phase-in arrangements; and
  - *fully phased-in final Basel III Tier 1*, which is the fully phased-in Basel III definition of Tier 1 capital without considering any transitional arrangements set out in the in the Basel III framework.
- *denominator:* the Basel III leverage ratio exposure measure is calculated on the basis of the 2014 or 2017 (final) definition as applicable (see box C). Also note that, contrary to Sections 2.2, 2.4, 2.5 and Section 5.2, throughout Section 2.3 temporary exclusions from the leverage ratio exposure measure in the context of Covid-19 have not been added back.

Box C

Basel III leverage ratio framework

Under the January 2014 and December 2017 versions of the Basel III leverage ratio framework,① the Basel III leverage ratio exposure measure (the denominator of the Basel III leverage ratio) includes:

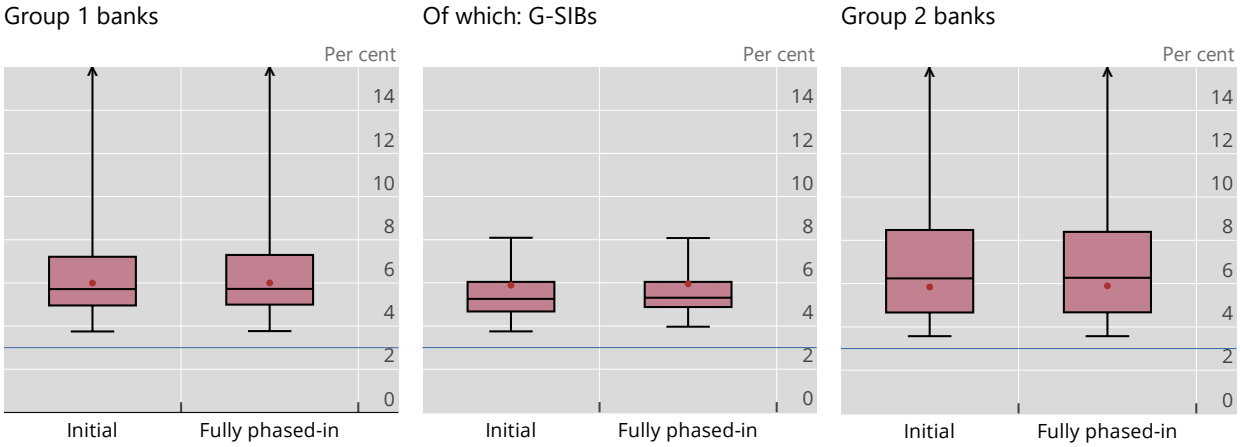
- on-balance sheet assets, excluding securities financing transactions (SFTs) and derivatives;
- SFTs, with limited recognition of netting of cash receivables and cash payables with the same counterparty under strict criteria;
- derivative exposures at replacement cost (net of cash variation margin meeting a set of strict eligibility criteria) plus an add-on for potential future exposure;
- written credit derivative exposures at their effective notional amount (net of negative changes in fair value that have been incorporated into the calculation of Tier 1 capital) reduced by the effective notional amount of purchased credit derivatives that meet offsetting criteria related to reference name, level of seniority and maturity;
- off-balance sheet exposures, obtained by multiplying notional amounts by the credit conversion factors in the standardised approach to credit risk, subject to a floor of 10%; and
- other exposures as specified in the Basel III leverage ratio framework.

① Basel Committee on Banking Supervision, *Basel III leverage ratio framework and disclosure requirements*, January 2014, www.bis.org/publ/bcbs270.htm. The Committee agreed revisions to the leverage ratio framework in December 2017, see Basel Committee on Banking Supervision, *Basel III: Finalising post-crisis reforms*, December 2017, www.bis.org/bcbs/publ/d424.htm. Please note that this report does not take into account the treatment of client cleared derivatives exposures as revised by the Committee in June 2019.

Graph 24 presents summary statistics related to the distribution of Basel III leverage ratios based on initial and fully phased-in final Basel III Tier 1 capital for Group 1 banks, G-SIBs and Group 2 banks. The weighted average of the initial Basel III leverage ratios is 6.0% for Group 1 banks and 5.9% for G-SIBs, while it equals 5.8% for Group 2 banks. The weighted average of the fully phased-in final Basel III leverage ratios is 6.0% for Group 1 banks and G-SIBs and 5.9% for Group 2 banks. When comparing across groups, Group 2 banks show a slightly larger interquartile dispersion compared with Group 1 banks, whereas G-SIBs' leverage ratios are more concentrated.

The median fully phased-in final Basel III leverage ratio is 5.7% for Group 1 banks, 5.3% for G-SIBs and 6.3% for Group 2 banks, with all banks well above the 3% minimum. The aggregate leverage incremental shortfall under the initial framework is again zero in this period.

Initial and fully phased-in final Basel III Tier 1 leverage ratios[1] Graph 24



[1] See Section 1.3.3 for details on box plots. The blue line is set at 3% (minimum leverage ratio level).

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

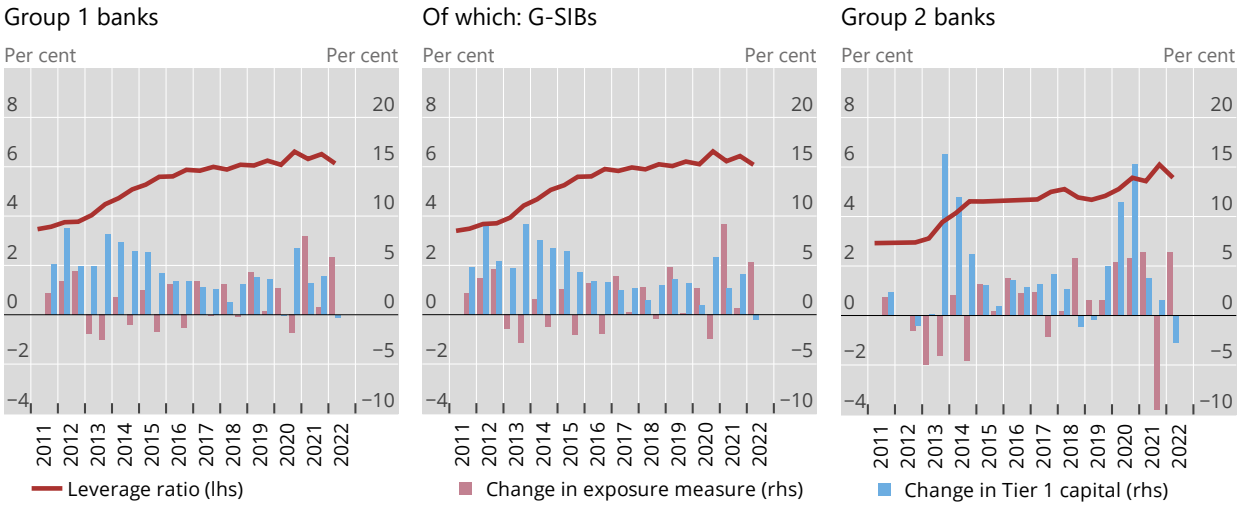
Graph 25 shows how the fully phased-in final Basel III leverage ratios have evolved over time for a balanced data set comprising leverage ratio data for all reporting dates from June 2011 to June 2022. For Group 1 banks, the leverage ratio decreased compared with end-December 2021. This is driven by a comparatively larger growth in exposure measure relative to the change in Tier 1 capital for Group 1 banks. The leverage ratio for Group 2 banks shows a decrease as well, driven by both an increase in the leverage ratio exposure measure as well as a decrease in Tier 1 capital for these banks.

Graph 26 shows the same information as Graph 25, but for a balanced data set of Group 1 banks, grouped by region. Overall, the leverage ratio has been growing over the past nine years for all regions, with Europe showing the strongest relative increase and the rest of the world showing the largest absolute increase. In the last period, the average leverage ratio in the Americas has decreased further and is at its lowest level since end-June 2014, after a larger decrease in the previous periods, due to the expiration of Covid-19-related temporary exclusions[20] from the leverage ratio exposure measure in the United States. Notwithstanding this reduction, leverage ratios continue to be lower in Europe (5.0%) compared with the Americas (5.8%) and the rest of the world (7.2%).

[20] A special feature in the September 2021 report focused on the impact of these exclusions. See Basel Committee on Banking Supervision, *Basel III monitoring report,* September 2021, www.bis.org/bcbs/publ/d524.htm.

Fully phased-in final Basel III Tier 1 leverage ratios and component changes[1]

Balanced data set, exchange rates as of the current reporting date — Graph 25

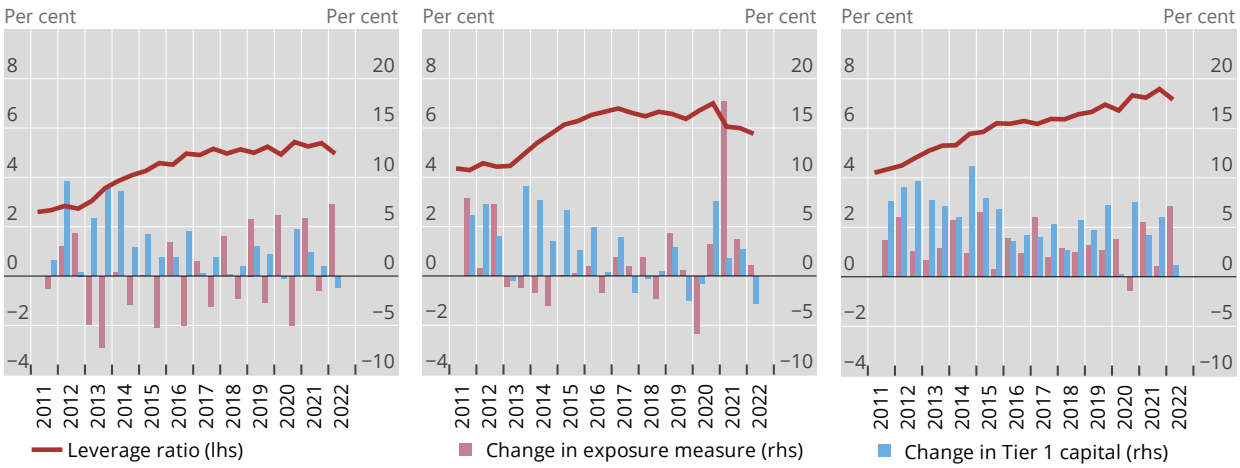


[1] Data points from H1 2011 to H2 2012 use the original definition of the leverage ratio. Data points from H1 2013 to H1 2017 use the definition of the leverage ratio set out in the 2014 version of the framework. Note that the data points for H1 2013 use an approximation for the initial definition of the Basel III leverage ratio exposure where gross instead of adjusted gross securities financing transaction values are used. Data points from H2 2017 onwards use the final definition of the leverage ratio to the extent data are available. Since the Committee did not collect the relevant data through its Basel III monitoring exercise for the end-June 2020 reporting date, the adjustment from initial to final leverage ratio exposure measure was calculated based on H2 2019 data.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Fully phased-in final Basel III Tier 1 leverage ratios and component changes,[1] by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 26



[1] See footnote 1 to Graph 25.

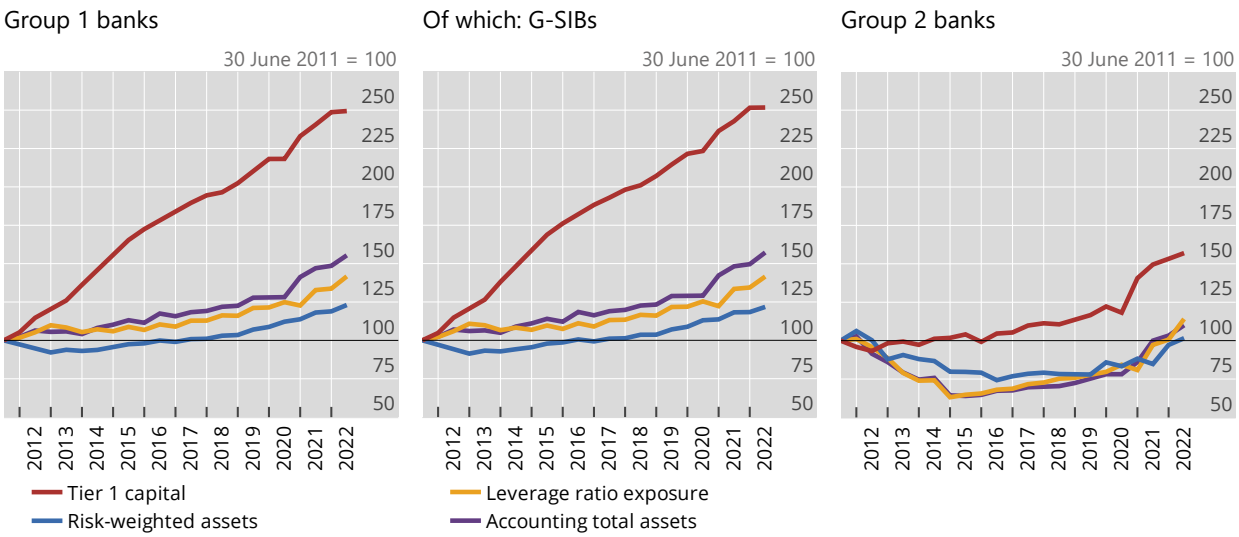
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 26a" provides the same breakdown for G-SIBs.

Graph 27 shows the evolution of the components of the risk-based capital and leverage ratios over time for a balanced data set, ie banks that have consistently provided the data since June 2011. The four components are Basel III Tier 1 capital, RWA and the leverage ratio exposure measure, all assuming full implementation of Basel III, as well as accounting total assets. For Group 1 banks, all four components have increased steadily over the period. For Group 2 banks, Tier 1 capital generally increased during the period, with a substantial increase since end-December 2019. RWA, leverage ratio exposure and accounting total assets have somewhat declined in the first half of the entire observed period, but have steadily increased in the second half, with a slightly stronger increase for this reporting period.[21] For all banks, Tier 1 capital has increased at a much higher rate than RWA, accounting assets and leverage ratio exposures over the entire observed period.

Graph 28 shows the same information for a balanced data set of Group 1 banks, grouped by region. While leverage exposures decreased from 2011 until 2016 for European Group 1 banks and remained below the level of 2011 since then, banks in the Americas experienced a moderate increase, and exposure for Group 1 banks in the rest of the world increased steadily since 2011.

Tier 1 capital, RWA, Basel III leverage ratio exposure and accounting total assets[1]

Balanced data set, exchange rates as of the current reporting date — Graph 27



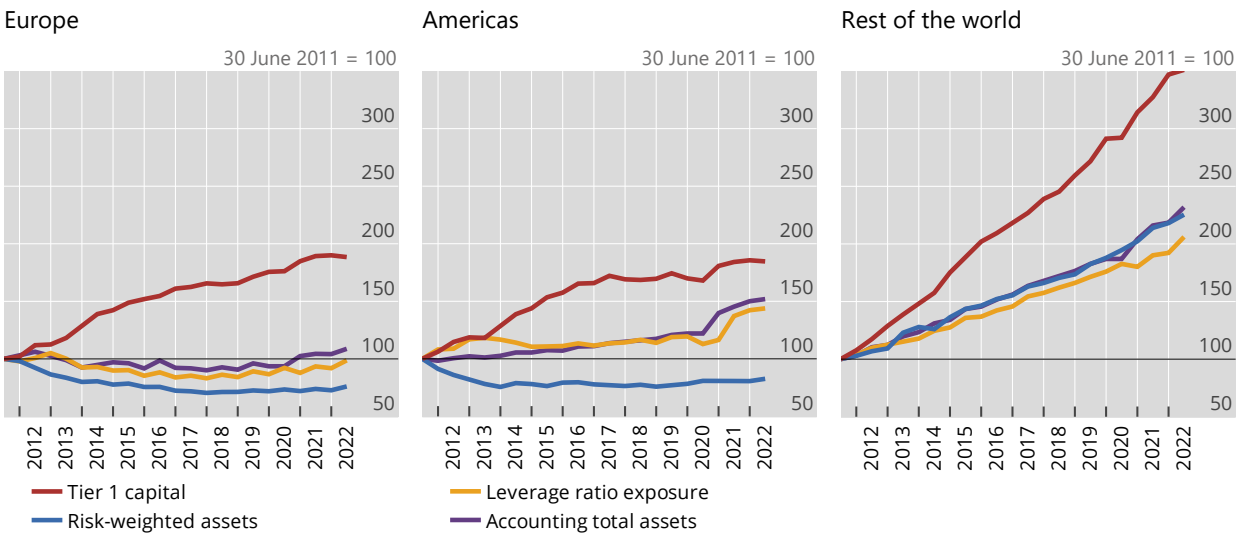
[1] Tier 1 capital, RWA and leverage ratio exposure assume full implementation of Basel III. Data points from H1 2010 to H2 2012 use the original definition of the leverage ratio. Data points from H1 2013 to H1 2017 use the definition of the leverage ratio set out in the 2014 version of the framework. Note that the data points for H1 2013 use an approximation for the initial definition of the Basel III leverage ratio exposure where gross instead of adjusted gross securities financing transaction values are used. Data points from H2 2017 onwards use the final definition of the leverage ratio to the extent data are available. Since the Committee did not collect the relevant data through its Basel III monitoring exercise for the end-June 2020 reporting date, the adjustment from initial to final leverage ratio exposure measure was calculated based on H2 2019 data, and accounting total assets are taken from end-2019 reporting.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

[21] The evolution of the measures for Group 2 banks appears more volatile with a much lower overall increase in Tier 1 capital than in the previous report due to a significant difference in the balanced sample for Group 2 banks.

Tier 1 capital, RWA, Basel III leverage ratio exposure and accounting total assets,[1] by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 28



[1] See footnote 1 to Graph 27.

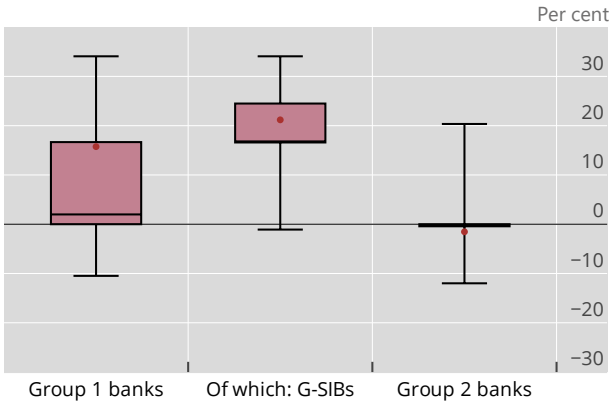
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

2.3.2 Impact on Basel III leverage ratio MRC measure due to the final standards

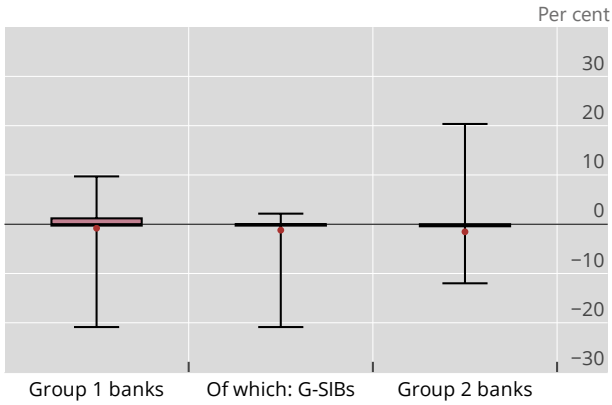
Graph 29 assesses, for Group 1 banks, G-SIBs and Group 2 banks, the changes in leverage ratio MRC at the target level due to the revisions to the Basel III leverage ratio. This captures the change in the definition of the Basel III leverage ratio exposure measure and the introduction of a G-SIB buffer on top of a 3% leverage ratio minimum, which amounts to 50% of the G-SIB surcharge on risk-based capital requirements. The left-hand side panel of Graph 29 shows the overall MRC changes, while the right-hand side panel shows the changes in MRC due to the changes in the exposure measure only (right-hand panel). The main driver of the change in MRC is the introduction of the G-SIB buffer in the final Basel III framework, even though at individual level some banks might be materially impacted by the change of the leverage ratio exposure measure. Note that many banks have already adopted the final standards. For these banks, the change in MRC shown below is zero.

Changes in leverage ratio MRC due to revisions in the final standards[1] Graph 29

Overall change in MRC at the target level[2]



Resulting from changes to the exposure measure only



[1] See Section 1.3.3 for details on box plots. To the extent a bank could not provide a component under the 2017 exposure measure, the relevant component of the 2014 measure was used. If a bank already adopted the revisions to the leverage ratio exposure measure, the change to the exposure measure equals zero. [2] The increase for G-SIBs is driven by the introduction of a G-SIBs add-on.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

2.4 Combined shortfall amounts under the final Basel III framework

This section shows the regulatory capital shortfalls for the Group 1 and Group 2 bank samples assuming fully phased-in requirements according to the final Basel III standards. Results for the Basel III monitoring exercises (data as of end-December 2017 through to the current reporting period) are compared with the results of the previous cumulative QIS, using data as of end-December 2015.[22] This analysis is based on an unbalanced data set, ie it relies on the different samples for the different reporting dates.

For this reporting date, Group 1 banks reported total regulatory capital shortfalls at the target level amounting to €7.8 billion, marking a sharp increase compared with H2 2021 (€0.3 billion). Shortfalls for CET1 and Tier 2 are the main contributors with €3.5 and €2.4 billion respectively, while the additional Tier 1 capital shortfall amounts to €1.9 billion. Even though the sample size of Group 1 banks has changed, these developments do not result from sample changes but from improvements in data quality.

For Group 2 banks, H1 2022 is the first reporting date that shows no CET1, additional Tier 1 or total regulatory capital shortfall at the target level. This is in line with the aggregate total capital shortfall steadily decreasing since 2018 except for the H1 2020 period. The total absence of capital shortfalls of Group 2 banks is due to a change in the sample.[23]

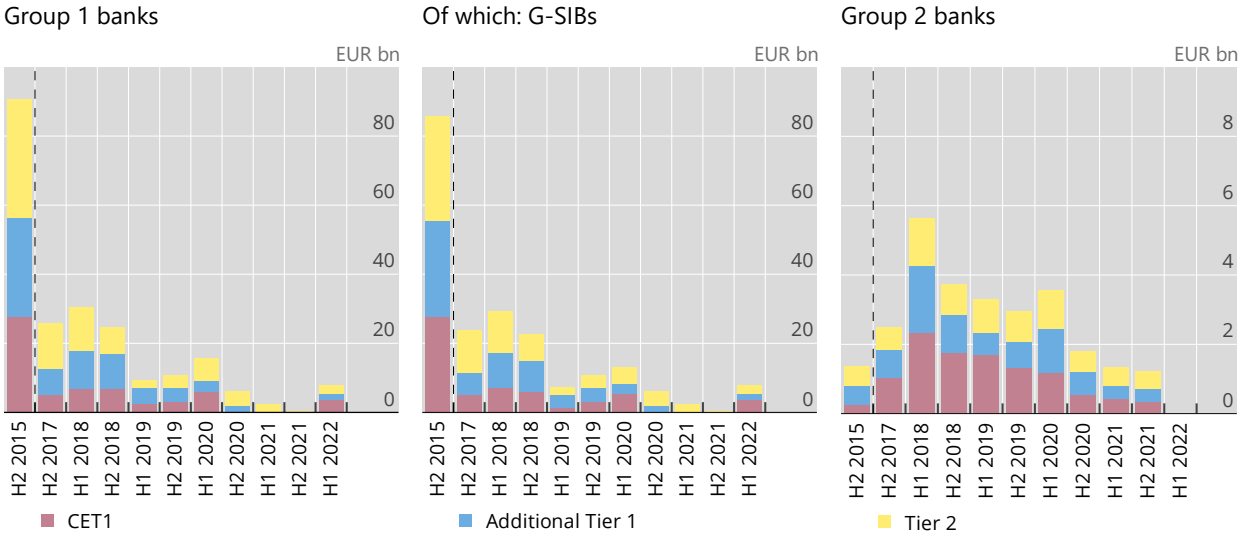
[22] Basel Committee on Banking Supervision, *Basel III Monitoring Report – Results of the cumulative quantitative impact study*, December 2017, www.bis.org/bcbs/publ/d426.htm.

[23] Please refer to the special feature on *regional distributions of Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports* on page 105 at the end of this report..

Combined capital shortfalls at the target level

Fully phased-in final Basel III standards[1], unbalanced data set, exchange rates as at the reporting dates

Graph 30



[1] Results for H2 2015 are based on the Committee's cumulative Quantitative Impact Study and are not fully comparable from a methodological point of view. Compared with H2 2017 and H1 2018, the results since H2 2018 include the revised market risk framework as finalised in January 2019. Since the Committee did not collect all relevant data through its Basel III monitoring exercise for the end-June 2020 reporting date, shortfalls for H1 2020 are estimated using some data from end-2019 reporting.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

2.5 Total loss-absorbing capacity requirements for G-SIBs

2.5.1 Initial Basel III framework

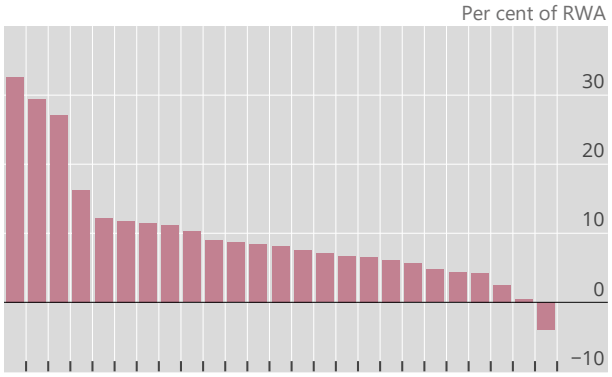
The Committee also collected data on additional total loss-absorbing capacity (TLAC) for G-SIBs, 25 of which participated in the exercise. Applying the 2019 minimum requirements, one G-SIB in the sample shows an incremental[24] TLAC shortfall which corresponds to 4.0% of its RWA. Applying the 2022 TLAC minimum requirements the shortfall increases to 6.4% of the bank's RWA. Two additional G-SIBs in the sample report incremental TLAC shortfalls of 2.1% and less than 0.1% against 2022 minimum requirements. Overall, the shortfall of the two banks amounts to €35.1 billion.

[24] The shortfall is incremental to any risk-based and leverage ratio shortfall discussed above.

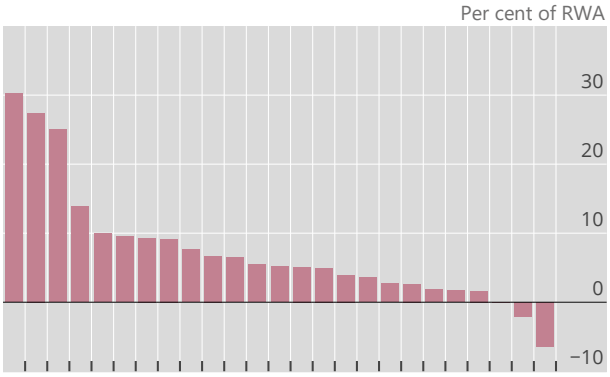
Distribution of individual G-SIBs' incremental TLAC surplus and shortfall across banks[1]

Fully phased-in initial Basel III standards, pure TLAC implementation[2] Graph 31

Applying 2019 TLAC minimum requirements



Applying 2022 TLAC minimum requirements



[1] Surplus is indicated as positive and shortfall as negative. [2] Ie following the FSB TLAC Term Sheet rather than national implementation.

Source: Basel Committee on Banking Supervision.

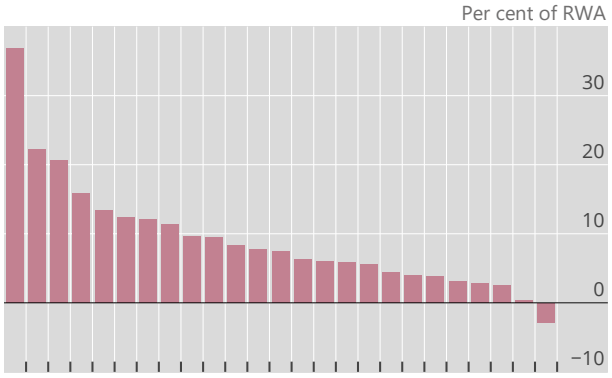
2.5.2 Final Basel III framework

The final Basel III reforms, based on end-June 2022 data, resulted in no significant increase in aggregate capital requirements for the respondent banks. With regard to TLAC, the reforms had a limited effect on the shortfall considering number of banks and size. Consistent with observations under the initial framework, one G-SIB reports a shortfall applying the 2019 minimum requirements. This G-SIB, along with two additional G-SIB, report shortfalls applying the 2022 requirements, totalling €29.8 billion.

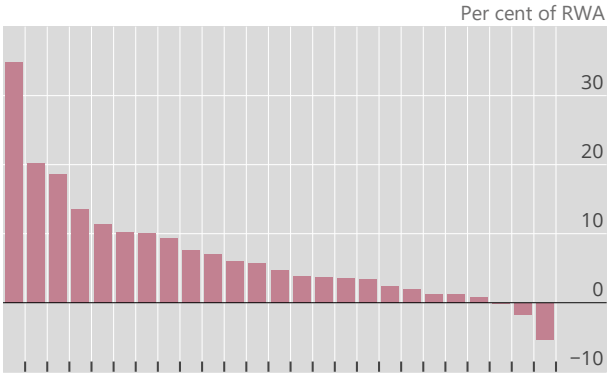
Distribution of individual G-SIBs' incremental TLAC surplus and shortfall across banks[1]

Fully phased-in final Basel III standards Graph 32

Applying 2019 TLAC minimum requirements



Applying 2022 TLAC minimum requirements



[1] Surplus is indicated as positive and shortfall as negative.

Source: Basel Committee on Banking Supervision.

3. Level and composition of regulatory capital

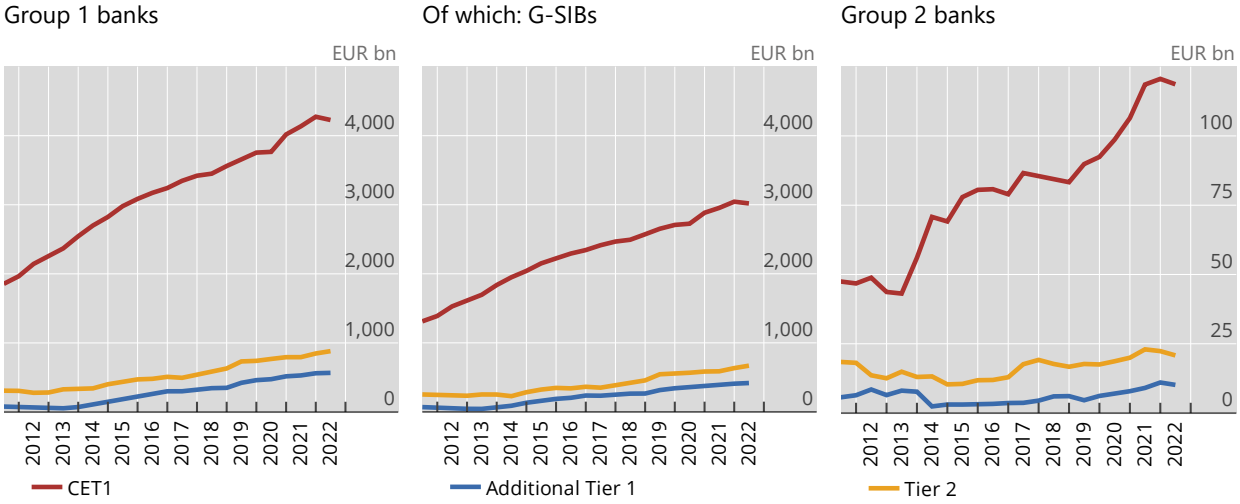
3.1 Level of capital

Graph 33 shows a time series of the level of regulatory capital for a balanced data set of Group 1 banks, Group 2 banks and G-SIBs. From end-December 2021 to end-June 2022, the level of CET1 capital for Group 1 banks decreased by €47 billion (or 1.1%) to €4,227 billion. G-SIBs, which collectively held €3,019 billion as of end-June 2022, account for 54% of this decrease. For Group 1 banks, the increase in additional Tier 1 capital amounts to €6 billion since December 2021, while an increase of Tier 2 capital of €34 billion is observed.

Over the most recent period, the level of Group 2 banks' CET1 capital decreased by €2 billion (or 1.6%) to €119 billion. Group 2 banks' additional Tier 1 capital and Tier 2 capital both decreased by €1 billion and €2 billion, respectively.

Level of capital[1]

Balanced data set, exchange rates as of the current reporting date — Graph 33



[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 33a" provides an additional regional breakdown for Group 1 banks.

Graph 34 shows a time series of the level of regulatory capital for a balanced data set of Group 1 banks, grouped by region, assuming full implementation of final Basel III standards. Over H1 2022, CET1 capital decreased slightly in Europe and the Americas while remaining largely unchanged in the rest of the world region. While CET1 capital in the rest of the world is now more than three times its value in 2011, the increase in Europe and in the Americas was more limited at 71% and 84%, respectively.

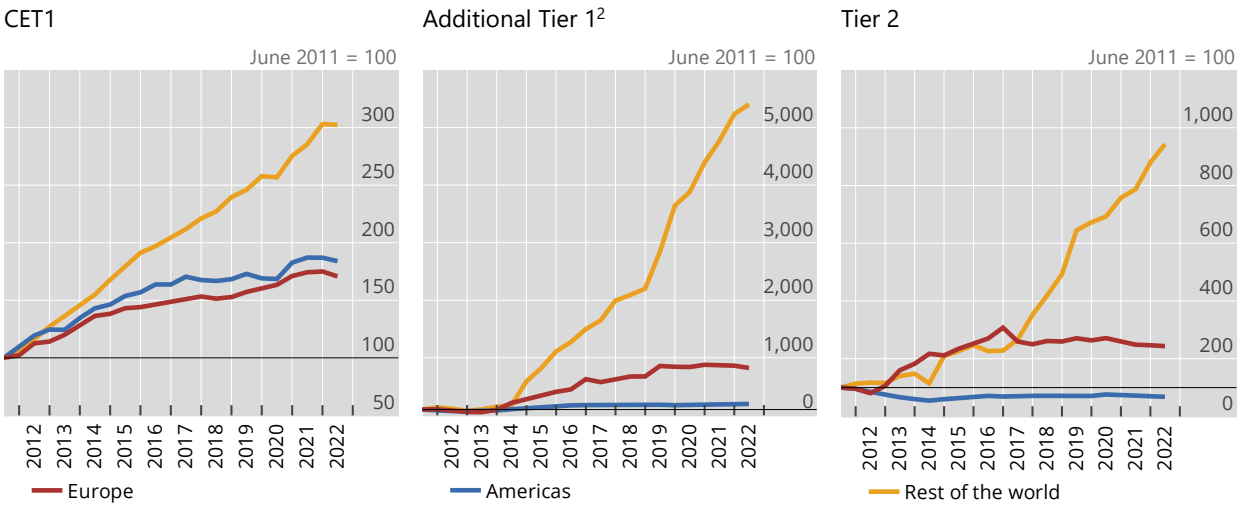
Additional Tier 1 capital showed some initial declines from 2011 through 2013 in Europe and the Americas and some mild increases in the rest of the world region. Afterwards, additional Tier 1 capital has grown significantly in the rest of the world region. The growth of additional Tier 1 capital is more modest in Europe and especially in the Americas. This development is in line with Tier 2 capital.

The stock of Tier 2 capital has grown compared with the end-June 2011 reference date for all regions except the Americas. This region experienced a decrease between 2011 and 2014 and has experienced mild increases thereafter. Since end-December 2021, only the rest of the world region

experienced an increase in the level of Tier 2 holdings (by €63 billion), while banks' Tier 2 capital slightly decreased in Europe and the Americas.

Evolution of Basel III capital,[1] by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 34



[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter. [2] The strong percentage increases in additional Tier 1 capital are driven by the low absolute levels in 2011, in particular for the rest of the world region.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet Graph 34a provides the same breakdown but shown in EUR amounts.

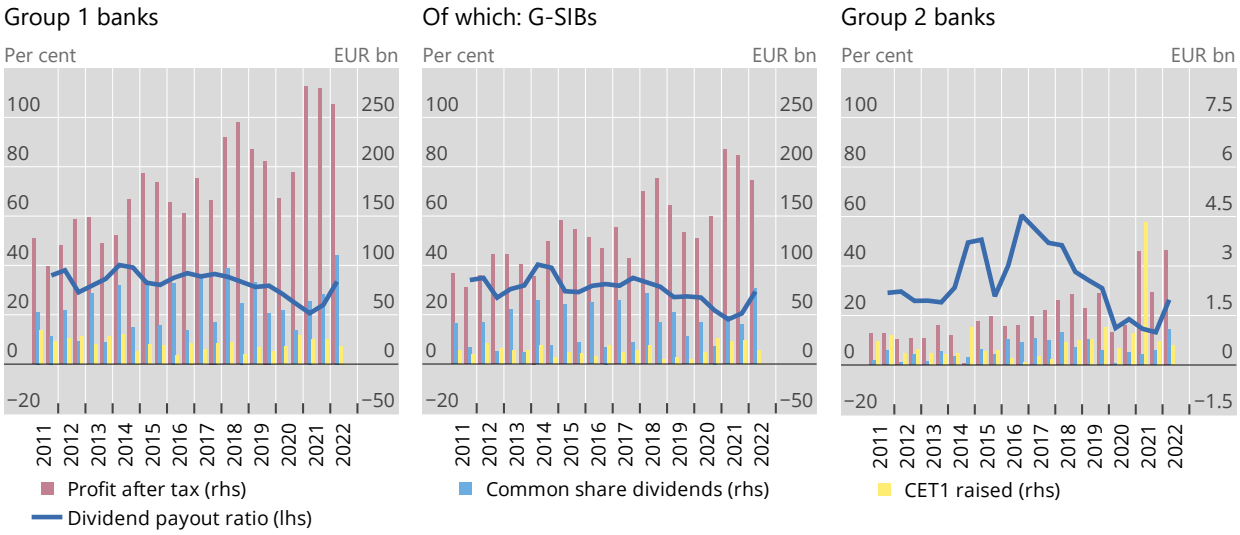
3.2 Profits, dividends and capital raised

Graph 35 depicts the evolution of profits, dividends, CET1 capital raised and the dividend payout ratio over time. Overall, Group 1 banks' profits after tax dropped since end-December 2021 (€263 billion vs €279 billion), but still significantly exceed the pandemic low of €168 billion in H1 2020. G-SIBs also continue to report profits materially higher than pandemic lows. The annual dividend payout ratios for Group 1 banks and G-SIBs (calculated over the last two semesters to avoid seasonality issues) increased to 33% and 29%, respectively, after reaching their lowest values since the beginning of the exercise in the end-June 2021 report with values of 21% and 18% respectively. This can be explained by European banks facing restrictions in dividends during the Covid-19 pandemic by the European Central Bank.

Group 2 banks increased profits after tax by 57% and doubled dividend payout ratios in H1 2022, compared with H2 2021.

Profits, dividends, CET1 capital raised externally and dividend payout ratio

Balanced data set, exchange rates as of the current reporting date — Graph 35



The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12-month window to improve comparability across countries with different dividend payment patterns.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

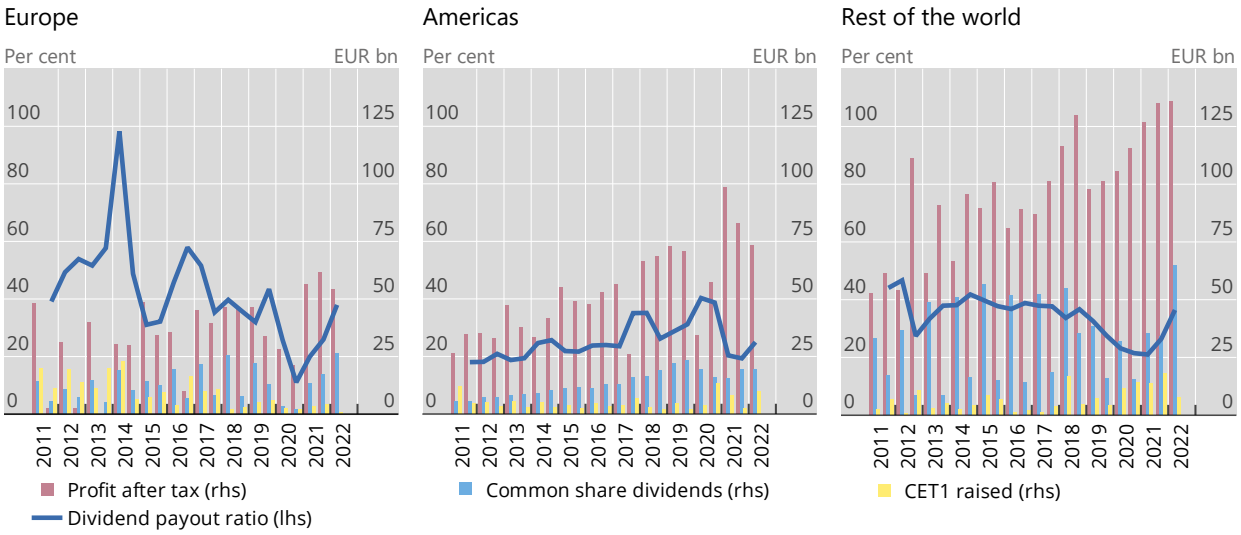
Graph 36 provides the regional breakdown for Group 1 banks. After tax profits for the Group 1 banks in the sample decreased in Europe (from €61 billion in H2 2021 to €54 billion in H1 2022), and in the Americas (from €83 billion to €73 billion), while they slightly increased in the rest of the world (from €135 billion to €136 billion). Over the same period, the annual dividend payout ratios increased by 12, 10 and 6 percentage points for Europe, the rest of the world and the Americas, respectively.

Over the last twelve months, 78 out of the 98 Group 1 banks in the sample raised capital. Regarding CET1 capital, the total amount raised equals €75.1 billion (see Table 5), including €46.8 billion raised by G-SIBs.

Group 1 banks raised a similar amount of additional Tier 1 capital (€73.9 billion) and a greater amount of Tier 2 capital (€134.0 billion) relative to CET1 capital. This could indicate that banks are continuing to focus on the remaining, not yet fully phased-in, capital requirements such as the leverage ratio, TLAC and the minimum requirement for own funds and eligible liabilities (MREL) in countries in the European Union. The relevant regulations stipulate that CET1 capital is not necessarily the exclusive form of eligible capital to meet these requirements. In other countries, the same may hold true for additional requirements stemming from Pillar 2. Around 60% of the overall capital raised globally was raised by banks in the rest of the world region. Over the last twelve months, Group 2 banks focused on Tier 2 capital (40% of the total capital raised).

Profits, dividends, CET1 capital raised externally and dividend payout ratio, by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 36



The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12-month window to improve comparability across countries with different dividend payment patterns.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 36a" provides the same breakdown for G-SIBs.

Capital raised during H2 2021/H1 2022

Full sample of banks[1], gross amounts, in billions of euros — Table 5

	Number of banks	Number of banks that raised capital	CET1	Add. Tier 1	Tier 2
Group 1 banks	98	78	75.1	73.9	134.0
Of which: Europe	28	25	8.9	18.7	25.3
Of which: Americas	22	17	20.8	19.7	19.5
Of which: RW	48	36	45.3	35.6	89.2
Of which: G-SIBs	30	29	46.8	53.8	97.1
Group 2 banks	42	12	1.5	1.0	1.7

[1] Table only includes banks that provide data for the current and previous reporting dates.

Source: Basel Committee on Banking Supervision.

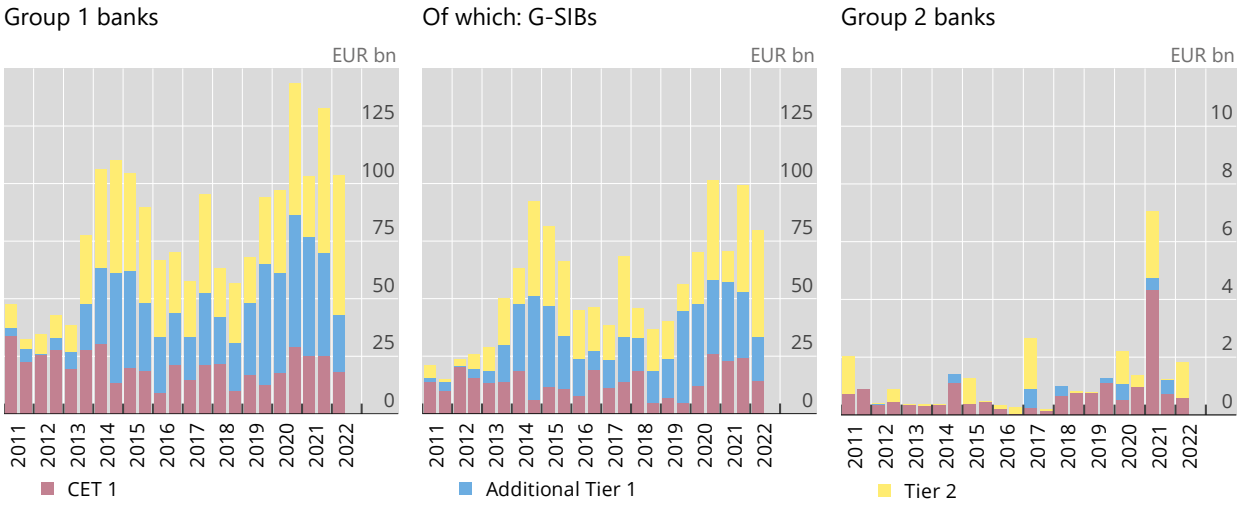
Graph 37 depicts the evolution of capital raised over time for a balanced data set. The capital raised in H1 2022 by Group 1 banks and G-SIBs increased to respectively €104 billion and €80 billion. Overall, since 2011, the capital raised by G-SIBs accounts for 69% of the capital raised by Group 1 banks.

The CET1 capital raised in H1 2022 by Group 1 banks and G-SIBs decreased to respectively €18.3 billion and €14.1 billion. The decrease in CET1 capital raised by Group 1 banks is driven by European banks and banks in the rest of the world (-€3.5 billion and -€10.6 billion, respectively). In contrast, American Group 1 banks increased their CET1 capital raised by €7.3 billion to €9.9 billion.

Observing total capital raised in H2 2022, it shows that Group 1 banks focussed mainly on raising Tier 2 capital (Graph 37) standing at €60.7 billion of which €46.4 billion is contributed by G-SIBs. This continues the trend from the last reporting date. Nevertheless, total capital raised decreased significantly compared with the previous period. This is driven by Group 1 banks drawing back CET1 capital raised as well as additional Tier 1 capital raised, summing up to -€26.9 billion.

Capital raised externally

Balanced data set, exchange rates as of the current reporting date — Graph 37



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 37a" provides an additional regional breakdown for Group 1 banks.

3.3 Composition of capital

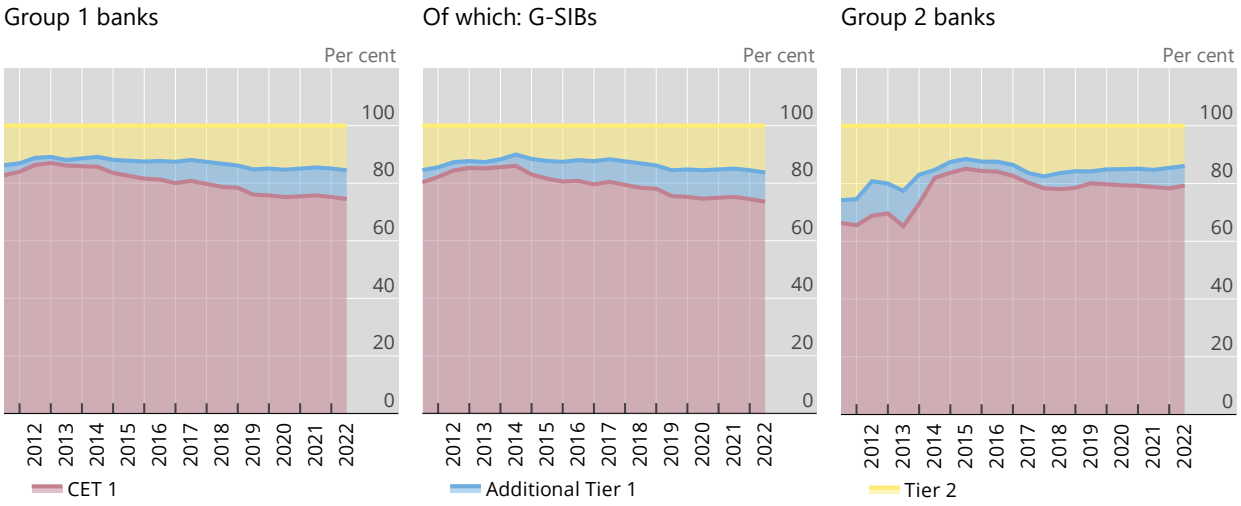
Graph 38 below shows the composition of total capital under the initial Basel III rules. As expected and as observed on previous reporting dates, CET1 capital continues to be the predominant form of regulatory capital amongst all banks. As of end-June 2022, the average share of initial Basel III CET1 capital for a balanced data set of Group 1 banks is 74.5%. For Group 2 banks, the initial Basel III CET1 capital represents 79.3% of regulatory capital at the reporting date. Noticeably, the second largest share of total capital continues to be Tier 2 capital (15.5% for Group 1 banks and 13.9% for Group 2 banks).

For Group 1 banks, the positive trend of increasing shares of CET1 capital, which had been observed during the first years of the monitoring exercise, reversed starting in 2013. Since then, we observe a decline in the share of CET1 capital offset by an increase in additional Tier 1 and Tier 2 capital. The structure of regulatory capital had somewhat stabilised up to 2017, but CET1 capital has continued to globally decline over the more recent reporting periods for Group 1 banks, as well as G-SIBs.

For Group 2 banks, the share of CET1 capital has remained fairly stable since end of June 2019, standing at 79.3% for the current reporting period. Additional Tier 1 share increased modestly during this time, while Tier 2 decreased.

Structure of regulatory capital under initial Basel III[1]

Balanced data set — Graph 38



[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Worksheet "Graph 38a" for the structure of capital under transitional initial Basel III.

With regard to the composition of Basel III CET1 capital itself (Table 6), retained earnings and paid-in capital continue to comprise the overwhelming majority of CET1 outstanding for both Group 1 and Group 2 banks. For Group 1 banks, retained earnings and paid-in capital make up 96.7% of outstanding CET1 on average. Accumulated Other Comprehensive Income (AOCI)[25] contributes 2.7% to Group 1 banks' CET1 capital on average, but there is significant dispersion across banks and countries. Meanwhile, CET1 from recognised subsidiaries continues to provide minimal support to Group 1 banks' outstanding CET1 balances in most countries. For Group 2 banks, the share of paid-in capital and retained earnings in total CET1 capital is somewhat lower at 78.2%, while the 21.4% share of AOCI is higher compared with Group 1 banks, again with significant dispersion across banks and countries.

Structure of CET1 capital, by bank group and region

Full sample of banks, in per cent of CET1 capital gross of regulatory adjustments — Table 6

	Number of banks	Paid in capital	Retained earnings	Other comprehensive income	CET1 from recognised subsidiaries
Group 1 banks	108	22.2	74.5	2.7	0.6
Of which: Europe	39	34.9	54.8	8.8	1.5
Of which: Americas	22	8.5	99.4	–8.0	0.1
Of which: RW	47	22.9	71.2	5.4	0.5
Of which: G-SIBs	30	18.3	79.7	1.2	0.8
Group 2 banks	58	40.6	37.7	21.4	0.4

Source: Basel Committee on Banking Supervision.

[25] AOCI typically includes the following: unrealised gains and losses in available for sale securities; actuarial gains and losses in defined benefit plans; gains and losses on derivatives held as cash flow hedges; and gains and losses resulting from translating the financial statements of foreign subsidiaries.

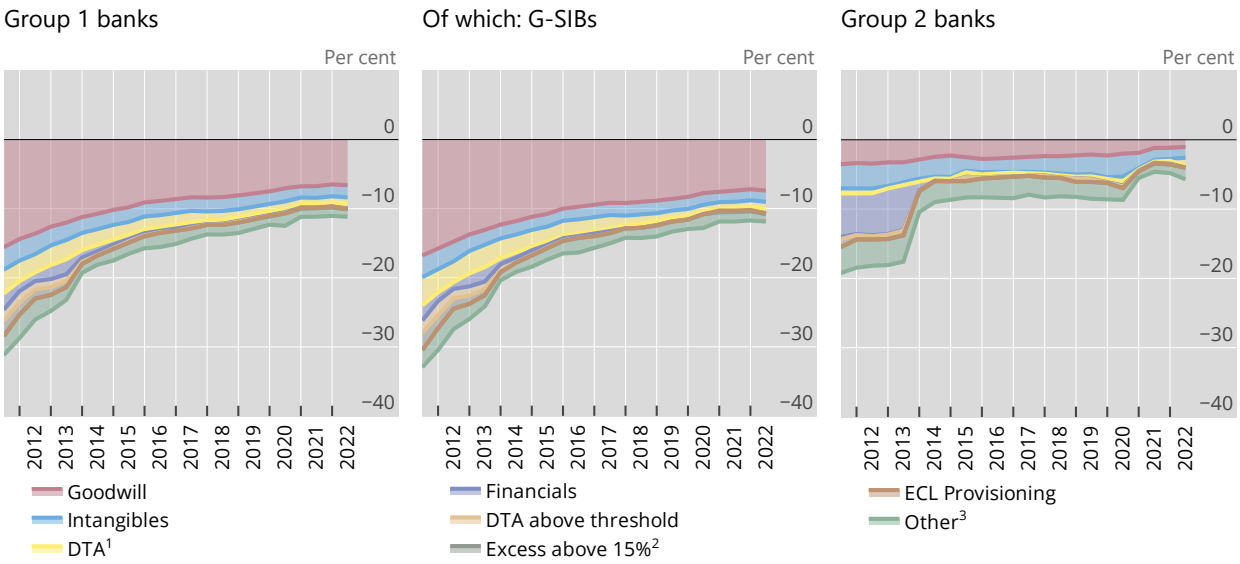
3.4 Regulatory adjustments

Using a balanced data set, regulatory adjustments reduce overall gross CET1 capital for the current period (ie CET1 capital before adjustments) for Group 1 and Group 2 banks by 11.2% and 5.7%, respectively (see Graph 39). The largest driver of Group 1 bank CET1 capital adjustments continues to be goodwill (6.6%). The largest driver of Group 2 banks' adjustments are intangibles and other deductions (1.6% and 1.7%, respectively).

Looking at Group 1 banks, most countries (16 out of 22) report zero adjustments from the transitional add-backs from ECL provisioning. Six countries report positive impacts while one reports a material negative impact.

Regulatory CET1 capital adjustments under fully phased-in initial Basel III

Balanced data set, in per cent of CET1 capital prior to adjustments — Graph 39

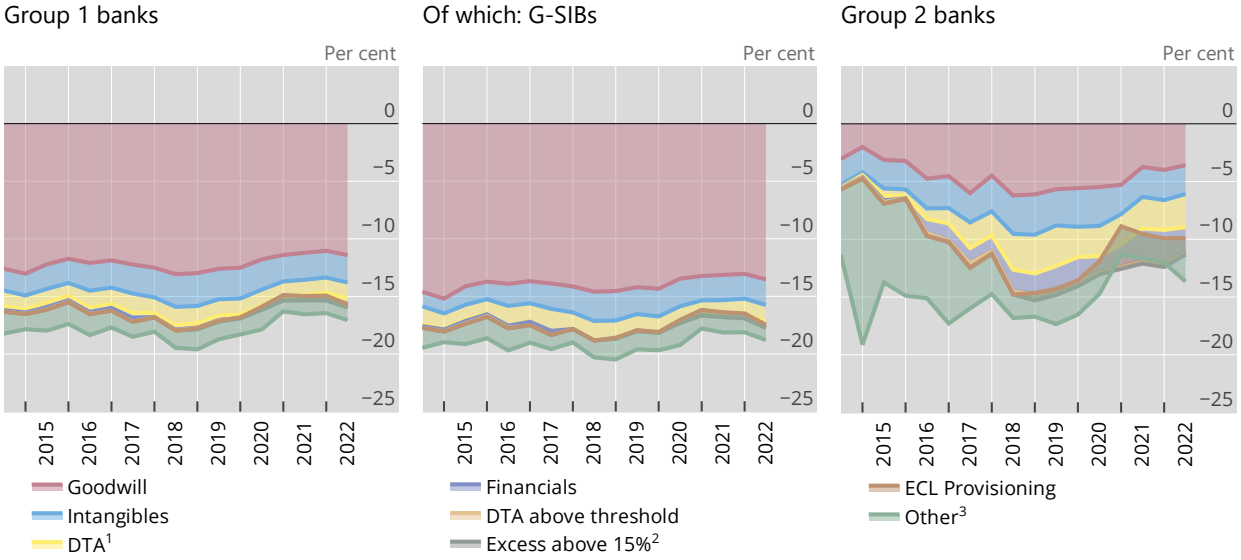


[1] DTAs are the deferred tax assets that are deducted in full under Basel III (ie they exclude DTAs that are related to temporary differences, which are only deducted when they exceed a threshold). [2] Excess above 15% pertains to significant investments in the common shares of unconsolidated financial institutions, mortgage servicing rights, and DTAs due to timing differences that do not separately exceed the 10% category thresholds but in the aggregate exceed the 15% basket threshold. [3] Other includes adjustments related to investment in own shares, shortfall of provisions to expected losses, cash flow hedge reserves, cumulative changes in fair value due to changes in own credit risk, net pension fund assets, securitisation gains on sale, mortgage servicing rights and deductions from additional Tier 1 capital to the extent they exceed a bank's additional Tier 1 capital.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Regulatory CET1 capital adjustments under rules applicable at the reporting dates

Balanced data set, in per cent of CET1 capital prior to adjustments — Graph 40



[1] DTAs are the deferred tax assets that are deducted in full under Basel III (ie they exclude DTAs that are related to temporary differences, which are only deducted when they exceed a threshold). [2] Excess above 15% pertains to significant investments in the common shares of unconsolidated financial institutions, mortgage servicing rights, and DTAs due to timing differences that do not separately exceed the 10% category thresholds but in the aggregate exceed the 15% basket threshold. [3] Other includes adjustments related to investment in own shares, shortfall of provisions to expected losses, cash flow hedge reserves, cumulative changes in fair value due to changes in own credit risk, net pension fund assets, securitisation gains on sale, mortgage servicing rights and deductions from additional Tier 1 capital to the extent they exceed a bank's additional Tier 1 capital.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4. Components and determinants of risk-based capital requirements

4.1 Share of different risk types in overall MRC under current rules

Graph 41 shows the evolution of the share of different asset classes in overall MRC for a balanced data set.[26] As of June 2022 and for a balanced data set of Group 1 banks, credit risk[27] continues to be the dominant portion of overall MRC, on average covering 65.4% of total MRC. However, the share of credit risk has declined significantly from 75.6% at end-June 2011 to its lowest share of 64.3% at end-December 2014 and since then slightly increased to the level at the current reporting date. This looping trend was mainly driven by a decrease in the MRC for retail (18.0% to 14.3%), related entities (10.0% to 2.4%) and securitisations (5.8% to 2.1%) while the MRC for corporate exposures increased over the observed period from 32.5% at end-June 2011 to 36.9% at the current reporting date.

The share of operational risk MRC increased sharply from 7.7% at the end of June 2011 to 14.9% at the end of 2018 and decreased slightly since. The increase in the early 2010s was attributed in large part to the surge in the number and severity of operational risk events during and after the financial crisis,

[26] MRC figures in this section are based on the total capital ratio, ie based on 8% of RWAs. Where applicable, MRCs reflect the effect of the 1.06 scaling factor applied to IRB credit RWA, and deductions assigned to the securitisation and related entities asset classes.

[27] Here overall credit risk is defined as the sum of corporate, bank, retail, sovereign, partial-use, securitisations and related entities as illustrated in the graph.

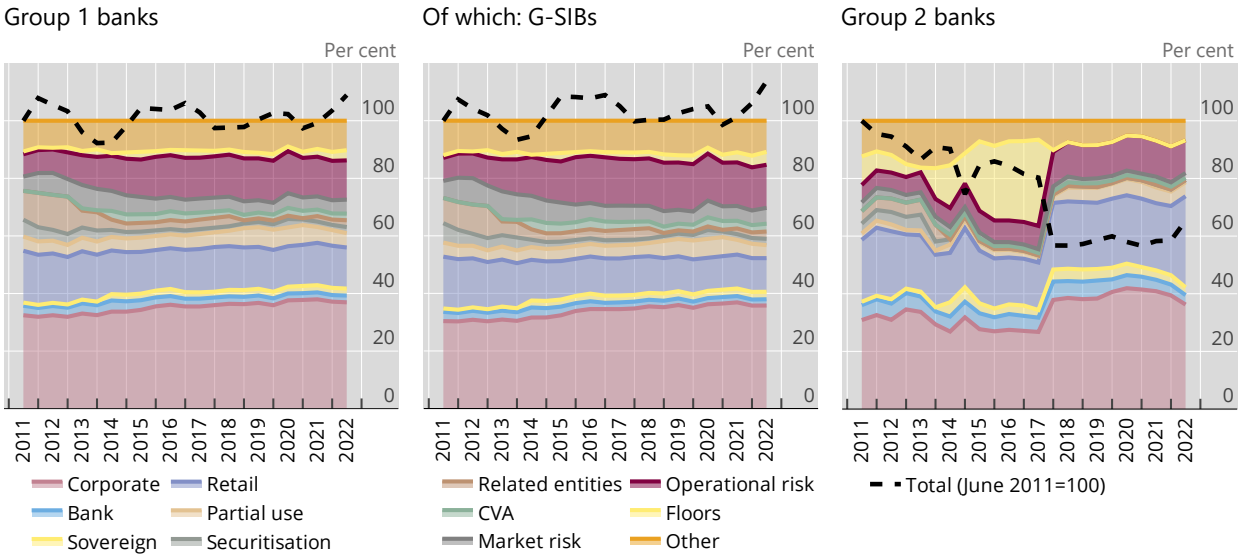
which are factored into the calculation of MRC for operational risk under the advanced measurement approach. More recently, we observe some "fading out" of the financial crisis losses so that in 2020, the lowest loss level of the past 10 years is observed. This explains the latest decrease in capital requirements especially for the banks heavily affected in the financial crisis. On the other hand, losses triggered by the Covid-19 pandemic do not yet have a significant impact on the loss severity level, but this may change given that the pandemic is still ongoing.

The share of market risk decreased strongly until end 2019 (from 7.1% in end-2011 to 4.1%) to stabilise around 5% since (4.9% in June 2022). while the shares of "other" risk and of the floor requirement have been somewhat stable at around 10% and 2%, respectively, although floor requirements increased more recently to 3.1% at end December 2021 and 3.5% in June 2022.

For Group 2 banks, the drop in overall MRC in the second half of 2017 as well as the drop in the share of floors is due to a change in the Basel I floor reporting approach in several countries.

Share of MRC by asset class[1] according to current rules

Balanced data set — Graph 41



[1] Exposures subject to partial use of the standardised approach for credit risk that cannot be assigned to a specific portfolio, as well as past-due items under the standardised approach, are listed separately as "partial use". "Related entities" includes capital requirements specified in Part 1 of the Basel II framework. The category "other" includes capital requirements for other assets; the current Basel I-based output floor; Pillar 1 capital requirements in member countries for risks not covered by the Basel framework; reconciliation differences; and additional capital requirements due to regulatory calculation differences and general provisions. The latter item can lead to negative capital requirements in cases where there is an excess in provisions, which can be recognised in a bank's Tier 2 capital. Furthermore, for banks that apply the standardised approach, general provisions may be recognised to some extent as Tier 2 capital; consequently, MRC is reduced by this amount. The term "reconciliation differences" refers to the difference between MRC reported at the entire bank level and the sum of MRC reported for the individual portfolios.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Table 7 provides data on relative sizes of asset classes in terms of exposures as well as MRC for both Group 1 and Group 2 banks according to current rules at the reporting date. The sample differs considerably from the balanced data set used for the time series above, resulting in differences for the values at the reporting date. The average risk weight suggests the relative riskiness of the different asset classes as measured by the current framework. Both the numerator (12.5 times MRC) and the denominator (exposure amounts) of this ratio include exposures under the IRB and standardised approaches for credit

risk.[28] Since a common exposure measure for credit, market and operational risk does not exist, the size in terms of exposure and the average risk weight are only defined for asset classes subject to a credit risk treatment.

Looking at Group 1 banks, we observe that corporate exposures are the biggest in size with 31.4% of total exposures and in RWAs and is applied a 56.4% risk weight. Retail and sovereign asset classes represent almost half of exposures although a small share of RWAs as they have a low risk density and an average risk weight at 27.7% and 5.5%, respectively. For Group 2 banks retail and sovereign asset classes comprise almost two third (63.7%) of exposures, corporates represent 17.7% adding up to more than 80% of the total. Group 2 banks' average risk weight for overall credit risk is lower by 9.1 percentage points at 31.2%, versus 40.3% for Group 1 banks. This is largely driven by Group 2 banks' lower average risk weights for sovereign, bank and retail exposures.

[28] The asset classification is mainly based on the IRB approach. Exposures subject to partial use of the standardised approach for credit risk which cannot be assigned to a specific portfolio, as well as past-due items under the standardised approach, are listed separately in Table 7.

Average asset class/risk type size and average risk weight[1]

In per cent

Table 7

	Group 1			Group 2		
	Size exposure	Size MRC	Average risk weight	Size exposure	Size MRC	Average risk weight
Credit risk; of which:	98.9	79.6	32.5	99.6	83.5	26.1
Corporate	31.4	43.9	56.4	17.7	35.1	61.9
Sovereign	25.5	3.5	5.5	36.7	3.2	2.7
Bank	6.5	3.9	23.9	8.2	5.3	20.2
Retail	23.9	16.4	27.7	27.0	20.8	23.9
Equity	0.7	3.9	226.8	0.9	5.5	200.6
Purchased receivables	0.2	0.1	19.7	0.0	0.0	
Securitisation	2.2	1.5	27.2	0.6	0.5	24.5
Related entities	0.1	1.0	432.2	0.0	0.0	
Past-due items	0.1	0.2	91.2	0.2	0.7	112.8
Other assets	4.9	6.7	55.1	1.0	3.0	95.3
Failed trades and non-DVP transactions	0.0	0.1	105.4	0.0	0.0	
Not assigned[2]	3.4	8.1	95.5	7.4	11.2	47.4
Regulatory difference[3]		–9.6			–1.8	
CVA	1.0	1.5	57.0	0.4	1.1	94.4
Trading book CCR[4]		0.2			0.0	
Market risk		3.8			2.0	
Other trading book		0.1			0.0	
Operational risk		11.9			10.1	
Floor adjustment		2.0			0.0	
Other[5]		0.8			3.2	
Total	100.0	100.0	40.3	100.0	100.0	31.2

[1] MRC figures in this table are based on the minimum total capital ratio (ie based on 8% of RWAs). [2] The "not assigned" asset class only includes those exposures subject to partial use of the standardised approach that could not be assigned to one of the other asset classes. [3] Includes shortfall (positive) or excess (negative) of provisions over expected loss amounts for exposures subject to the IRB approach for credit risk as well as general provisions (negative) for exposures subject to the standardised approach for credit risk to the extent they are recognised in Tier 2 capital. [4] Counterparty credit risk in the trading book. [5] Includes the reconciliation asset class and other Pillar 1 capital requirements.

Source: Basel Committee on Banking Supervision.

4.2 Credit risk

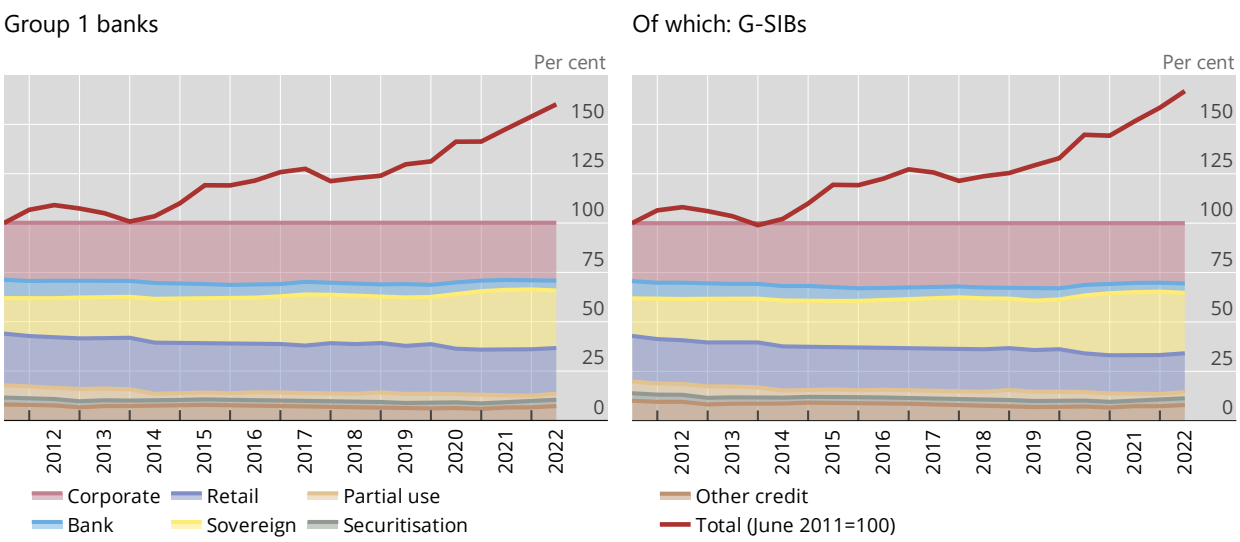
4.2.1 Share of credit risk exposure by asset classes under the current rules

The left-hand panel of Graph 42 shows the evolution of credit exposure for the seven major asset classes for a balanced data set of 40 Group 1 banks. The composition of credit risk exposures has remained relatively stable as overall exposure levels have grown by 60.2% over the entire period, with an increase in the last period. However, the share of sovereign exposures has increased steadily in recent years and, after a slight decline in 2018 and 2019, increased substantially in 2020, and reached its peak at 30.3% at the end of December 2021. The share of exposures to sovereigns and retail has declined slightly over the last semester, while the shares of exposures to corporates and banks, exposures subject to the partial use of

the standardised approach and other credit exposures have increased slightly. The right-hand panel of Graph 42 shows the same analysis for the subset of 18 G-SIBs.

Share of credit exposure

Balanced data set — Graph 42



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.2.2 Impact of revisions to the standardised and IRB approaches for credit risk on MRC

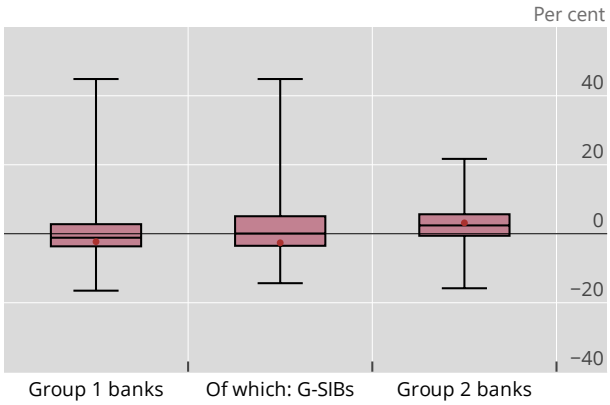
Graph 43 shows the changes in terms of current Tier 1 MRC associated with exposures under the standardised and IRB approaches for credit risk due to the final Basel III framework. The left-hand panel shows the overall distribution of the impact, while the right-hand panel provides a breakdown by asset class. On average, the impact on the change of Tier 1 MRC is positive for Group 2 banks (+3.2%) while for Group 1 banks, the impact indicates a decrease in capital requirements of -2.3% (and a decrease of -2.6% for G-SIBs).

The right-hand panel of Graph 43 breaks down the impact by asset class. For Group 1 banks, exposures to corporate and other assets contribute to a significant decrease in MRC, while the contribution of bank and covered bonds is positive. For Group 2 banks, the increase in MRC is primarily due to exposures to corporate, bank and covered bonds, real estate and to equity. As regards exposures to corporates, the results are mainly driven by the removal of the 1.06 scaling factor in the IRB formula and the reduction of the supervisory loss-given-default (LGD) parameter for unsecured corporate exposures from 45% to 40% under the foundation IRB approach. Other relevant changes with major impacts relate to the removal of the advanced IRB approach for exposures to banks and the removal of all IRB approaches for equity exposures.

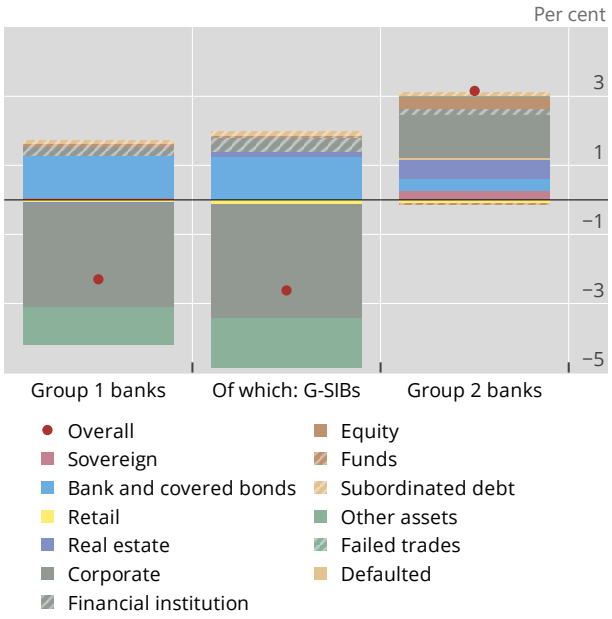
Changes in Tier 1 MRC for credit risk due to the final Basel III standards

Graph 43

Overall distribution[1]



Breakdown by asset class



[1] See Section 1.3.3 for details on box plots.

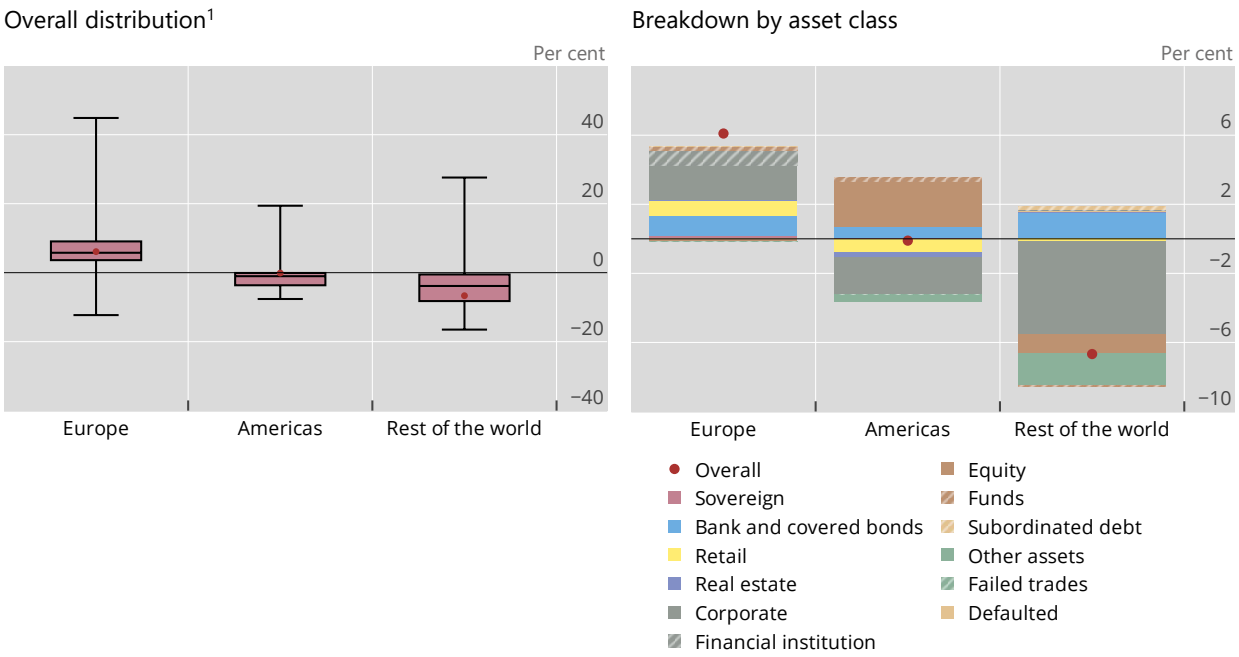
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

The regional breakdown for Group 1 banks in Graph 44 highlights differences in impact between the three regions, which however should be carefully considered given the variable and limited number of banks per region included in the sample. The change in MRC is positive for Europe (+6.1%) but slightly negative for the Americas (-0.1%) and negative for the rest of the world (-6.7%). In Europe, the impact is positive for almost all asset subclasses, with corporate, retail, banks and covered bonds having the largest impact. In the Americas, the impacts on equity and corporates, the largest drivers, go in the opposite direction and almost offset each other. The impact on corporates drives the large decrease in MRC in the rest of the world.

Changes in Tier 1 MRC for credit risk due to the final Basel III standards, by region

Group 1 banks

Graph 44



[1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.2.3 Standardised approach for credit risk

Impact of the revisions on MRC

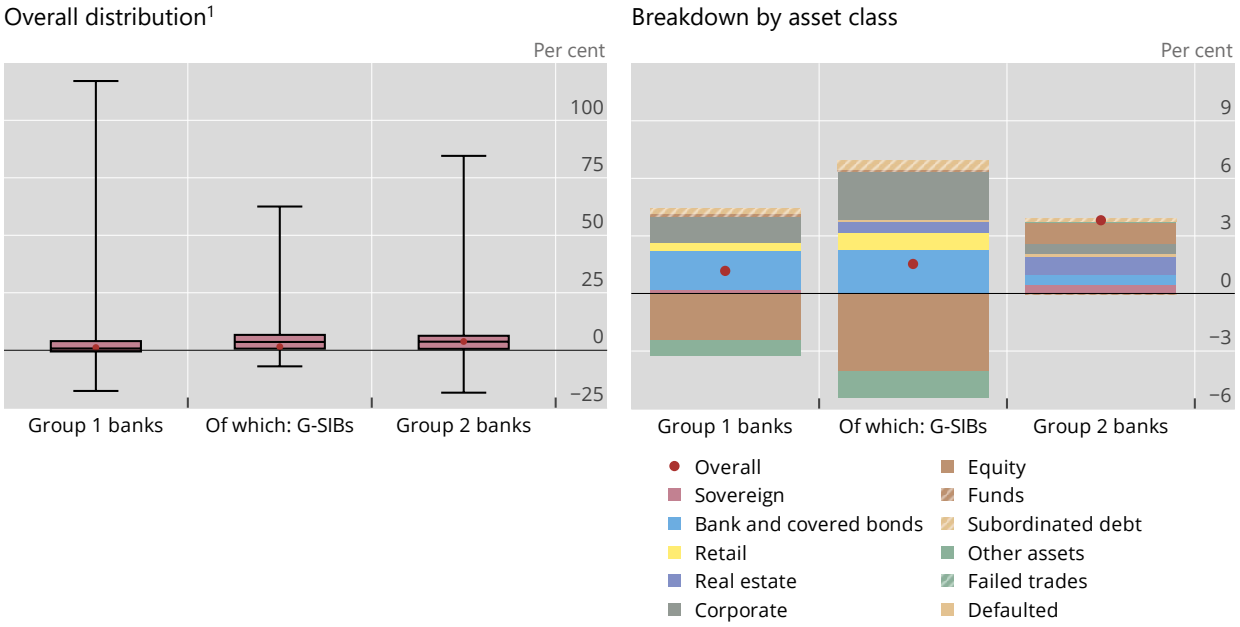
Graph 45 shows the changes in Tier 1 MRC due to the finalisation of the Basel III standards for credit risk exposures that are currently under the standardised approach. These data include exposures of banks subject to the standardised approach for credit risk as well as exposures of banks using the IRB approach for credit risk to the extent that they are subject to partial use provisions. It does not include exposures currently under the IRB approach that migrate to the standardised approach under the revised framework (eg IRB equity exposures). Note that changes in Tier 1 MRC are calculated as a percentage of current Tier 1 MRC associated with exposures currently under the standardised approach only.

The left-hand panel of the graph shows the overall distribution of the impact. The revised standardised approach for credit risk results in a weighted average increase in MRC of 1.2% for Group 1 banks, 1.5% for G-SIBs and 3.8% for Group 2 banks.

The right-hand panel provides a breakdown of the change in MRC by asset class. For Group 1 banks in the sample, the asset classes with the greatest contribution to the overall increase in MRC are exposures to banks and covered bonds followed by corporates. MRC for investment in funds, real estate and defaulted exposures are largely unchanged while exposures to equity and other assets on average show a decrease in MRC. For Group 2 banks, the increase in MRC is primarily driven by equity exposures and real estate exposures followed by exposures to corporates, banks and covered bonds. The changes in MRC for other asset classes are relatively smaller. The results suggest a large variation across asset classes and countries.

Changes in Tier 1 MRC for exposures subject to the standardised approach for credit risk due to the final Basel III standards

Graph 45



Data generally include banks subject to the standardised approach for credit risk and exposures subject to partial use of banks using the IRB approach for credit risk. [1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 46 replicates the analysis of Graph 45 but breaks down the results for Group 1 banks by geographical region. On average, the revised standardised approach entails a positive impact on the MRC in Europe (7.8%) and in the rest of the world (0.7%) while it shows a negative impact on the MRC in Americas (-4.6%).

Looking at individual asset classes, the results are somewhat heterogeneous. Exposures to retail are the largest contributor to the increase in MRC for banks in Europe but show a smaller positive impact in the rest of the world and a negative impact in the Americas. Exposures to corporates represent the largest negative impact in the Americas but a significant positive impact in the other two regions. Equity exposures have a positive impact for banks in Europe and the Americas, but a significant negative impact for banks in the rest of the world. Exposures to banks and covered bonds are the largest positive contributors for banks in the rest of the world, while their effect is positive but more muted in Europe and in the Americas. Real estate exposures show a positive impact in Europe and a large and negative impact in the Americas.

Changes in Tier 1 MRC for exposures subject to the standardised approach for credit risk due to the final Basel III standards, by region

Group 1 banks

Graph 46

Data generally include banks subject to the standardised approach for credit risk and exposures subject to partial use of banks using the IRB approach for credit risk. [1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.2.4 Internal ratings-based approach for credit risk

Impact of the revisions on MRC

Graph 47 summarises the change in Tier 1 MRC due to the IRB revisions for all credit risk exposures that are currently under the IRB approach, regardless of which approach they are subject to under the final Basel III standards. Therefore, it includes equity exposures currently under the IRB approach, even if under the revised standards their MRC will be calculated using the standardised approach. The sample of banks included in this section differs from the sample of IRB banks in the previous sections. Moreover, changes in Tier 1 MRC in this section are calculated as a percentage of current Tier 1 MRC associated with exposures under the IRB approach only.

The left-hand panel of Graph 47 shows the overall distribution of the impact. In aggregate, the revisions to the IRB approach appear to result in a decrease in overall Tier 1 MRC for Group 1 banks (-3.9%) and G-SIBs (-4.0%), and an increase for Group 2 banks (+2.2%). Median values, which are less sensitive to extreme values and are not weighted, show a more moderate impact for all groups.

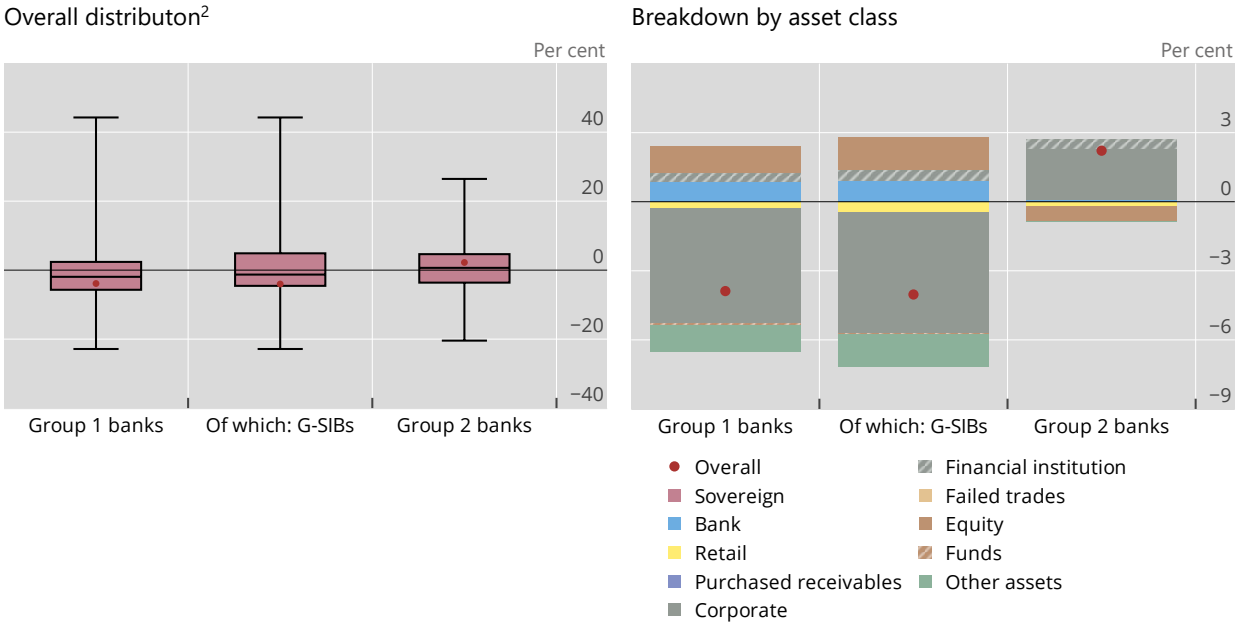
The right-hand panel of Graph 47 breaks down the impact by asset class. Exposures to corporates are the main contributors to the overall decrease in MRC for Group 1 banks and G-SIBs while they drive the increase in MRC for Group 2 banks. The MRC for exposures to retail shows a decrease for all groups. Although the new restrictions on the scope of IRB approaches for certain asset classes and the revised input floors on certain IRB parameters (eg increased PD floors) may suggest an increase in MRC, an overall decrease in MRC is observed for Group 1 banks and G-SIBs. This impact may be explained by, among others, four factors: (i) certain jurisdictions currently apply super-equivalent requirements, which the analysis assumes will not be carried over to the new framework, (ii) the changes in the Foundation IRB rules, which in many cases result in a decrease in MRC, (iii) the removal of the 1.06 IRB scaling factor, and

(iv) the lower LGD floor for retail residential mortgages (though it applies on exposure rather than portfolio level). The impact of points (i) and (ii) may be amplified when the affected countries also make up a substantial amount of total exposures in the sample.

Exposures to corporates contribute the most to the overall increase in MRC for Group 2 banks (while they represent a large decrease for Group 1 banks and G-SIBs), followed by exposures to financial institutions. As expected, the MRC for exposures to banks and covered bonds indicate an increase for all groups with a greater contribution for Group 1 banks and G-SIBs.

Changes in Tier 1 MRC for exposures subject to the IRB approach for credit risk due to the final Basel III standards[1]

Graph 47



[1] The change is calculated as a percentage of current Tier 1 MRC across all IRB exposures. The impact when summing over all asset classes is slightly different from the overall impact reported. The reason is that when summing over all asset classes changes in the difference between provisions and expected losses are not taken into account, whereas in the overall impact calculation a change in the shortfall in provisions is reflected in the change in MRC. [2] See Section 1.3.3 for details on box plots."

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

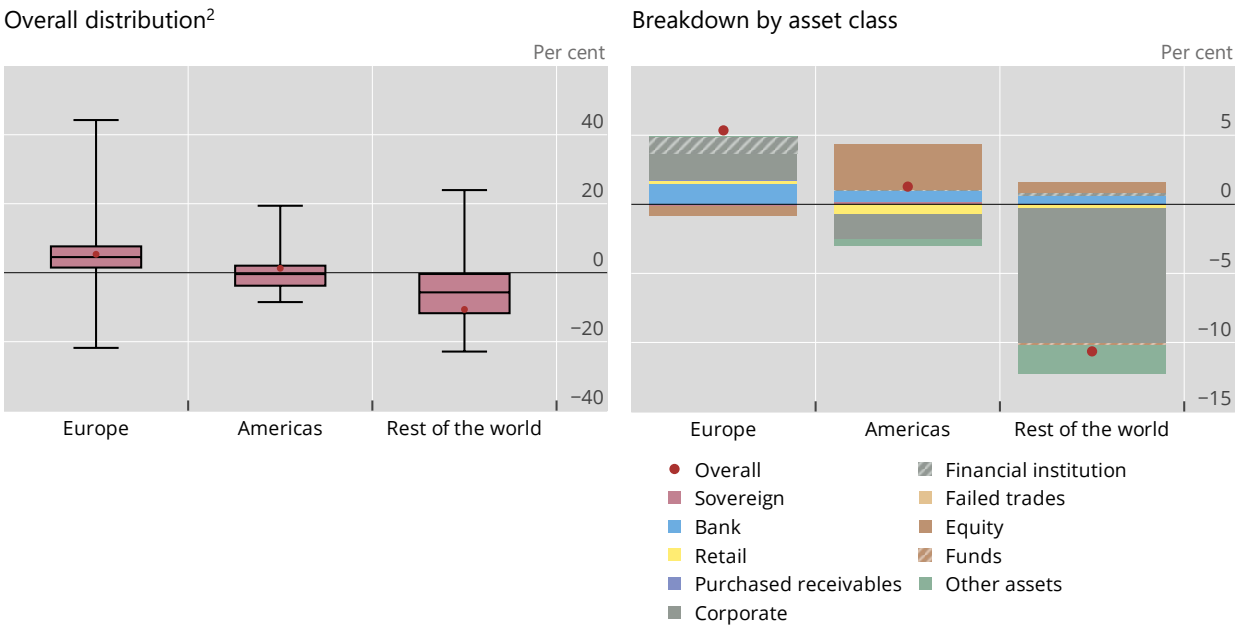
Graph 48 replicates the analysis of Graph 47 but breaks down the results by geographical region considering only Group 1 banks. Overall, the revisions to the IRB approach lead to an average increase in Tier 1 MRC for Group 1 banks in Europe (+5.4%) and the Americas (+1.3%) and a significant decrease for banks in the rest of the world (-10.6%). The impact is heterogeneous across banks in each group.

For banks in Europe, exposures to corporate, banks and covered bonds, and financial institutions are the main contributors to the overall increase in MRC. For banks in the Americas, the increase in MRC is almost entirely driven by equity exposures and exposures to banks and covered bonds, while the remaining exposures show a negative or negligible change. For banks in the rest of the world, the decrease in MRC is mainly driven by exposures to corporates.

Changes in Tier 1 MRC for exposures subject to the IRB approach for credit risk due to the final Basel III standards,[1] by region

Group 1 banks

Graph 48



[1] The change is calculated as a percentage of current Tier 1 MRC across all IRB exposures. The impact when summing over all asset classes is slightly different from the overall impact reported. The reason is that when summing over all asset classes changes in the difference between provisions and expected losses are not taken into account, whereas in the overall impact calculation a change in the shortfall in provisions is reflected in the change in MRC. [2] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Risk parameters by IRB asset classes under current rules

This section presents time series of IRB risk parameters under current rules for a sample of Group 1 banks only.[29] Graph 49 shows probability of default (PD) and the share of defaulted exposures for different asset classes for a balanced data set of Group 1 banks over time. It should be noted that the share of defaulted exposures is a stock variable, which depends highly on banks' workout processes upon default. Banks may choose to sell off defaulted exposures to external parties after default or retain them on balance sheet, which would heavily impact this metric. In addition, since the share of defaulted exposures is a stock variable, it should not be confused with a default rate, which could be compared with PDs for backtesting purposes.

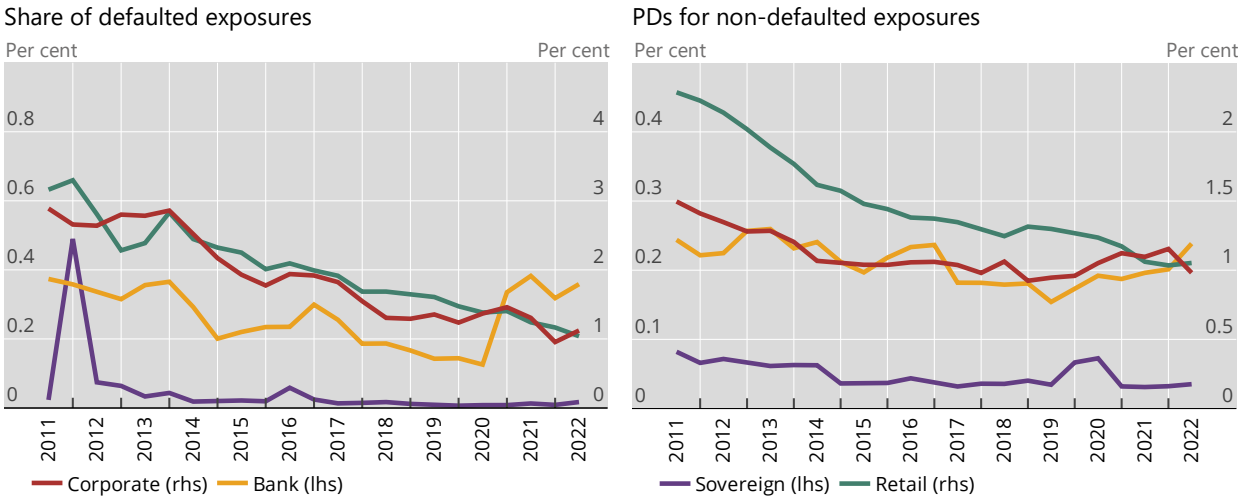
The left-hand panel of Graph 49 shows a general downward trend in the share of defaulted exposures, with the exception of a temporary increase for sovereign between 2011 and 2012 due to the sovereign debt crisis, and a marked increase in the share of bank defaulted exposures beginning in 2020.[30] Looking at PDs for non-defaulted exposures (right-hand panel), we also note a general downward trend, most pronounced for retail exposures, with a slight increase in PDs for bank exposures over the last semesters. The PD for sovereign exposures is at its lowest value after a spike at the end of 2019.

[29] For point in time distribution plots of the various risk parameters by asset class, as well as the share of defaulted exposures, we refer to worksheets "Graph 48a" to "Graph 48d" in the Excel data file.

[30] The marked increase for bank exposures since December 2020 is due to a significant increase for one large bank.

Share of defaulted exposures and PDs for non-defaulted exposures by asset class

Group 1 banks, balanced data set — Graph 49

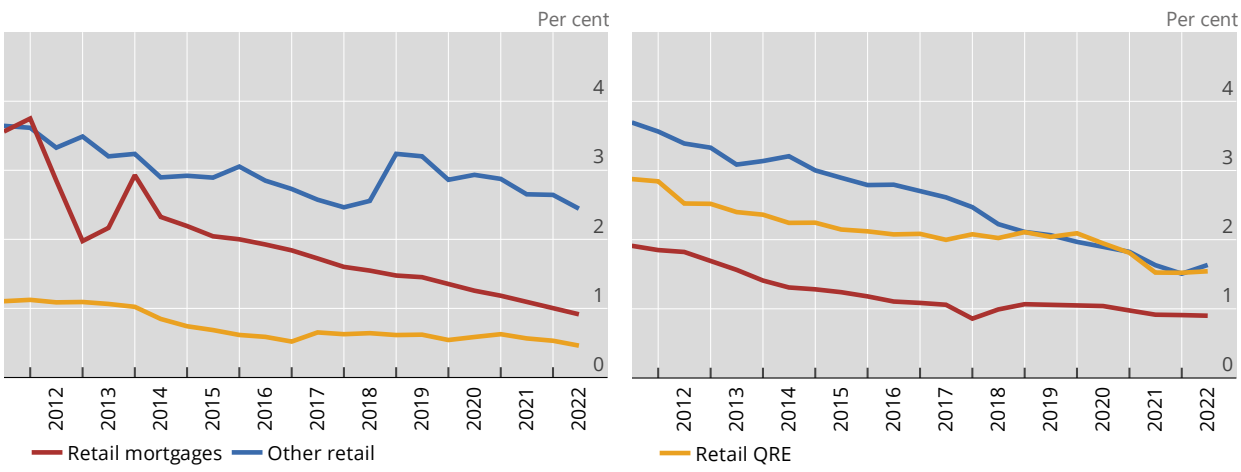


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

With respect to the retail asset classes (Graph 50), the negative trend in PDs described above seems to be driven by other retail exposures, even though it shows an increase during the last semester. Retail mortgage PDs for non-defaulted exposures show a slight downward trend from the end of 2018.

Share of defaulted exposures and PDs for non-defaulted exposures by retail sub-asset classes

Group 1 banks, balanced data set — Graph 50



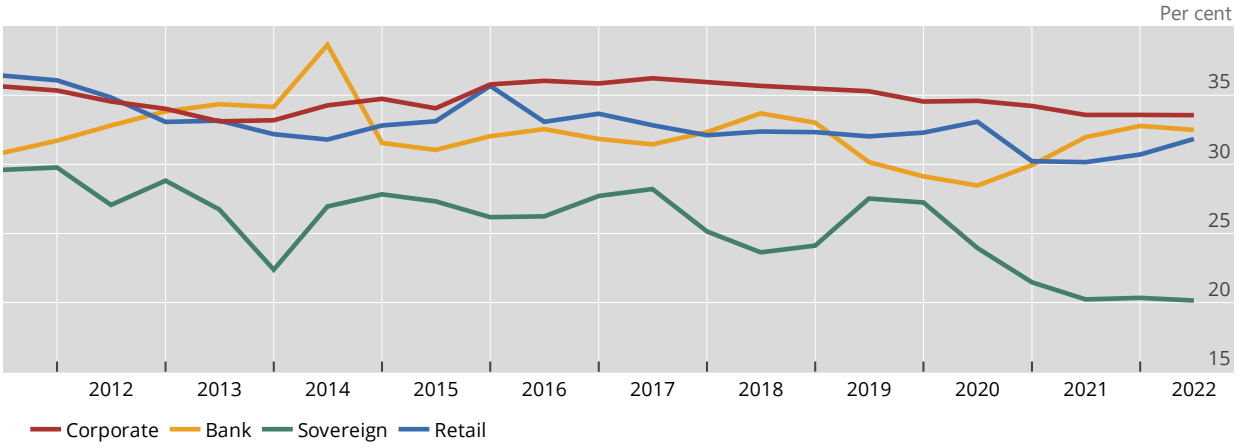
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

LGD estimates are supposed to reflect economic downturn conditions and therefore should be somewhat more stable than PDs. This is reflected in Graph 51. Nonetheless, LGDs for non-defaulted exposures slightly increased in the last semester for the bank and retail asset classes while it has slightly decreased for the sovereign asset class.

LGDs for non-defaulted exposures by asset class

Group 1 banks, balanced data set

Graph 51

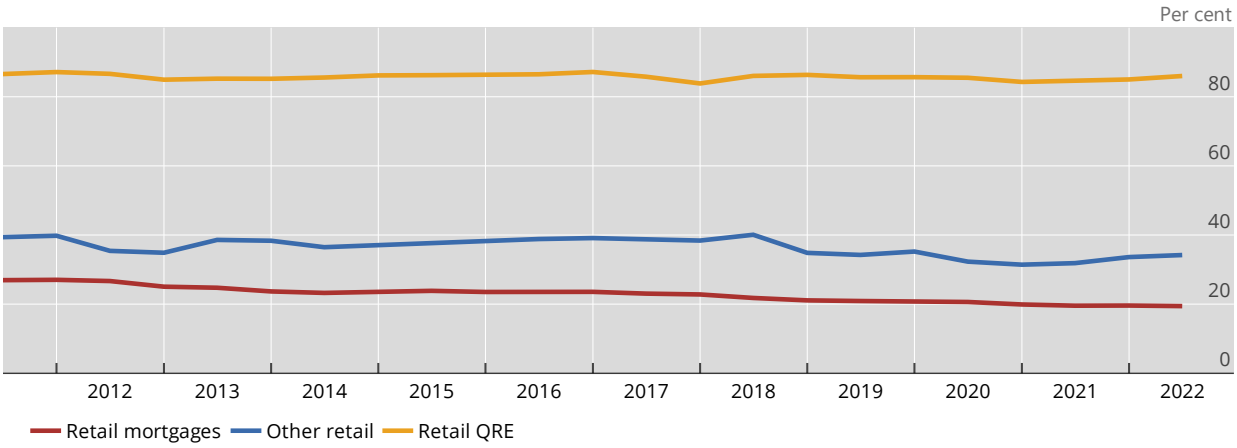


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

LGDs for non-defaulted exposures by retail sub-asset class

Group 1 banks, balanced data set

Graph 52



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.2.5 Impact of revisions to credit risk on MRC over time

This report presents the impact of the finalised Basel III framework since end-2017. As such, the report now includes time series analysis starting from the December 2017 reporting period up until the current reporting period. Graph 53 and Graph 54 below show the estimated changes in Tier 1 MRC by credit risk approach across this period, for a balanced data set of banks, by bank group and region respectively.

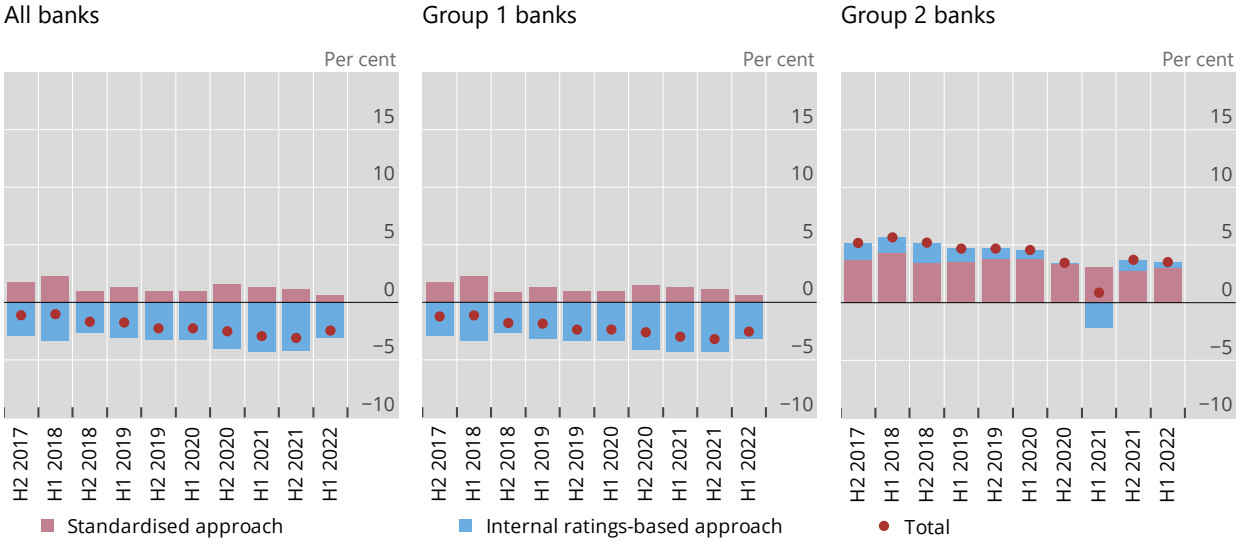
The estimated impact of the credit risk reforms as a whole on aggregate MRC shows a negative trend over time, driven mainly by exposures under the IRB approach. Looking at the regional breakdown, we observe a consistent negative trend for banks in the rest of the world which, when considering the increase over time of their share in global credit risk RWA, drives the overall results at the global level. In Europe, the increase in MRC remains above 5.6% over the whole period reaching a peak in December 2020 (7.0%) before falling back closer to the values previously observed end-2019 and in the first half of 2020.

The evolution is less straightforward for the Americas, for which the change in MRC varies from 0.1% at end-2018 to 3.9% at end-2021, reaching an intermediate percentage in the last semester (2.0% in June 2022).

The evolution of credit risk MRC impact over time could be explained by three drivers. First, every Basel III monitoring exercise is a snapshot at a given reporting period where a static balance sheet is assumed. Banks' balance sheets naturally evolve over time, which affects the MRC impact. Second, familiarity with the revised Basel III framework is naturally higher in the later reporting periods. Consequently, banks may be able to more accurately reflect the revised framework without having to rely on (often overly conservative) assumptions – the so-called "QIS bias" – in more recent reporting periods. Third, when measuring the impact over time the starting point, ie the current MRC, may have increased due to national legislation changes or supervisory practices (eg stricter supervision on asset classification under the standardised approach or more stringent model validations under the IRB approach).

Changes in Tier 1 MRC for credit risk exposures due to the final Basel III standards over time

Balanced data set — Graph 53

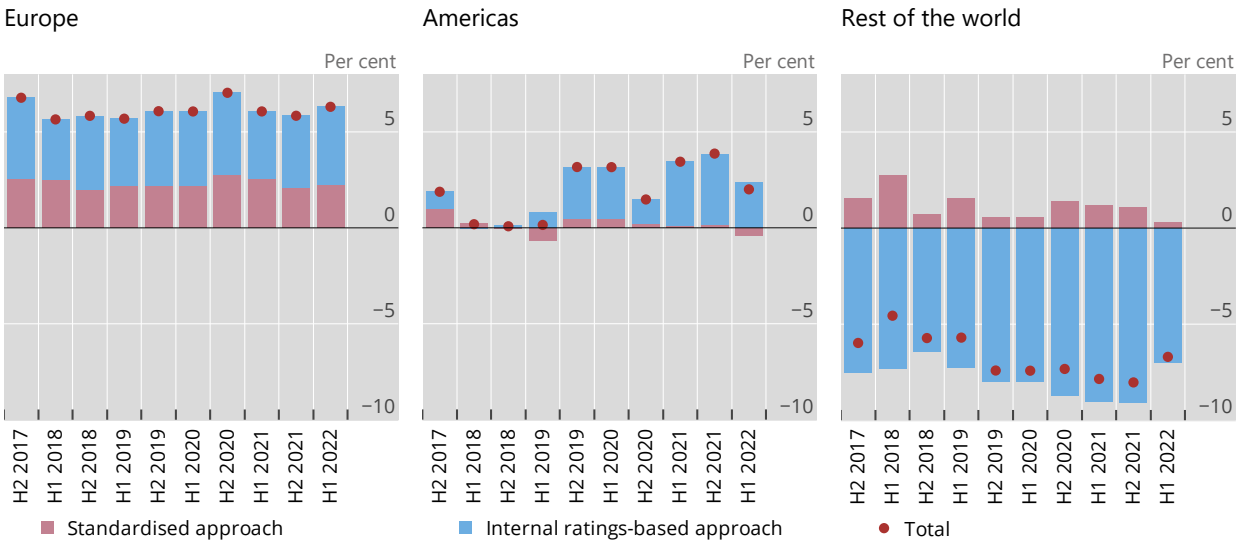


Since the Committee did not collect these data through its Basel III monitoring exercise for the end-June 2020 reporting date, results for H1 2020 show the same values as for H2 2019.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Changes in Tier 1 MRC for credit risk exposures due to the final Basel III standards over time

Balanced data set — Graph 54



Since the Committee did not collect these data through its Basel III monitoring exercise for the end-June 2020 reporting date, results for H1 2020 show the same values as for H2 2019.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

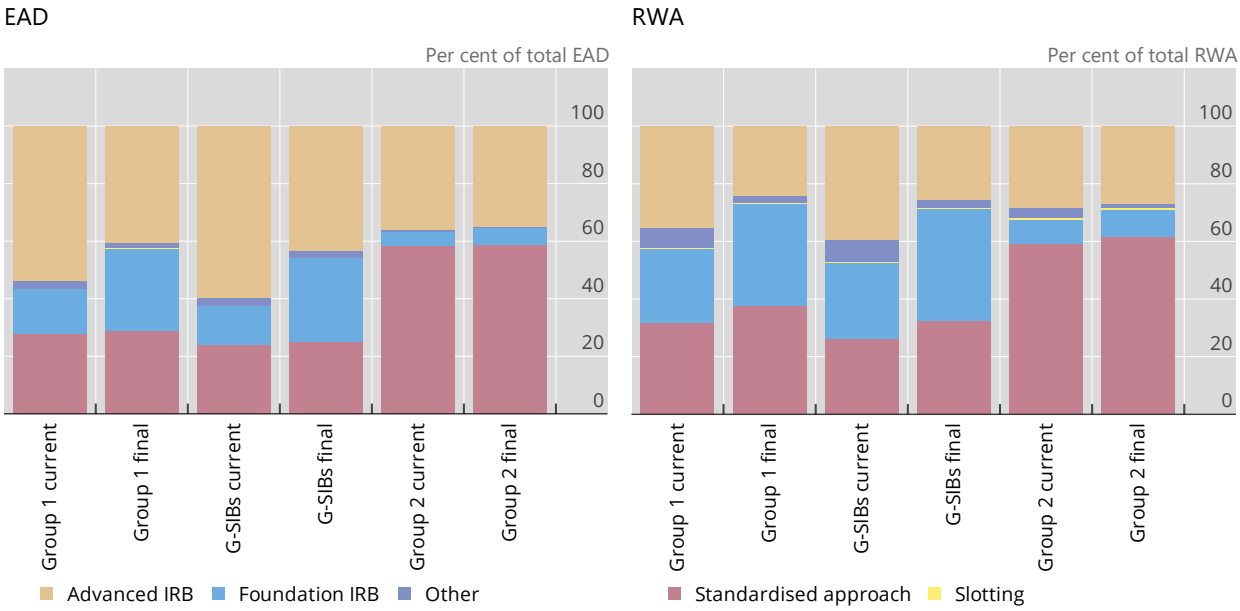
4.2.6 Distribution of exposure at default and risk-weighted assets across approaches

The left-hand panel of Graph 55 shows the composition of exposure at default (EAD) under different modelling and non-modelling approaches. For the purpose of this section, "slotting" refers to the EAD that is subject to the supervisory slotting criteria approach for specialised lending. For Group 1 banks, the portion of exposures under the advanced IRB approach decreases from 53.7% to 40.3% under the revised framework, while exposures under the foundation IRB approach increase from 15.5% to 28.7% of total exposure value. Exposures under the standardised approach increase from 27.9% to 28.8%. These changes are driven by the removal of the option to use the advanced IRB approach for exposures to financial institutions and large corporates, which migrate to the foundation IRB approach, and by the removal of the option to use the IRB approach for equity exposures (included in the "Other" category), which move to the standardised approach. For Group 2 banks, the changes follow a similar trend but are less pronounced due to the relatively larger share of exposures under the standardised approach.

The right-hand panel of Graph 55 replicates the exercise for the distribution of RWA. For Group 1 banks, RWA under the advanced IRB approach decrease from 35.3% to 24.1%, RWA under the foundation IRB approach increase from 25.4% to 35.2% and RWA under the standardised approach increase from 32.0% to 37.7% of total RWA. For Group 2 banks RWA under the advanced IRB approach decrease from 28.4% to 27.0%, RWA under the foundation IRB approach increase from 8.1% to 9.3% and RWA under the standardised approach increase from 59.3% to 61.6%. These changes follow from the change in the allocation across IRB and standardised approaches described above.

Distribution of EAD and RWA by approach under the current rules and the final Basel III standard

Graph 55



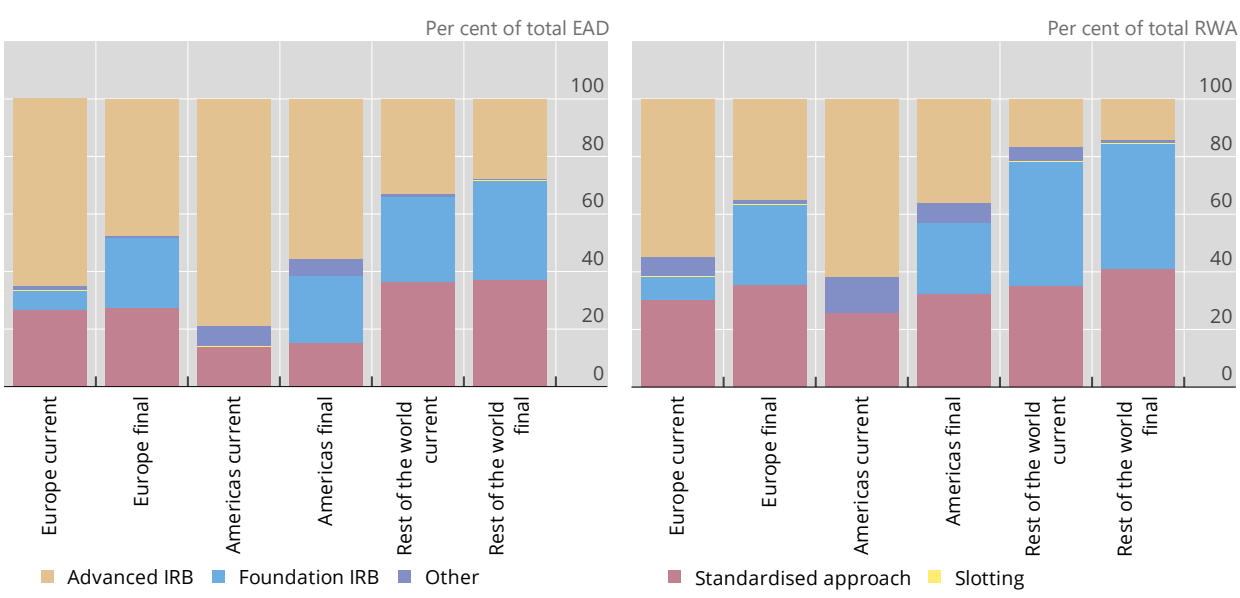
[1] "Other" includes equity exposures, equity investments in funds, failed trades and non-DVP transactions and other assets under the IRB approach for credit risk.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Distribution of EAD and RWA by approach under the current rules and the final Basel III standard, by region

Group 1 banks

Graph 56



[1] "Other" includes equity exposures, equity investments in funds, failed trades and non-DVP transactions and other assets under the IRB approach for credit risk.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Additional constraints to modelling will apply due to the introduction of risk parameter floors. The risk parameter floors introduce a five basis points PD floor,[31] which will be binding for some IRB exposures. Furthermore, some exposures subject to the advanced IRB approach will be bound by the risk parameter floors on LGD and EAD. These risk parameter floors together with the output floor further reduce the shares of EAD and RWA that are effectively subject to unconstrained modelling; these effects are however not shown in the graphs above.

4.2.7 Impact of the revised securitisation framework

This section explores the impact of the Basel III securitisation framework.[32] In particular, the analysis focuses on the following issues:

- the estimated impact on RWA for securitisation exposures of the implementation of the Basel III securitisation framework, when compared with the Basel 2.5 framework; and
- the prevalence of "simple, transparent and comparable" (STC) vs non-STC exposures and its relationship with the approach used for the calculation of capital requirements.

General overview of the securitisation framework

The main changes of the Basel III securitisation framework in comparison to the previous framework are:

- harmonisation of the treatment of banks operating under the standardised or IRB approaches;
- adjustment of the hierarchy of approaches in order to avoid the mechanistic reliance on external ratings;
- inclusion of additional risk drivers and better recognition of existing risk drivers;
- introduction of preferential risk weights for simple, transparent and comparable (STC) term and short-term securitisations, typically in asset-backed commercial paper (ABCP) structures; and
- complete recalibration of all available approaches and increase in the risk weight floor from currently 7% to 10% and 15% for STC exposures and for non-STC exposures, respectively.

The Basel III securitisation framework provides banks with three approaches to calculate RWAs. The definition of which approach will apply follows a defined hierarchy – the capital requirements for securitisation exposures are calculated according to the following sequence:

- Securitisation Internal Ratings-Based Approach (SEC-IRBA);
- Securitisation External Ratings-Based-Approach (SEC-ERBA);[33]
- Securitisation Standardised Approach (SEC-SA).

In addition, banks that are allowed to use SEC-ERBA may also use an additional approach, the Internal Assessment Approach (SEC-IAA) to calculate RWAs for unrated securitisation exposures (predominantly liquidity facilities or credit enhancements) to an SA pool within an asset-backed commercial paper (ABCP) conduit. And in November 2020, the Committee approved a technical amendment setting out capital requirements for non-performing loan (NPL) securitisations.[34]

[31] The PD floor will be 10 basis points for certain qualifying revolving retail (QRRE) exposures.

[32] Basel Committee on Banking Supervision, *Revisions to the securitisation framework, amended to include the alternative capital treatment for "simple, transparent and comparable" securitisations*, July 2016, www.bis.org/bcbs/publ/d374.htm and Basel Committee on Banking Supervision, *Capital treatment for simple, transparent and comparable short-term securitisations*, May 2018, www.bis.org/bcbs/publ/d442.htm.

[33] National supervisors are provided with a national discretion to not implement the SEC-ERBA.

[34] Basel Committee on Banking Supervision, *Capital treatment of securitisations of non-performing loans*, November 2020, www.bis.org/bcbs/publ/d511.htm.

The internationally-agreed date of implementation of the Basel III securitisation framework is 1 January 2018. According to the most recent *Progress report on adoption of the Basel regulatory framework*,[35] in September 2022, 23 Committee member jurisdictions have implemented the Basel III securitisation framework, including the member states of the European Union that introduced a transition period until the end of 2019 allowing banks to use the Basel 2.5 framework for legacy exposures. In all these jurisdictions except one the Basel III securitisation framework is also already in force. It is important to highlight that this implementation assessment does not refer to the term and short-term STC criteria, which are optional, and neither to the capital treatment of NPL securitisations.

Data description

A total of 88 banks submitted data of sufficient quality for securitisation, including 65 Group 1 banks and 23 Group 2 banks. The Group 1 sample represents 99.0% of total securitisation exposures of all banks. Total securitisation exposures and RWA across Group 1 banks are €1.82 trillion and €412.1 billion respectively, compared with €13.8 billion and €4.0 billion for Group 2 banks.

Data description Table 8

	Group 1 banks	Group 2 banks	All banks
Number of banks	65	23	88
Exposure (EUR bn)	1,818.2	13.8	1,832.0
Exposure (% of total)	99.2	0.8	100.0
RWA (EUR bn)	412.1	4.0	416.1
RWA (% of total)	99.0	1.0	100.0

Source: Basel Committee on Banking Supervision.

Banks are included in the following analyses only if their data are complete and of sufficient quality. Accordingly, some banks have been excluded from certain sections of the analysis. Hence, certain results reported in the following sections reflect slightly different sample sizes. Even for banks included in the sample, differences in how they complete the Basel III monitoring template could impact the comparability of the results. The most material issue is the classification as STC or non-STC exposure, which is detailed in Table 9 below.

Overview of securitisation exposures

Table 9 describes the aggregate securitisation exposure and its RWA according to the bank role, ie as an originator of the securitisation transactions, investor, or sponsor. It should be noted that, while Table 9 presents aggregate figures, the breakdown of a jurisdiction's overall exposure according to the role of the bank differs significantly across jurisdictions, given the idiosyncrasies among securitisation markets and varying business models among banks.

[35] Basel Committee on Banking Supervision, *Progress report on adoption of the Basel regulatory framework*, October 2021, www.bis.org/bcbs/publ/d525.htm.

Bank role exposure amounts and RWAs[1]

In billions of euros Table 9

	Originator	Investor	Sponsor	Total
Exposure amounts	416.6	1,012.6	306.9	1,736.1
RWA	93.1	241.7	55.9	390.7

[1] The sample consists of 95 banks.

Source: Basel Committee on Banking Supervision.

The Basel III securitisation framework distinguishes between STC and non-STC exposures, providing preferential capital treatment to STC exposures. For this exercise, not all banks have performed STC classification for their securitisation exposures, possibly due to the effort required to assess their exposures against the STC criteria.[36] It is likely that some banks have applied a portfolio-wide classification, assigning either all or none of their exposures as STC-eligible. Furthermore, some jurisdictions have not implemented the Basel III securitisation framework or implemented it without the capital treatment for STC securitisations, which is optional. Under this assumption, the majority of banks that reported no STC exposures underestimate the actual amount of STC-eligible securitisation exposures and correspondingly, overestimate the capital increase due to the implementation of the Basel III securitisation framework. The share of STC-compliant securitisation exposures can be expected to increase as jurisdictions implement the Basel III securitisation framework.

Number of banks per range of STC share Table 10

	Share = 0%	0% < share ≤ 25%	25% < share ≤ 50%	50% < share ≤ 75%	75% < share < 100%	Share = 100%
Total	42	15	9	7	6	9

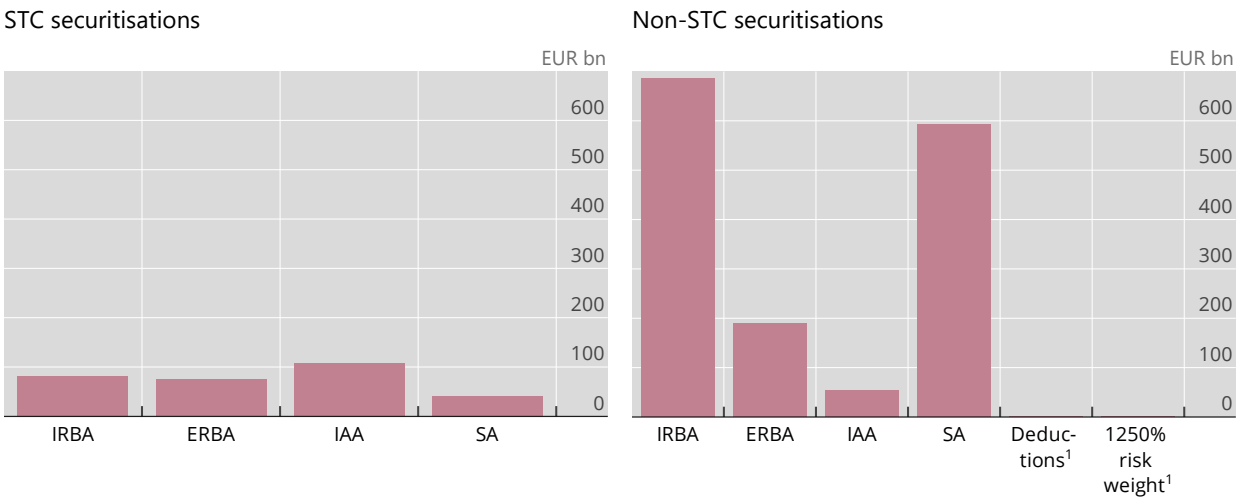
Source: Basel Committee on Banking Supervision.

The Basel III securitisation framework also introduced a new hierarchy of three approaches (SEC-IRBA, SEC-ERBA and SEC-SA) for calculating risk weights. Because of this hierarchy, it is expected that banks have, in aggregate, a larger share of their securitisation exposures risk weighted by SEC-IRBA, then SCE-ERBA and SEC-IAA, and then SEC-SA, whenever these exposures are available to the bank. Graph 57 shows the distribution of approaches for all banks in the sample.

[36] To classify a securitisation exposure as STC, it must be analysed against a set of criteria that assess the risk of the underlying assets, the securitisation's structure, and risks associated with the securitisation's servicers and other agents with a fiduciary duty to the securitisation's investors.

Securitisation exposure amounts by approach

All banks Graph 57



[1] Note that deducted exposures and exposures subject to a 1250% risk weight are comparatively small but non-zero.

Source: Basel Committee on Banking Supervision. See also Table 11 and the Excel data file for underlying data and sample size.

Impact of the Basel III securitisation framework

Change in RWA for securitisation exposures

The sample of banks considered in this analysis is limited to the banks located in the jurisdictions that have not yet implemented the final Basel III securitisation standards. For these banks, Table 11 presents both the securitisation exposures and RWA using the current and final standards, broken down by risk weighting approach. Only the non-STC information is shown due to insufficient sample size for STC data. The expectation is that the exposure values remain broadly constant (reflecting the template reporting instructions), while RWA would increase in line with the objectives of the securitisation standard reforms. However, for individual rows it is possible that RWAs actually decrease, in particular for STC exposures. For the same sample of non-STC exposure, the increase in the average risk weights applicable to exposures under the Basel III securitisation frameworks as compared with the previous is 15.9% as shown in Table 11. In terms of RWA density, the increase is from 26% to 30%. As the securitisation standard is almost fully implemented the expected RWA impact from the remaining implementation is minimal.

Total amounts and change of securitisations exposures and RWAs under the current national rules and the final standards

Table 11

	Exposure			RWA		
	Current framework (EUR bn)	Final standards (EUR bn)	Change (%)	Current framework (EUR bn)	Final standards (EUR bn)	Change (%)
Non-STC securitisations: SEC-IRBA	304.8	304.8	0.0	70.5	75.2	6.6
Non-STC securitisations: SEC-ERBA	0.0	0.0	0.0	0.0	0.0	58.0
Non-STC securitisations: SEC-IAA	0.0	0.0		0.0	0.0	
Non-STC securitisations: SEC-SA	370.0	370.0	0.0	101.4	124.0	22.3
Of which: resecuritisation	1.7	1.7	0.0	0.4	1.8	304.7
Non-STC securitisations: total	674.8	674.8	0.0	172.0	199.3	15.9
Others (1250% RW)	0.3	0.3	0.0	4.5	4.3	–5.2
Total[1]	675.2	675.2	0.0	176.6	203.6	15.3
Sample size	13					

[1] Also reflecting STC securitisations.

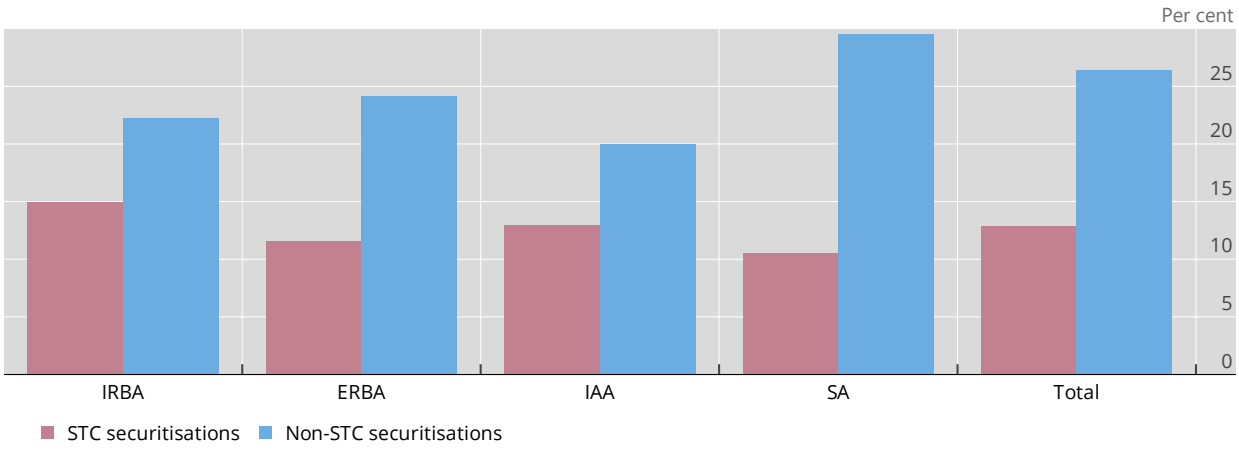
Source: Basel Committee on Banking Supervision.

Graph 58 compares more directly the average risk weights between STC and non-STC exposures under the Basel III securitisation framework. In line with the calibration of the parameters, the average risk weights for non-STC exposures are expected to be higher than for STC exposures. The sample for this graph consists of all banks with sufficiently good data, regardless of actual implementation status of the Basel III securitisation rules. While the risk weight appears more than twice as high for total non-STC than STC securitisations, the STC levels remain relatively very small as shown in Graph 57.

Average risk weight by approach, final standards[1]

All banks

Graph 58



[1] Results for STC and non-STC securitisations refer to different exposures.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.3 Counterparty credit risk and credit valuation adjustment risk

4.3.1 Counterparty credit risk

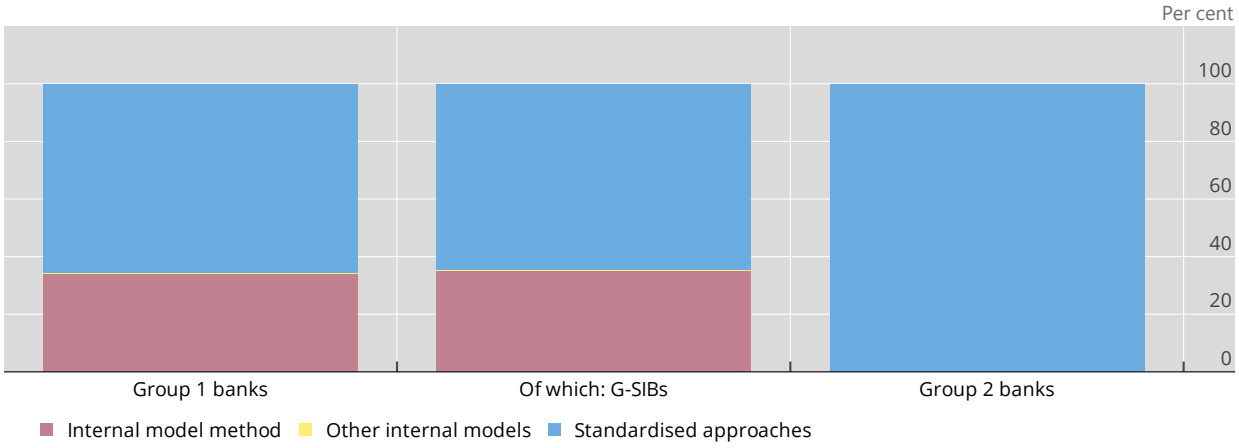
In understanding overall MRC, counterparty credit risk (CCR) is part of credit risk capital requirements. This section provides detailed analysis of the current and revised counterparty credit risk capital requirements.

Current rules for counterparty credit risk

Graph 59 shows the relative composition of counterparty credit risk capital requirements by exposure calculation approach per bank group at end-June 2022. A significant number of banks in the sample use standardised approaches (SA) to calculate CCR exposures. Amongst them, the SA-CCR is the most widely used as a considerable number of jurisdictions have already implemented this new approach for calculating SA exposures for derivatives, such as the European Union (as of end of June 2021), Canada and the United States (as of June 2022). A large number of Group 1 banks use the internal model approach, mainly the internal model method (IMM), to calculate CCR exposures for derivatives and securities financing transactions (SFTs). Group 2 banks do not apply the IMM. In fact, all Group 2 banks use standardised approaches to calculate CCR exposures. As of end-June 2022, for the 58 Group 1 banks in the sample (of which 21 are using the IMM), CCR IMM capital requirements contribute 33.9% to total CCR capital requirements. CCR capital requirements calculated using standardised approaches contribute 65.4% for these banks. For G-SIBs, 35.1% of total CCR capital requirements stem from capital requirements calculated using the IMM. Other internal model methods (Repo-VaR and the comprehensive approach using own estimates of haircuts) are generally used for smaller portions of exposures (0.7% for Group 1 banks).

Contribution to current CCR capital requirements by approach to EAD calculation

All banks — Graph 59



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Overall impact of the revised minimum capital requirements for counterparty credit risk

This section shows the estimated impacts from the introduction of the revised minimum capital requirements for counterparty credit risk. It reflects changes to the exposure calculation methodologies, with the introduction of the standardised approach for counterparty credit risk (SA-CCR) published in March 2014, the amendments to the comprehensive approach using supervisory haircuts (CA(SH)) and the removal of the comprehensive approach using own estimates of haircuts (CA(OE)), published in December 2017. In addition, CCR capital requirements are affected by the changes to the credit risk framework that impact the risk weights applied to CCR exposures. Both changes to the framework contribute to the impact

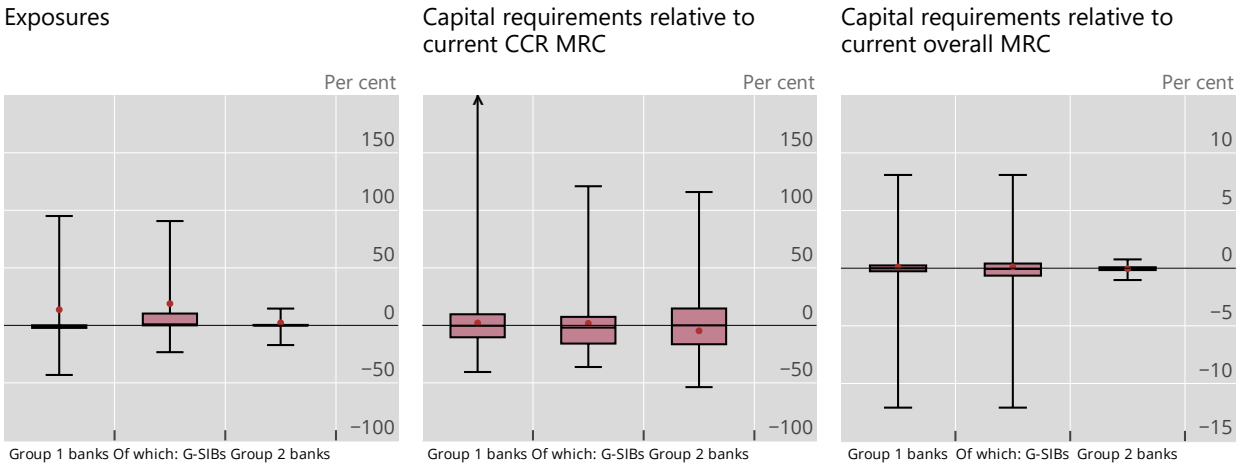
of CCR capital requirements. Generally, these changes lead to an increase in CCR capital requirements under the revised framework relative to the current rules but in some cases, the impact is negative. For some banks, the impact from changes in exposure and risk weight calculations offset each other so that the overall impact is neutral.

A total of 84 banks, including 57 Group 1 banks, of which 19 G-SIBs, and 27 Group 2 banks are included in the analyses regarding the revised minimum capital requirements for counterparty credit risk for the end-June 2022 reporting date. The centre panel of Graph 60 shows the impact on CCR capital requirements from the introduction of the revised CCR framework compared with the current CCR MRC. Capital requirements for Group 1 banks and G-SIBs exhibit an average increase of 2.1% and 1.8%, respectively. The average decrease for Group 2 banks is 4.7%, compared with –12.9% at end-December 2021. This effect can be largely attributed to the adoption of the SA-CCR methodology in the European Union, along with the adoption of the SA-CCR in Canada and the United States as mentioned above. In addition, there is a higher variability across Group 1 and Group 2 banks than there is for G-SIBs. The right-hand panel of Graph 60 displays the impact of the CCR revisions on current overall MRC. Group 1 banks and G-SIBs show a similar impact with an increase of 0.1% for Group 1 banks and the G-SIBs, while there is no observed change for the Group 2 banks.

The left-hand panel of Graph 60 shows the impact on CCR exposures of the revised CCR framework relative to the current framework. CCR exposures increase on average by 13.7% for Group 1 banks in the sample. The average impact is higher for the subsample of G-SIBs (18.9%), however for Group 2 banks the CCR exposures increased by only 2.2% on average. Group 2 banks show a different impact on exposures than Group 1 banks, likely due to the adoption of the SA-CCR methodology in the European Union since most of the Group 2 banks are European banks.

Impact of revised CCR standards relative to current rules[1]

All banks — Graph 60



[1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

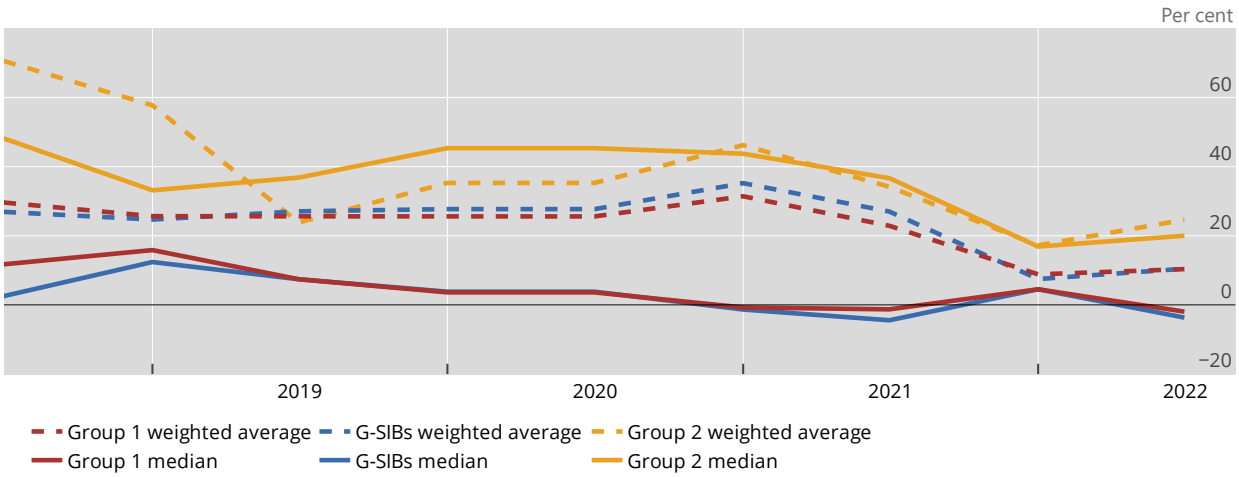
One of the factors that drive the changes between the current standardised approaches and SA-CCR is the treatment of margin collateral under the current rules (ie CEM or SM). In case banks currently do not recognise the margin collateral, while they do take it into account under the SA-CCR, SA-CCR exposures decrease significantly (sometimes leading to SA-CCR exposures and consequently capital requirements close to zero). In cases where banks have already accounted for margin collateral under CEM, banks see higher exposures due to the SA-CCR framework, with greater impacts if the banks' positions are more material in risk classes that are more significantly impacted by the SA-CCR framework. Changes in

the credit risk framework can amplify these impacts. Haircuts will change for SFTs currently capitalised under CA(SH), and CA(OE) will be removed from the framework. Some banks are not affected by the more conservative supervisory haircuts in the revised CA(SH), but others see their SFT exposures (and hence capital requirements) increase significantly. In addition, some banks report significant increases in SFT exposure values due to the application of the SFT minimum haircut floor, which adds to the increase stemming from the amended haircut values in the Comprehensive Approach.

Graph 61 shows the average and median impacts of the revised CCR capital requirements relative to the current ones for a balanced data set of 21 Group 1 banks (of which seven G-SIBs) and five Group 2 banks. The impact for Group 1 banks averages between 8.8% (end-December 2021) and 31.4% (end-December 2020). The average impact for G-SIBs ranges between 7.5% (end-December 2021) and 35.2% (end-December 2020). For the Group 2 banks the impact ranges between 17.2% (end-December 2021) and 70.6% (end-June 2018). The impact of the changes to the framework is on average higher for Group 2 banks than for Group 1 banks and G-SIBs.

Impact of total revised CCR capital requirements relative to current across time

Balanced data set — Graph 61



Since the Committee did not collect these data through its Basel III monitoring exercise for the end-June 2020 reporting date, results for H1 2020 show the same values as for H2 2019.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.3.2 Credit valuation adjustment risk

Current rules for credit valuation adjustment risk

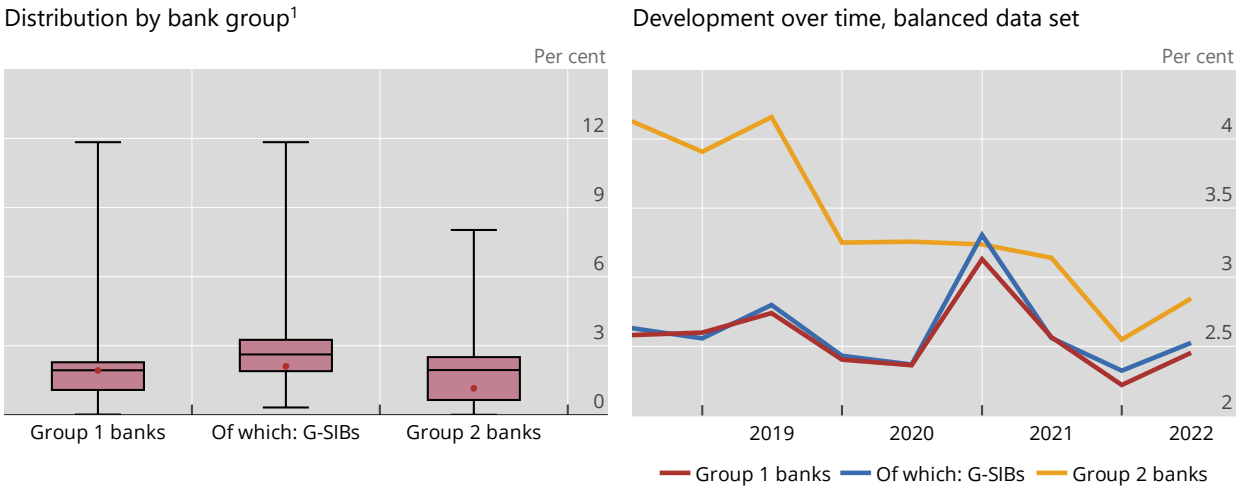
The sample for the analysis of the CVA risk component consists of 82 banks, including 64 Group 1 banks, of which 25 G-SIBs, and 18 Group 2 banks.

The left-hand side of Graph 62 shows that under the current rules, the average share of CVA capital requirements in total MRC is 1.9% for Group 1, 2.1% for G-SIBs and 1.2% for Group 2 banks. For G-SIBs the current share of CVA capital requirements is not more than 3.3% for 75% of these banks.

The right-hand side of Graph 62 displays for a balanced data set of 22 Group 1 banks (thereof 12 G-SIBs) and three Group 2 banks the average share of current CVA capital requirements relative to total MRC over time. Within this sample of banks, Group 2 banks report the highest average share of CVA capital requirements in total current MRC. Only for the end-December 2020 reporting date, the share is higher for G-SIBs than for Group 2 banks. The average share of CVA capital requirements in total MRC for Group 1 banks is consistently slightly lower than or equal to the one for G-SIBs across time. Variations across the

different exercises are comparable for both Group 1 banks and G-SIBs. Except for the drop for the end-December 2021 exercise, Group 2 banks show only little variation across time. Group 2 banks exhibit a tendency for decreasing capital requirements across time. However, due to the restriction of the analysis to a sample of banks which reported consistent data across all exercises in scope, results are based only on the observations of three banks. CVA capital requirements under current rules for this sample of banks remains relatively unaffected across time. The increase in absolute CVA capital requirements drives the increase of the relative share of CVA capital requirements in total MRC for the end-December 2020 data, causing the peak observed for Group 1 banks and G-SIBs. For end-June 2021 numbers have decreased to a level similar to end-December 2019 again.

Share of CVA capital requirements in total MRC under the current rules — Graph 62



[1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Overall impact of the revised minimum capital requirements for credit valuation adjustment risk

This section discusses the estimated impacts from the introduction of the revised minimum capital requirements for credit valuation adjustment (CVA) risk including the targeted revisions to the framework published in July 2020.[37]

The sample includes 15 banks that currently apply the advanced method for CVA (A-CVA), of which 13 indicate to use the standardised approach for CVA (SA-CVA) under the revised framework. The other two banks indicate to be using the reduced and full BA-CVA under the revised framework, respectively. The 68 banks that currently apply only the standard method for CVA (S-CVA) include 11 banks that indicate to intend to apply the SA-CVA and 49 banks that indicate to move to the reduced basic approach for CVA (reduced BA-CVA) under the revised framework. Overall, only nine banks in the sample indicate to use only the full basic approach for CVA (full BA-CVA) in the future.

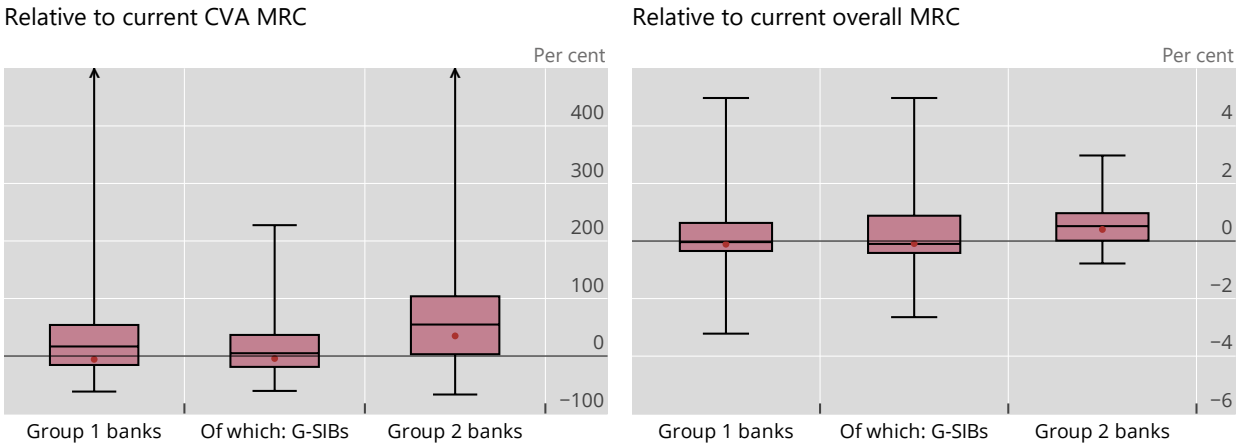
The left-hand side panel of Graph 63 shows that the average impact when moving to the revised CVA framework in relation to current CVA MRC shows a decrease by 5.8% for Group 1 banks. Group 2 banks report a much higher average impact with an increase of 35.0%. The average impact for G-SIBs is a decrease by 4.3%, which is slightly lower than the one for Group 1 banks. The variability in results is significant, though. Some banks report decreasing capital requirements when moving to the revised CVA framework (with CVA capital requirements decreasing up to as much as 66.9%) whereas other banks report

[37] See Basel Committee on Banking Supervision, *Targeted revisions to the credit valuation adjustment risk framework,* July 2020, www.bis.org/bcbs/publ/d507.htm.

significant increases in the CVA capital requirements relative to the current standards (up to about 536% of the current capital requirements). Very high increases appear more frequently for banks using S-CVA that are planning to use the reduced BA-CVA. This is explained by the combination of the increase in exposures from the application of the SA-CCR and the higher risk weights in the BA-CVA compared with the current standardised approach. Capital requirements under the reduced BA-CVA are 3.6% higher than capital requirements under the current S-CVA for the median bank.

The right-hand side panel of Graph 63 provides the impact of the revised CVA capital requirements relative to current overall MRC. Given the small share of CVA capital requirements in overall MRC for most banks, the average impact of the CVA revisions on overall MRC is approximately -0.1% for Group 1 and 0.4% for Group 2 banks. Overall, the impact ranges between -3.2% and 5.0% for all banks in the sample.

Impact of revised CVA capital requirements compared with current rules[1] Graph 63



One Group 1 bank in the sample provided CVA data but no data on current overall capital requirements. It is therefore excluded from the right-hand panel. [1] See Section 1.3.3 for details on box plots.

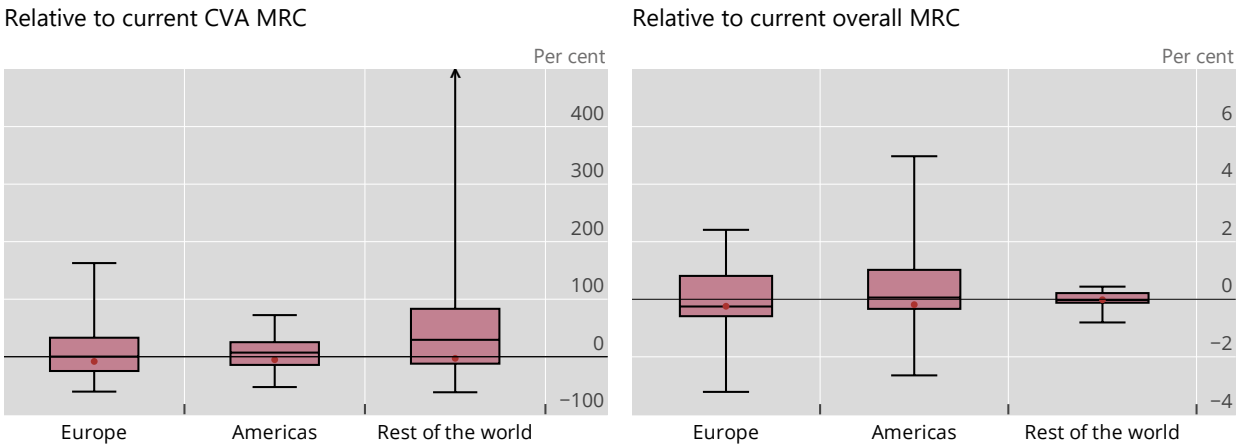
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 64 shows that results differ across regions. The average impacts to current CVA MRC are comparable across regions, with -8.1% for Europe, -5.2% for the Americas and -2.8% for the rest of the world. However, the variability of results differs significantly across regions and individual countries. In some countries, all banks show comparable impacts, and in others, large increases due to the differences in the methodology between the current and revised CVA frameworks can be observed. The average impact of the revised CVA capital requirements relative to current overall MRC demonstrated a slight decrease of 0.2% for Group 1 banks in Europe and the Americas and no change in the rest of the world.

Impact of revised CVA capital requirements compared with current rules, by region[1]

Group 1 banks

Graph 64



One bank in the sample provided CVA data but no data on current overall capital requirements. It is therefore excluded from the right-hand panel. [1] See Section 1.3.3 for details on box plots.

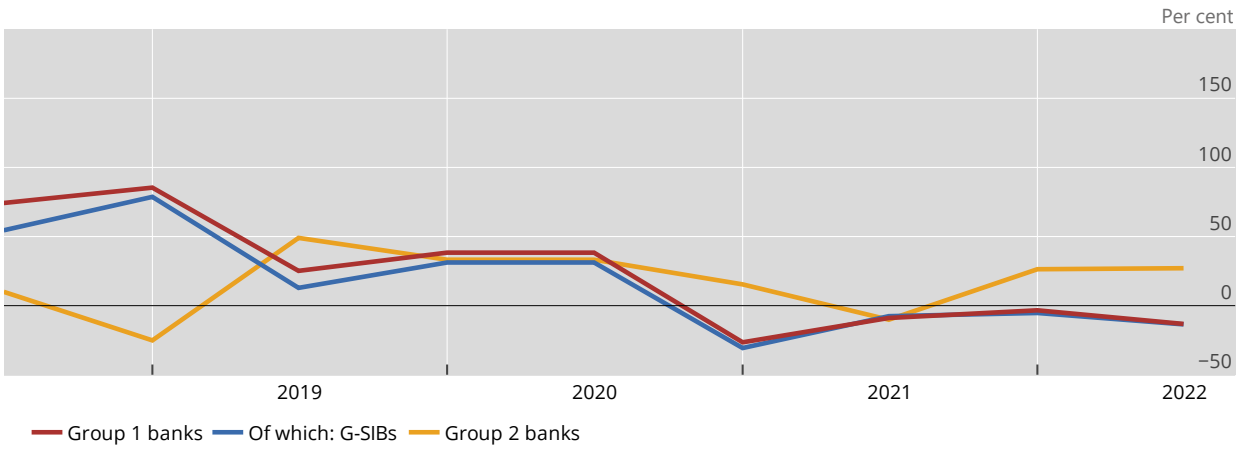
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 65 shows the average impact on CVA capital requirements under the revised framework compared with the current rules across time for a balanced data set of 22 Group 1 banks (thereof 12 G-SIBs) and three Group 2 banks. The observed impacts for Group 1 banks reduce from 85.4% in end-December 2018 to 25.2% in end-June 2019. For the end-June 2020 data, the impact shows an average increase of 38.3% for Group 1 banks with a huge drop to an impact of -26.5% at the end of December 2020 due to the effects of the recalibration to the revised CVA framework. The end-June 2021 data show a decrease in CVA capital requirements of 8.9% when moving to the revised framework. The impacts for Group 2 banks CCR show an increase in capital requirements under the revised rules, but at much lower levels after the recalibration.

Impact of total revised CVA capital requirements relative to current across time

Balanced data set

Graph 65



Since the Committee did not collect these data through its Basel III monitoring exercise for the end-June 2020 reporting date, results for H1 2020 show the same values as for H2 2019.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.4 Market risk

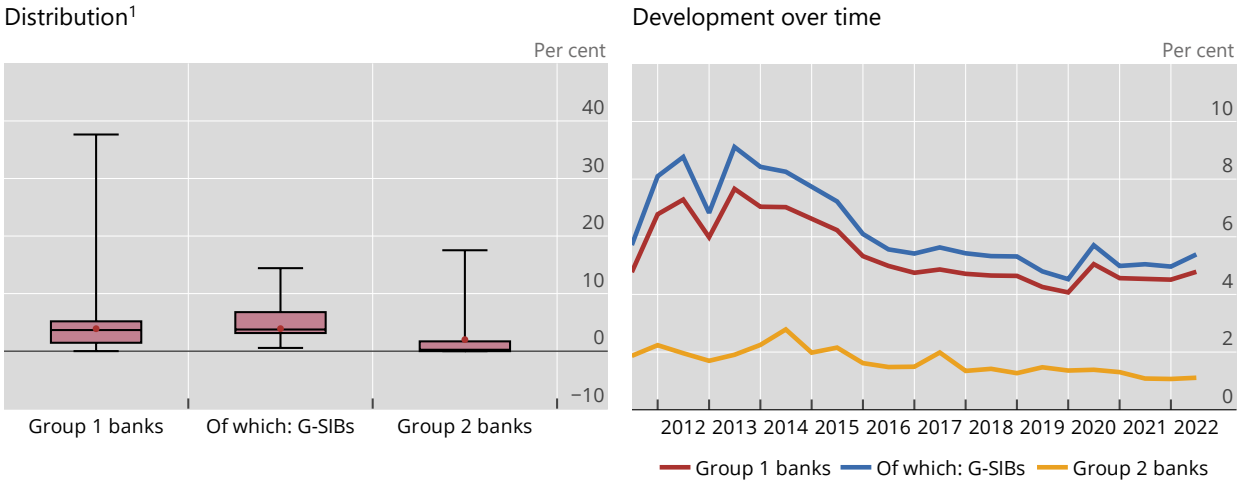
4.4.1 Current market risk rules

The left-hand panel of Graph 66 shows the distribution of the share of minimum market risk capital requirements in total MRC under the current rules, ie jurisdiction-specific Basel 2.5 implementations. The weighted average share of market risk MRC is 3.9% of total MRC for Group 1 banks and 2.0% of total MRC for Group 2 banks. However, there is significant dispersion in shares of MRC from 0% to over 37%.

As seen in the trends starting in 2011, shown in the right-hand panel of Graph 66, the latest upturn in the share of market risk was likely due to increased value-at-risk (VaR) estimates driven by higher market volatility in response to the war in Ukraine and the significant central banking tightening cycle that commenced in the first half of 2022. This upturn follows the downturn from the initial spike in the first half of 2020 following historic low levels at year-end 2019. As of June 2022, the contribution from market risk for Group 1 banks and G-SIBs trended up from the year-end 2021 levels to around 4.8% and 5.4% respectively. Group 2 banks saw the share from market risk unchanged at 1.1%. The increases in the share of market risk were driven by VaR numbers rising due to the higher volatility being incorporated into banks' models' lookback windows and, in the case of some banks, surcharges due to excessive VaR breaches.

Even with the latest uptick in market risk capital requirements, the drop over the longer-term trend is most pronounced for Group 2 banks, which have seen their relative capital requirements attributed to market risk decline by more than 60% since the peak in 2014 although from lower contribution levels. As of June 2022, the average share for Group 1 banks and G-SIBs was around the same level as that seen at end-June 2011 even after the most recent spike in volatility. However, data from 2011 should be viewed in light of the fact that many jurisdictions implemented Basel 2.5 beginning in 2012, so the 2011 numbers were reflective of the prior Basel II standards that resulted in significantly lower capital requirements. Group 2 banks' average share of market risk MRC as of June 2022 is about half the level at the beginning of the time series after experiencing a peak of 2.8% in 2014.

Share of market risk MRC in total MRC under the current rules — Graph 66



[1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 67 below shows time series decompositions of reported market risk MRC by sub-components since end-June 2015. For Group 1 banks and the G-SIBs among them, the internal models approach (IMA) contributed 74.8% and 83.9% of overall market risk MRC respectively as of the second quarter of 2022. This contribution from IMA was somewhat higher than as of year-end 2021, due to banks'

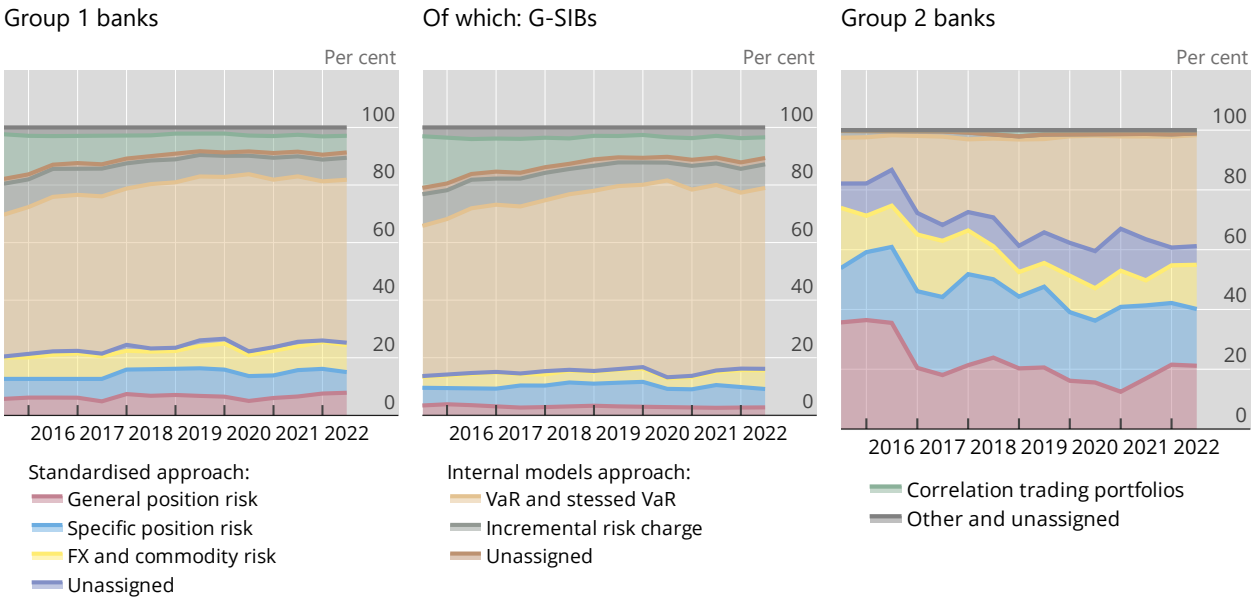
VaR estimates increasing in response to higher market volatility, which was driven by the war in Ukraine and central bank tightening.

Since 2015, the share of overall market risk MRC composed of VaR and stressed VaR (SVaR) has generally increased over time while the MRC shares of both the incremental risk capital charge and correlation trading portfolios (CTPs) has generally decreased. The first half of 2022 saw a small drop in the contribution from CTPs for both G-SIBs and Group 1 banks with both cohorts seeing CTPs make the second smallest contribution since our time series began in June 2015.

For Group 2 banks, the IMA is less relevant, composing around 38.8% of market risk MRC. The contribution from CTPs of 1.1% is relatively negligible for Group 2 banks although their share has increased by nearly fourfold since 2015.

Components of MRC for market risk under the current rules

Unbalanced data set, in per cent — Graph 67



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 68 below shows the ratio of the 10-day 99th percentile stressed VaR to the current 10 day 99th percentile VaR under current market risk rules using two sets of balanced data from Group 1 banks. The left-hand panel shows the time series since end-2011 for 22 banks. Under this longer-run balanced data set, for the initial several years, the ratio of stressed VaR to VaR fluctuated around 200% with a local peak at 236% in end-June 2014 and a second peak at end-December 2019 of 280%. However, the ratio has subsequently recovered to a new a time-series high of 382% as of year-end 2021 before dropping again in the first half of 2022 to 228.4%.

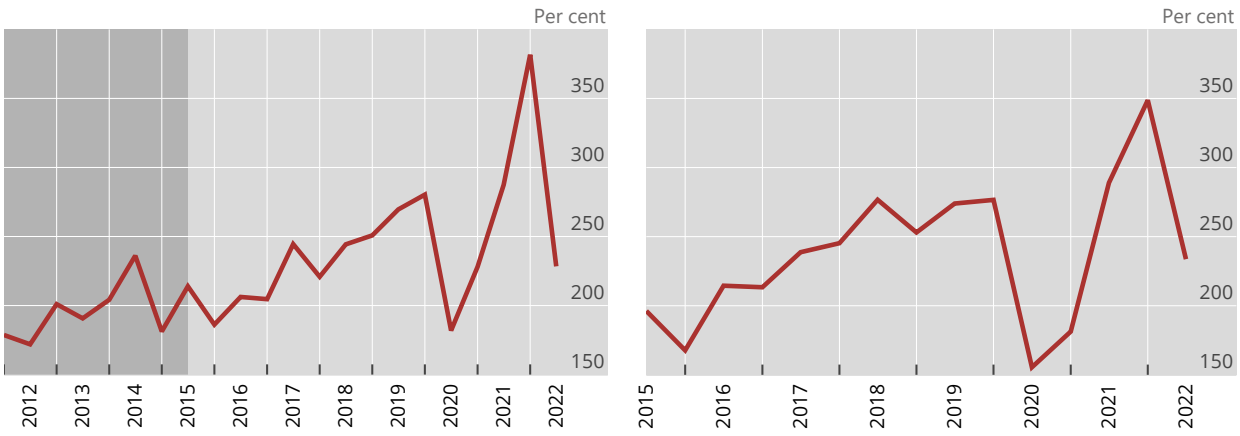
The right-hand panel of Graph 68 shows the same ratio for a shorter-run balanced data set including banks that have provided data since 2015. For this larger sample of overall 44 banks, the ratio has generally increased, reaching its pre-pandemic peak at end-June 2018 at 276% before dropping by nearly half below 155% as of end-June 2020 and subsequently rebounding to a new high above 349% as of year-end 2021 and subsequently falling to 233.7% as of June 2022.

VaR models are typically based on a fixed backwards-looking period, such as one year, that rolls forward over time. In contrast, SVaRs are based on historical high volatility stress periods, such as the 2008 global financial crisis, that typically change infrequently. In both time series, the increasing trend prior to the outbreak of Covid-19 can be attributed at least partially to the lower volatility environment that had

been observed in the markets over the several years preceding the Covid-19 pandemic, which reduced VaR without reducing SVaR. The pandemic-related volatility experienced in markets in the first quarter of 2020 increased banks' VaRs substantially more than their SVaRs. This led the SVaR/VaR ratio to decline significantly across the banks. Thus, as banks' current VaRs fall in low volatility periods, the ratio becomes elevated. However, the huge increase in volatility seen during March 2020 with the onset of the Covid-19 pandemic reversed this trend, sending the ratio as of June 2020 to its lowest level since 2014 for the smaller sample and to the lowest level since the start of the time series in 2015 for the larger sample. 2021 was much more stable than even the pre-pandemic period due in part to the extraordinary official sector policy responses to the pandemic across the globe. This effect, combined with the fact that the one-year lookback periods no longer included the volatility seen in March 2020, led to the ratio reaching new highs across both samples at year-end 2021. As mentioned above, 2022 has seen a return of volatility across all risk classes due to the war in Ukraine and its impact on energy, grain and metals markets, the tightening cycle, a bear market in equities from the record levels seen around the new year of 2022 and considerable movements in foreign exchange as the US dollar appreciated to levels not seen in 20 years. These developments corresponded with the largest drops in the SVaR/VAR ratios observed since both time series began.

Stressed value-at-risk in relation to current value-at-risk

Group 1 banks, balanced data set — Graph 68



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.4.2 Overall impact of the revised minimum capital requirements for market risk

Basel III monitoring market risk data tend to be more variable both over time and across reporting banks than that of other areas of the Basel III monitoring exercise owing to the short term and ever-changing nature of trading portfolios when compared with banking book portfolios, which are mostly held-to-maturity or revolving. In addition, while improving in data quality with each collection, the Basel III monitoring estimates for market risk under the final market risk standard are less robust than those which banks make for the banking book as the impact estimates still require significant manual intervention for many trading positions at banks that have yet to develop systems reflecting their local implementations. Although prior collections included banks' estimates of the capital impact of the final standard, the additional time resulting from the pandemic-related delay in implementation target days has allowed banks to refine their calculations which might have generally improved the accuracy of their estimates.

The impact estimates below generally show impacts based on banks' current portfolios and the current set of modelled desks. They should not reflect potential changes to their portfolios or to the scope of model-approved trading desks upon implementation of the final standard. This methodology likely

overstates the ultimate impact subsequent to implementation, as banks may reduce their exposures to positions with high capital requirements and modify the set of modelled desks. In the other direction, these impacts do not reflect the consequences of trading desks potentially failing backtesting or P&L attribution tests (PLATs) based on the banks' submitted desk-level VaR and P&L data. This assumption understates impact for IMA banks since the new tests are very stringent and we expect desk-level performance to lead to fewer desks passing and being able to use IMA for capital calculations compared with the current standard. It is not clear which of these countervailing effects will dominate, although we do generally expect market risk capital requirements to increase significantly.

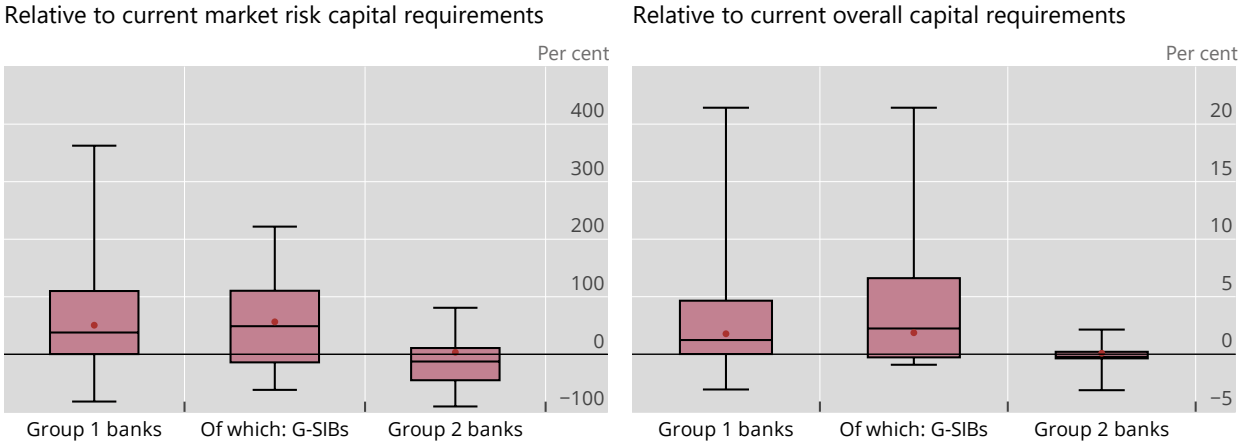
A total of 98 banks from 22 jurisdictions provided at least some market risk data as of the end-June 2022 reporting date including 83 Group 1 and 15 Group 2 banks respectively. Of these banks, 49 banks provided data sufficiently complete to estimate the overall impact from the revised market risk framework.

Graph 69 below shows the revised market risk standards' impact versus current market risk capital and total capital requirements. The prospective Basel III market risk capital requirements relative to current market risk capital requirements increase by 37.9% for the median Group 1 bank, and by 48.9% for the G-SIB cohort, while Group 2 banks saw a 12.5% drop in their median. The weighted average expected increase was 50.6%, 56.5% and 3.5% for Group 1 banks, G-SIBs and Group 2 banks, respectively. There is wide variability at the bank level. Outliers are far more extreme ranging from a near quadrupling in capital requirements (+362.6%) at a non-G-SIB Group 1 bank, to a more than four-fifths reduction (-90.6%) at a Group 2 bank. This is the third consecutive collection in which we have seen the median Group 2 bank show an expected drop in minimum required capital related to the implementation of the final market risk standard.

As a portion of the banks' overall capital requirement (MRC) rather than only market risk capital requirements, the revised standards result in a much more modest median increase of 1.2% for Group 1 banks, 2.2% for the G-SIB cohort and a drop of 0.2% for Group 2 banks. On a weighted average basis, all three groups saw increases in market risk's contribution to total capital of 1.8%, 1.9% and 0.1% respectively.

Impact on MRC of the revised standards for minimum capital requirements for market risk[1]

Graph 69



[1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 70 decomposes the total market risk capital requirements under the current rules and under the revised standards. The breakdown includes components due to the standardised approach (SA) and internal models approach (IMA), and further breaks them down into their sub-components for the revised standards.

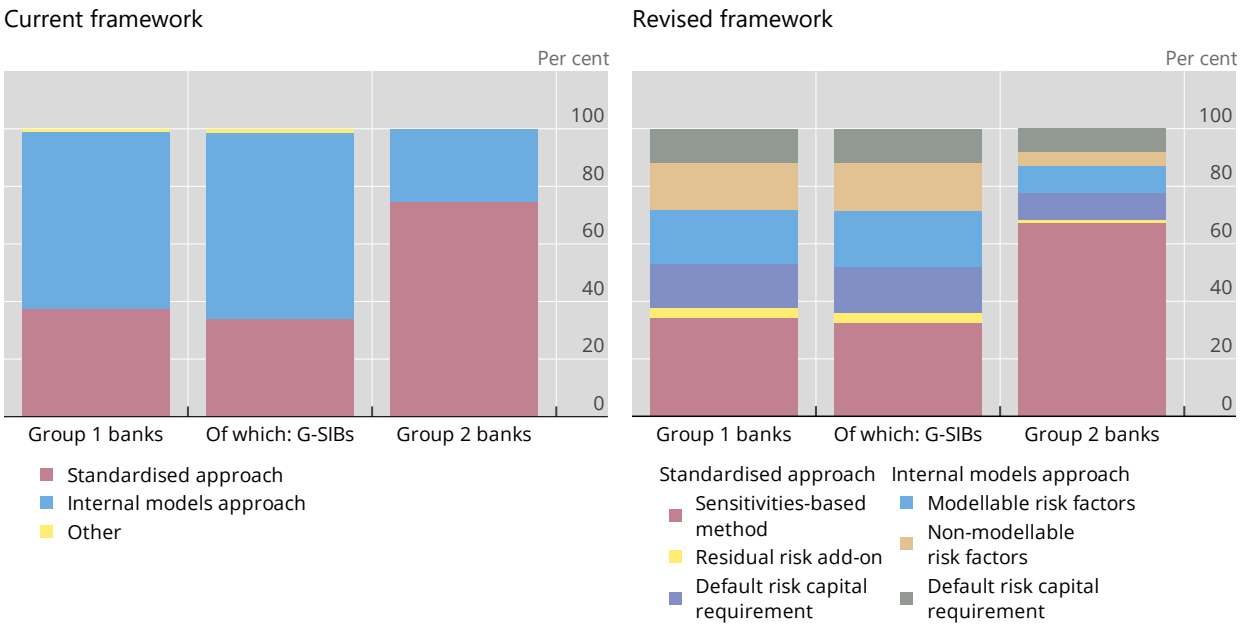
Group 1 banks expect their share of standardised approach capital requirements to increase from 37.4% to 52.9%. For Group 2 banks, the share of their standardised approach capital requirements is expected to increase only marginally from 74.7% to 77.9%.

For positions subject to the revised standardised approach, for Group 1 banks, 65.2% of the standardised approach capital requirement are expected to be attributed to the sensitivities-based method (SbM). For Group 2 banks, the share of the SbM is 86.3%. The default risk capital (DRC) requirement contributes 28.8% and 12.4% to the total standardised approach capital requirements for Group 1 and Group 2 banks, respectively. The residual risk add-on (RRAO), which accounts for risks not fully covered by the SbM or the DRC (including risks related to exotic derivatives and instruments containing gap risk, correlation risk and behavioural risks including prepayment risk), contributes 6.0% to the standardised approach capital requirement for Group 1 banks and almost 1.3% for Group 2 banks' SA capital requirement.

With respect to the revised IMA, the capital requirement for modellable risk factors would contribute 39.8% to the total internally-modelled capital requirements (modellable, non-modellable risk factors and DRC) for Group 1 banks and 41.0% for Group 2 banks. The corresponding share of capital requirements from non-modellable risk factors is 35.4% and 22.7%, respectively. Finally, the DRC for internal models is expected to contribute 24.8% for Group 1 banks and 36.2% for Group 2 banks' IMA capital requirement.

Breakdown of MRC for market risk by approach and risk component under the current rules and the revised standard

Graph 70



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.4.3 Revised model validation tests

Beginning with this collection, bank's requirement to populate the desk level VaR and profit and loss data necessary to test their performance against the VaR back tests and PLATs was moved from a semi-annual to an annual basis. Thus, we did not collect the data as of June 2022. The Committee will resume testing banks' desk-level performance with the next data collection with as of end-December 2022.

4.5 Operational risk

4.5.1 Current operational risk rules

MRC for operational risk of Group 1 banks increased until end-2016 and levelled-off since then. The share of operational risk MRC as a percentage of total MRC is also declining; it is currently 11.3% for Group 1 banks and 12.8% for G-SIBs (see Graph 73).

The evolution of losses over the past 10 years is depicted in Graph 72. MRC for operational risk first increased with increasing losses, yet as losses have started to decline it has stabilised in recent years. In total, €522.6 billion of gross and €470.8 billion of net operational risk losses have been reported over the past 10 years. Operational risk gross losses were €70.5 billion in 2012 and peaked in 2014 at €81.0 billion. Since then, gross losses have decreased significantly to €29.5 billion in 2021, the lowest value of the past 10 years. This trend was observed in 2021 despite the Covid-19 pandemic.

The time-lagged impact of the financial crisis on banks' profits, notably due to long-standing lawsuits, appears to be nearly completed. Nevertheless, banks still face risk due to the digitalisation that amplifies IT risk, potential afterpains of the Covid-19 pandemic or the war in Ukraine with its imponderabilities that could, for example, increase legal risks.

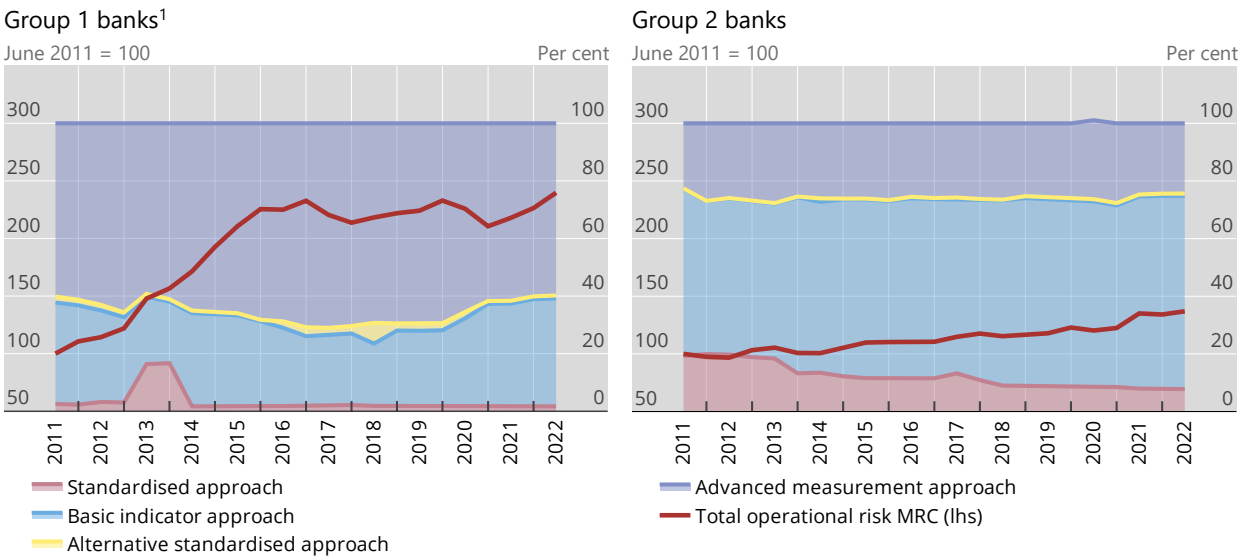
For Group 1 banks and G-SIBs, most of which use the Advanced Measurement Approach (AMA) as the primary method for calculating operational risk capital, the increase in the first half of the 2010s is largely explained by the surge in the number and severity of operational risk events during and after the financial crisis. For Group 1 banks as a whole, this resulted in a significant increase of total MRC for operational risk and an increasing share of MRC for operational risk under the AMA from 60.2% in 2011 to about 71.1% at end-June 2017. On the other hand, AMA banks benefit from recently decreased losses which resulted in stable MRC for operational risk despite an increasing business volume. This development explains the lower share of MRC for operational risk under the AMA of currently 59.8% and the increasing share of the indicator-based approaches.

The increase in MRC for operational risk for Group 2 banks, most of which calculate operational risk capital requirements under the framework's non-model-based approaches,[38] is largely due to an increase in business volume, a factor captured by the financial statement-based components of the standardised approaches. For Group 2 banks, the share of operational risk MRC as a percentage of total MRC is 10.5%.

[38] These comprise the Basic Indicator Approach (BIA), the Standardised Approach (TSA) and its variant, the Alternative Standardised Approach (ASA).

Total MRC for operational risk and share of approaches

Balanced data set — Graph 71

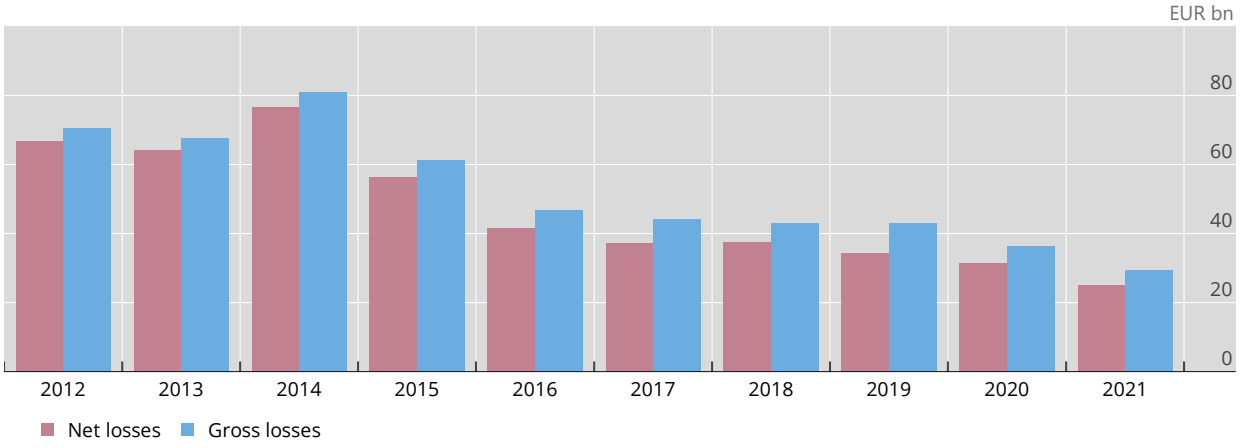


[1] Some banks started reporting operational risk RWAs under the Basic Indicator Approach in 2013 and eventually migrated to the Standardised Approach in 2014.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Loss evolution over the past 10 years

All banks, exchange rates as of the current reporting date — Graph 72

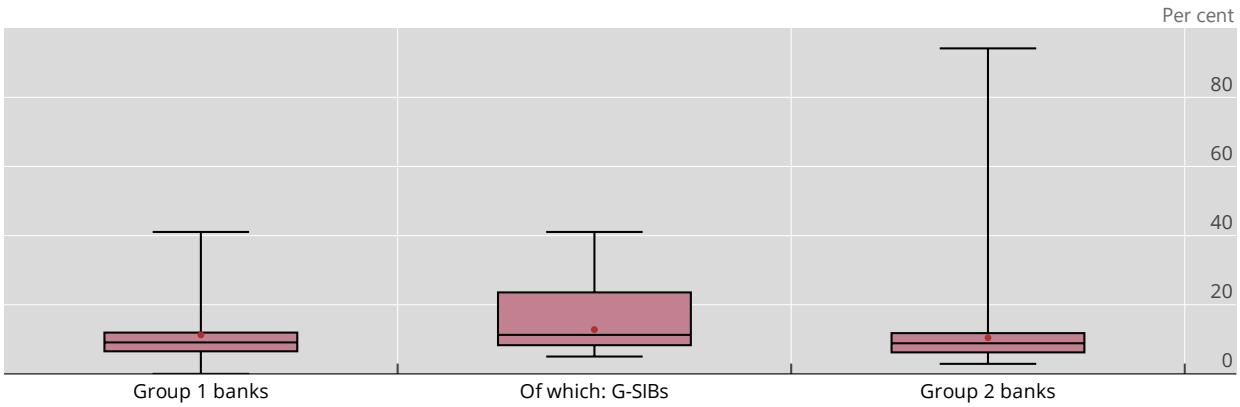


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

The dominance of indicator-based properties found in the standardised approaches for operational risk reflects the size or business volume of a bank rather than its risk exposure, explaining the lower variance of MRC for most Group 2 banks (see Graph 73). For Group 2 banks, the difference between the 25th and 75th quantiles of the share of MRC for operational risk in total MRC is 5.6 percentage points. Although the difference of 5.4 percentage points for Group 1 banks is similar, the difference for G-SIBs (15.3 percentage points) is significantly higher. This observation in combination with the weighted average (11.3% for Group 1 banks and 12.8% for G-SIBs) being significantly higher than the median (9.1% for Group 1 banks and 11.3% for G-SIBs) indicates a positive correlation between size and an above average

operational risk profile. The outliers among Group 2 banks are mostly fee business-specialised banks where operational risk is largely an exclusive risk, while outliers among Group 1 banks and G-SIBs are banks that use AMA where past loss events influence future operational risk exposure.

Distribution of share of MRC for operational risk in total MRC[1] Graph 73



[1] See Section 1.3.3 for details on box plots.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4.5.2 Final operational risk standards

The objective of the design and calibration of the revised operational risk framework is to ensure stable capital requirements that are simple to estimate and comparable while remaining risk-sensitive. The revisions aim to accomplish this objective by replacing the existing set of approaches[39] used for the estimation of operational risk capital requirements with the standardised approach. The standardised approach is comprised of a single non-model-based method that combines a financial statement proxy of operational risk exposure (termed the "business indicator" or BI) with bank-specific operational risk-related losses (termed the "internal loss multiplier" or ILM). The following analysis applies the standardised approach to estimate the changes in operational risk MRC and evaluates the impact of the final against the existing framework. It also considers two national discretions: (1) to set the internal loss multiplier equal to one and hence base capital requirements for operational risk solely on the business indicator component for all banks in a jurisdiction; and (2) to have Bucket 1 banks measure their ILM using their loss history, rather than apply ILM = 1 to all Bucket 1 banks.[40]

According to Table 12, the final operational risk framework generates an aggregate small increase in operational risk MRC of approximately 0.9% for all Group 1 banks. Nevertheless, G-SIBs will benefit from a decrease of -4.6% while an increase of 14.0% for the Group 2 banks in the sample is observed. While Europe faces a significant increase of around 40%, the Americas (-6.3%) and the rest of the world (-15.7%) experience significant decreases. This impact is observed with most banks indicating the application of the risk-sensitive ILM feature.

However, if all banks used the less risk-sensitive BI component only ("ILM=1", shaded brown in Table 12), the operational risk MRC for Group 1 banks would decrease by -4.2% and -12.0% for G-SIBs. This indicates that the past losses due to the financial crisis would still have a measurable impact on possible MRC. If all Group 1 banks applied the ILM based on the average losses above €20,000 of the past

[39] Comprised of the basic indicator approach (BIA), the standardised approach (TSA) and its variant, the alternative standardised approach (ASA), along with the internal model-based advanced measurement approach (AMA).

[40] This has been reflected in the calculation by setting the internal loss multiplier to one whenever national supervisory authorities have indicated that they will most likely apply the national discretion.

10 years ("20k 10Y", shaded green in Table 12), the impact would be 5.8% and -1.2% for G-SIBs, indicating that losses from the financial crisis still push the MRC. The comparison between ILM=1 and ILM 20k on a regional level shows that the MRC in Europe (delta of 49.2 percentage points) and the Americas (delta of 22.3 percentage points) – those regions most affected by the operational risk losses during the financial crisis – would still face MRC increases due to these past losses, while the low loss experiences in the rest of the world would (delta of -34.9 percentage points) result in significant discounts.

Nevertheless, given the decreasing trend of losses and the fading out of the financial crisis losses in the upcoming years (see Graph 72), the MRC impact at the time of first implementation of the final Basel III framework may be overestimated due to the risk-sensitive feature of the ILM. In case that the current average losses above €20,000 remain the same as the past five years, the impact for Group 1 banks could drop to -4.2% (-14.1% for G-SIBs), which would be a similar result as for ILM=1. In case that even the average losses of the past three years remain, the MRC would decrease by -6.8% (-16.3% for G-SIBs). From this decreasing trend in MRC, Europe and the Americas – the most affected regions – would benefit most but starting from a much higher MRC level.

As the impact described above is based on data without possible loss exclusion for losses not relevant anymore for a bank's risk exposure, and without any possible correction of the business indicator (eg due to divested activities, mergers or acquisitions), the real impact might further be over- or underestimated. A deeper look into possible loss exclusions and BI adjustments[41] reported by banks shows that the capital impact might be significantly lower as the impact for ILM=1. It decreases to -9.7% (-16.8% for G-SIBs), which is around than five percentage points less than without any BI adjustment (see column "ILM=1, corrected", shaded brown). Also, with consideration of loss exclusions, the impact is 1.9% for Group 1 banks –four percentage points lower than without loss exclusions (see column "20k 10Y net, corrected BIC", shaded green). Nevertheless, as the decreasing effect is a bit lower compared with the ILM=1, it seems that BI adjustments could become slightly more important than loss exclusions.

Finally, it should be noted that the results exclude current supervisory-imposed capital add-ons under Pillar 2 for certain banks in the sample that would otherwise cause the impact of the reforms to the operational risk framework on MRC to be lower compared with current MRC levels for the Group 1 bank sample. Given that some of these Pillar 2 capital requirements may be removed or reduced, the size of the increases in MRC shown in Table 12 may be overstated and reductions may be understated.

Changes in MRC for operational risk

In per cent — Table 12

	With chosen approach	ILM=1	20k 10Y	100k 10Y	20k 5Y	20k 3Y	ILM=1, corrected	20k 10Y net, corrected BIC
Group 1 banks	0.9	–4.2	5.8	4.0	–4.2	–6.8	–9.7	1.9
Of which: Europe	40.0	13.2	62.4	58.8	41.3	33.7	12.8	60.1
Of which: Americas	–6.3	–28.6	–6.3	–7.8	–20.6	–20.4	–29.1	–6.8
Of which: RW	–15.7	19.3	–15.6	–16.5	–11.8	–14.8	3.2	–25.7
Of which: G-SIBs	–4.6	–12.0	–1.2	–2.7	–14.1	–16.3	–16.8	–4.5
Group 2 banks	14.0	–1.1	15.0	8.6	18.4	17.4	–1.4	14.5

Source: Basel Committee on Banking Supervision.

[41] As the new standardised approach is not yet applied in any of the jurisdiction that take part in this exercise, it is still possible that the reported corrections do not reflect the full potential of adjustments as these are used just at the time when banks must apply the rules. Nevertheless, the adjustment possibilities already reported indicate that the real impact is over- rather than underestimated.

With Graph 74 it is possible to explain the effect of differences in the evolution in BIC and LC on the impact on the final MRC of the new standardised approach for operational risk. Especially the decreasing losses since 2015 as shown in Graph 72 might change the interaction between BIC and LC. To make numbers comparable without showing confidential data, the values are converted to a fraction of the *reported 2021 operational risk MRC*. The analysis comprises a balanced set of 66 banks, 28 of them are AMA banks.

For AMA banks, the left-hand panel of Graph 74 shows that the business-driven BIC is constantly growing from 67.6% in 2017 to 72.9% in 2021 (a change of +8%), only interrupted in the 2020 pandemic year. On the other hand, the loss component was more or less stable till 2019 and decreases since then. Despite the decreasing losses since 2015, the loss component could not directly decrease as till 2019, pre-financial crisis low-loss years were just replaced by similar low-loss years after 2014. This changes 2020, as high-loss years triggered by the financial crisis started to be replaced by the lately observed low-loss years. This caused a quick decrease of the loss component from its peak of 266.5% in 2018 by about 16% to 224.2% in 2021. This trend might continue for some further years as still high-loss years of the financial crisis affect the loss component of many AMA banks. These high-loss years can be replaced if the lately observed trend of low-loss years continues.

Although the loss component decreases faster than the BIC increases, the final MRC of the new SA is still increasing by about 3% over the past five years as due to the logarithm feature of the ILM, the loss component has only a diminished impact. This diminishing effect is even stronger for banks whose loss component is significantly higher than the BIC. This is currently true for Group 1 banks, whose loss component is about three times higher than the BIC in 2021. The average ILM in such a case is about 1.4 and is reflected in the difference between 72.9% BIC and 99.7% 20k new SA. This ratio is already significantly lower as in 2017 when the loss component to BIC ratio was about 3.9. Nevertheless, despite the fade out of losses in the 10-year window, they still drive the new SA capital requirements and even the current AMA MRC. If these banks would use the Basic Indicator Approach instead of the AMA (hypothetical BIA), the current MRC in 2021 would be 62.2%, ie about 38% lower than with the current AMA which is by definition 100%.

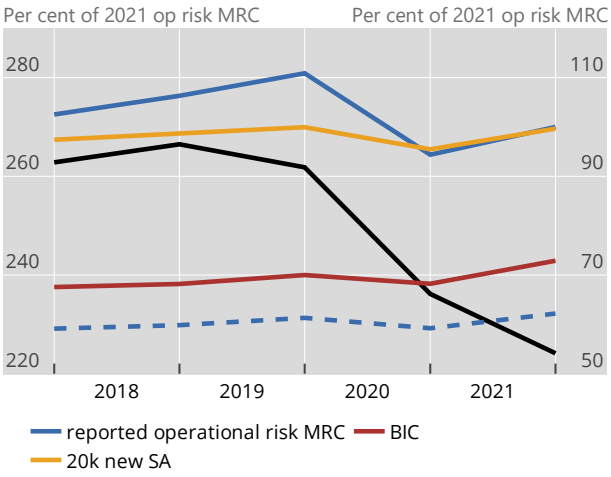
A different picture can be observed for the non-AMA Group 1 banks presented in the right-hand panel of Graph 74. The hypothetical BIA is about 6% higher than current MRC, which indicates that these banks use a less conservative approach to measure their risk exposure and benefit from the use of the current indicator-based approaches of BIA, ASA and SA. Furthermore, the BIC and the loss component change almost with the same rate. While the BIC increased from 99.8% to 122.1%, which is by about 22%, the loss component increased by about 25% from 125.4% in 2017 to 157.2% in 2021.[42] Thus, for non-AMA banks, which are usually smaller Group 1 banks, a phase-out of financial crisis losses cannot be identified. This can be explained as these banks did not experience high losses after the financial crisis and thus have a loss component similar to the BIC. The ratio between loss component and BIC for these banks is only 1.3 in 2021, leading to an ILM of about 1.08 on average.

[42] Differences in the hypothetical BIA show that the values of non-AMA banks and AMA banks cannot be compared easily. Although the financial crisis losses in 2021 with the loss component of 157.2% for non-AMA banks seems to be not that different from 224.2% for AMA banks, they are twice as high for AMA banks if the loss component values are divided by their hypothetical 2021 BIA (62.2% for AMA and 106.5% for non-AMA banks). With this further adjustment, the value for AMA banks at 379.0% would be more than twice as high as for non-AMA banks with 172.7%.

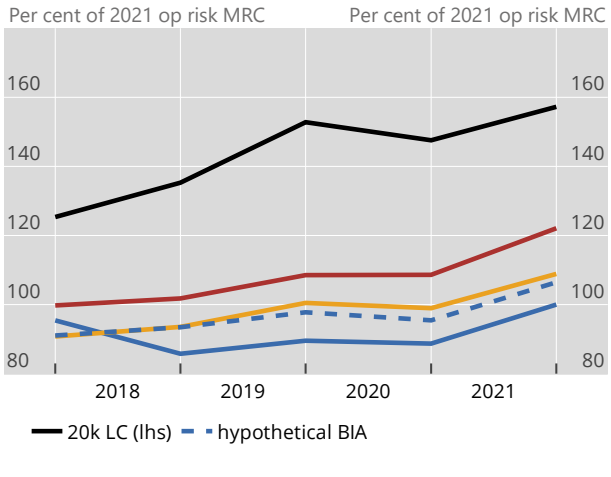
Evolution of new SA components

Graph 74

Group 1 AMA banks



Group 1 non-AMA banks



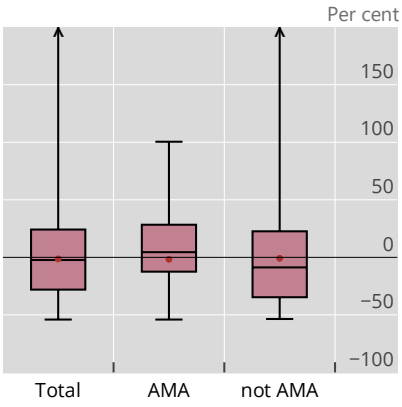
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 75 depicts the distribution of changes in operational risk capital requirements for Group 1 banks, G-SIBs and Group 2 banks that calculate operational risk capital requirements using the existing set of standardised and advanced approaches in the framework.

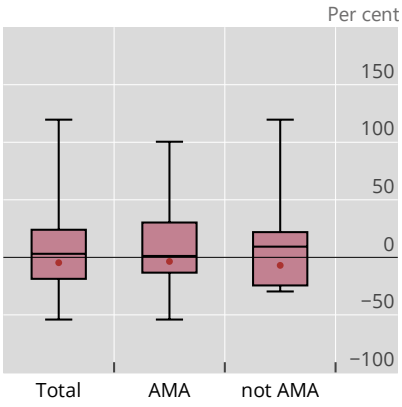
Changes in MRC for operational risk[1]

Graph 75

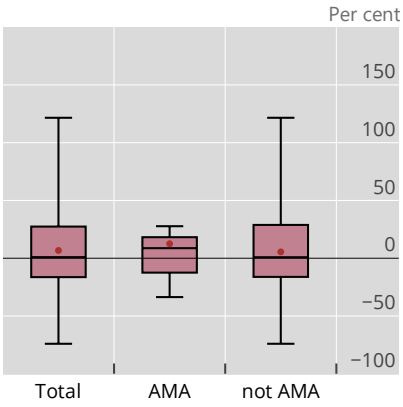
Group 1 banks



Of which: G-SIBs



Group 2 banks



[1] See Section 1.3.3 for details on box plots. For the purpose of this graph, AMA banks are banks that currently calculate some part of their operational risk capital requirements using the AMA.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

5. Interactions between risk-based, output floor and leverage ratio capital requirements

5.1 Relationship between the Basel III leverage ratio and risk-based capital requirements under fully phased-in initial Basel III standards

Graph 76 below shows the interaction between the fully phased-in Basel III Tier 1 leverage ratios (horizontal axis) and the fully phased-in Basel III Tier 1 risk-weighted capital ratios (vertical axis). Ratios of Group 1 banks are marked with red dots and those of Group 2 banks with blue dots. The dashed horizontal line represents a Tier 1 target risk-based capital ratio of 8.5%,[43] whereas the dashed vertical line represents a Basel III Tier 1 leverage ratio of 3%.

The diagonal line represents points where an 8.5% fully phased-in Basel III Tier 1 target risk-based capital ratio results in the same amount of required fully phased-in Basel III Tier 1 capital as a fully phased-in Basel III Tier 1 leverage ratio of 3%. By construction, it also represents a multiple of 8.5%/3%≈2.83 between RWA and the Basel III leverage ratio exposure measure. Therefore, for banks plotted above the diagonal line, the Basel III Tier 1 leverage ratio requires more Tier 1 capital than the Tier 1 risk-based capital ratio (ie the Basel III Tier 1 leverage ratio becomes the constraining requirement).[44] For banks plotted below the diagonal line, the target Tier 1 risk-based capital ratio requires more capital than the leverage ratio (ie the Tier 1 capital ratio remains the constraining requirement).

As shown in Graph 76, all banks meet the minimum Basel III Tier 1 leverage ratio of 3% as well as the Tier 1 target risk-based capital ratio under the fully phased-in initial Basel III standards of 8.5%. The graph also shows that the Basel III Tier 1 leverage ratio under initial Basel III standards is constraining for 77 banks out of 169, of which 43 Group 1 and 34 Group 2 banks (plotted above the diagonal line).

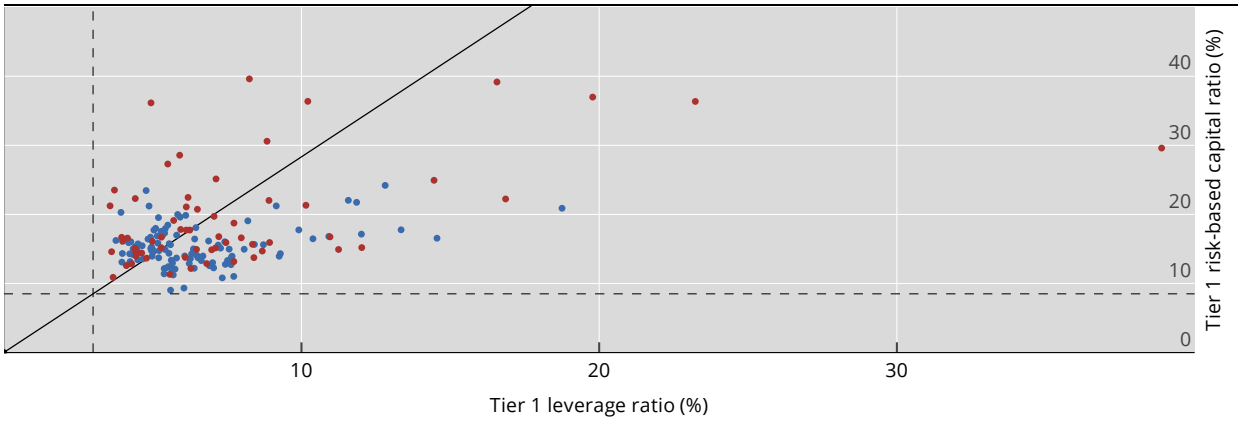
[43] Calculated as the sum of a 6.0% Tier 1 minimum capital ratio plus 2.5% capital conservation buffer.

[44] Note that the effect of the G-SIB surcharge is not considered here. As the G-SIB surcharges only apply to the risk-based requirement under the initial Basel III framework, the relevant proportion between RWA and total leverage ratio exposure that determines whether the Basel III leverage ratio is constraining or not and hence the slope of the diagonal line would be different by bank.

Fully phased-in initial Basel III Tier 1 risk-based capital and leverage ratios

In per cent

Graph 76



The dashed horizontal line represents a Tier 1 target risk-based capital ratio of 8.5%, whereas the dashed vertical line represents a Basel III Tier 1 leverage ratio of 3%. The diagonal line represents points where an 8.5% fully phased-in Basel III Tier 1 target risk-based capital ratio results in the same amount of required fully phased-in Basel III Tier 1 capital as a fully phased-in Basel III Tier 1 leverage ratio of 3%.

Source: Basel Committee on Banking Supervision.

5.2 Interactions between risk-based, output floor and leverage ratio capital requirements under the final Basel III standards

This section discusses the interaction between Tier 1 risk-based, output floor and Basel III leverage ratio capital requirements, all including the capital conservation and G-SIB buffers as applicable. The purpose of this analysis is to gain deeper insight into which capital requirement component of the framework is constraining for the banks in the sample. The *constraining* requirement in this analysis refers to the requirement that imposes the largest amount of Tier 1 MRC among the three requirements mentioned above. Accordingly, the Tier 1 MRC for a bank is determined as the highest of the requirement under the risk-based framework, the requirement using the output floors and the requirement measured using the Basel III leverage ratio.

Note that in contrast to the analyses presented in Section 2.1 and Section 2.2, the risk-based capital requirements here denote the risk-based capital framework *prior* to the application of any output floor. Also note that while all banks are by definition constrained by one of the measures, this does not necessarily result in a capital shortfall for any of them. Finally, some capital requirements, such as D-SIB buffer and Pillar 2 requirements, are not considered in the analysis. This tends to give more importance to leverage ratio requirements relative to risk-based requirements. In the actual situation where those additional requirements would be considered fewer banks could be constrained by the leverage ratio all other things equal.

Graph 77 shows which of the three parts is constraining under both the current standard and the final Basel III framework. For Group 2 banks, results are presented separately for IRB banks and banks only using the standardised approach for credit risk ("pure SA").[45].

Under the current initial Basel III framework, the transitional Basel I based floor is constraining for nine out of the 88 Group 1 banks. For the remaining Group 1 banks, the risk-based ratio is constraining

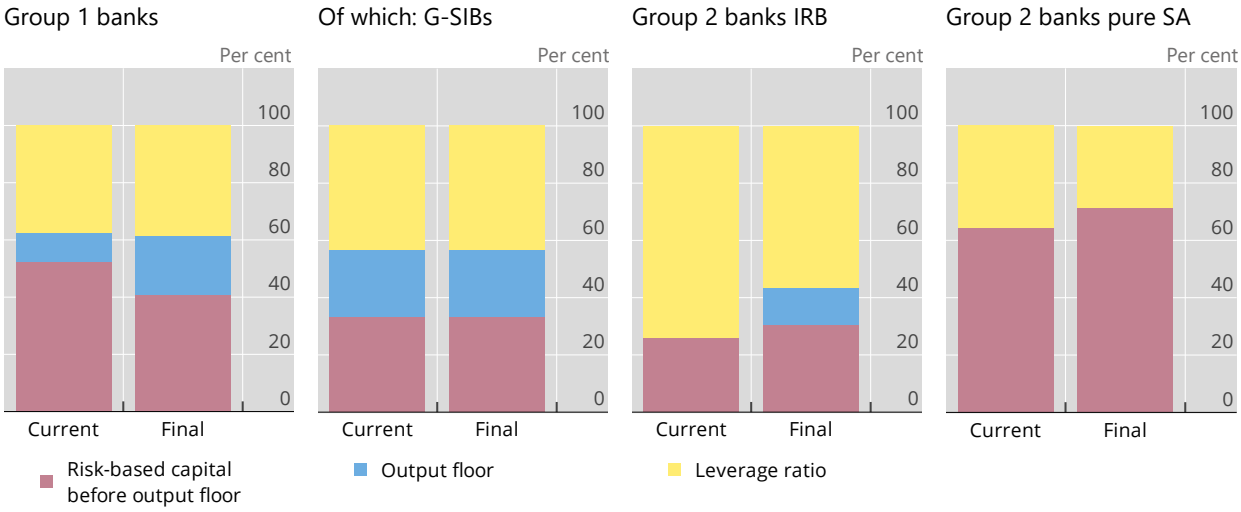
[45] Graph 77 does not distinguish between IRB and "pure SA" Group 1 banks as out of the 91 Group 1 banks in the sample only 16 are "pure SA" banks.

for a larger number of banks than the leverage ratio (46 and 33 banks respectively). Globally, under the fully phased-in final Basel III framework, the output floor becomes more constraining for Group 1 banks, especially at the expense of the risk-based ratio as the constraining requirement: The number of banks for which the output floor is constraining increases from nine to 18. In parallel, the number of Group 1 banks for which the risk-based ratio is the constraining requirement drops from 46 to 36.

Contrary, the number of G-SIBs constrained by the minimum leverage ratio remains high under the current initial Basel III framework with 13 banks, followed by 10 banks constrained by the risk-based ratio and seven banks constrained by the transitional Basel I-based floor. This ratio remains stable under the fully phased-in final Basel III, with the leverage ratio still being the most dominant restriction.

For Group 2 banks, for analysis purposes, Graph 77 distinguishes between IRB and pure SA banks (23 and 14 banks, respectively). Under the current initial Basel III framework, the leverage ratio is binding for 17 out of 23 Group 2 IRB banks. Under the final Basel III framework, 13 Group 2 IRB banks are constrained by the leverage ratio, whereas the output floor is constraining for three banks. For pure SA Group 2 banks the ratio of banks constrained by risk-based capital requirements and leverage ratio requirements stays roughly the same under the changing frameworks.

Percentage of banks constrained by different parts of the framework — Graph 77



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 78 shows the percentage of Group 1 banks constrained by different parts of the framework, by region. In Europe, under the current initial Basel III framework, no bank is constrained by the transitional Basel I based floor and the main binding ratio is the leverage ratio, of which 19 out of 29 European banks are constrained. This could be partially driven by the non-consideration of some risk-based capital requirements, such as D-SIB buffer and Pillar 2 requirements in the analysis. Against this background, the numbers in this section might overestimate the impact of the leverage ratio constraint. Under the fully phased-in final Basel III framework, the output floor significantly gains relevance constraining seven European banks Consequently, the number of banks constrained by either the leverage ratio or risk-based capital requirements decreases (from 19 to 17 and from 10 to five, respectively)

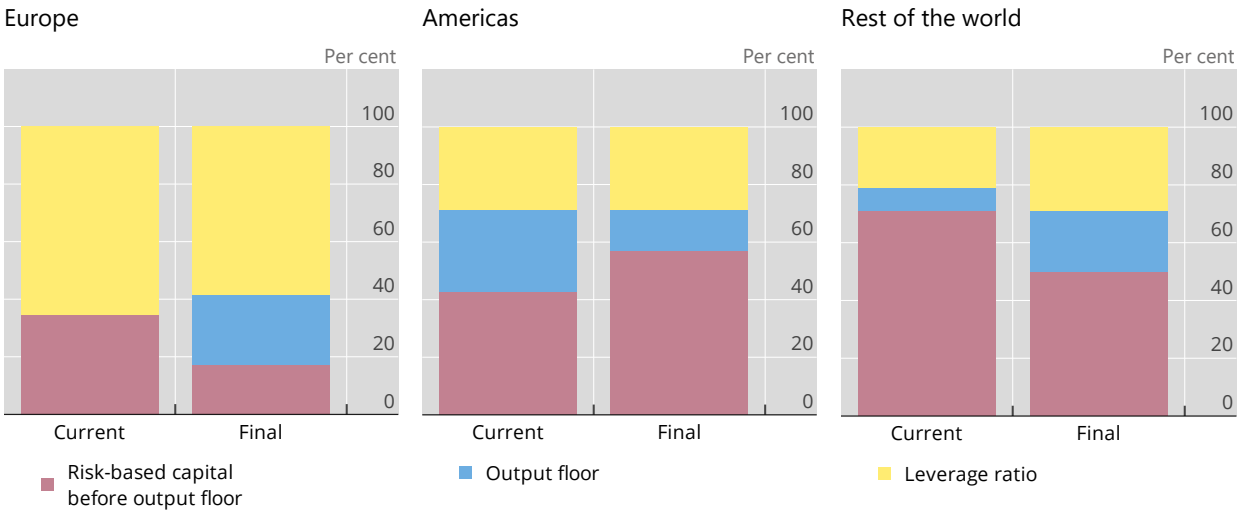
In contrast, the development in the Americas is very different. Under the current initial Basel III framework, the Basel I-based floor and the leverage ratio are equally relevant as the binding constraint (both constraining six banks each out of 21), while nine banks are constrained by the risk-based capital requirements before floor-application. Under the fully phased-in final Basel III framework, the number of banks constrained by the leverage ratio remains stable, whereas the output floor loses significance (only three banks constrained). Consequently, under the fully phased-in final Basel III framework, the majority

of banks in the Americas (12 banks) is constrained by the risk-based capital requirements before application of the output floor.

For the rest of the world, for both initial and final Basel III framework, most banks are constrained by the risk-based capital requirements before floor-application (27 and 19 banks out of 38 banks, respectively). Nevertheless, the number of banks constrained by the output floor increases from three to eight and the number of banks constrained by the leverage ratio increases from eight to 11.

Percentage of banks constrained by different parts of the framework, by region

Group 1 banks — Graph 78



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

6. Liquidity[46]

6.1 Liquidity Coverage Ratio

One of the two liquidity standards introduced by the Committee is the 30-day Liquidity Coverage Ratio (LCR), which promotes short-term resilience against potential liquidity disruptions. The LCR requires global banks to have sufficient high-quality liquid assets to withstand a stressed 30-day funding scenario specified by supervisors. The LCR numerator consists of a stock of unencumbered, high-quality liquid assets (HQLA) that must be available to cover any net outflow, while the denominator comprises cash outflows minus cash inflows (subject to a cap at 75% of outflows) that are expected to occur in a severe stress scenario. The LCR was revised by the Committee in January 2013 and came into effect on 1 January 2015. The requirement increased to 100% as of January 2019, which marks the end of the phase-in of the LCR.

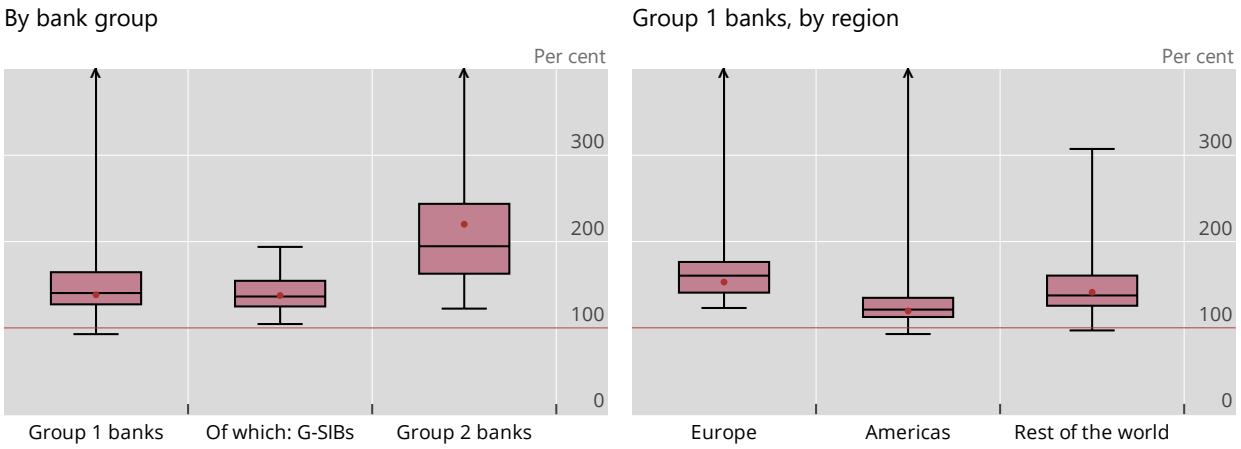
Data provided by 181 banks (115 Group 1 banks and 66 Group 2 banks) was of sufficient quality and coverage to be incorporated in the LCR analysis in this report. As of the reporting date, banks within the LCR sample had total assets of approximately €82.4 trillion. Based on an unbalanced data set of banks, the weighted average LCR for the Group 1 banks reporting data for the June 2022 reporting date decreased by 2.5 percentage points from end-December 2021 to 138.4%. The weighted average LCR for

[46] The dashboards on the Committee's website provide more detailed insights into the components of the LCR and the NSFR.

Group 2 banks decreased by 1.8 percentage points from 221.9% at end-December 2021 to 220.1% at the end of June 2022.

While the weighted average LCR decreased for Group 1 banks, at end-June 2022, three Group 1 banks in the Americas and the rest of the world reported an LCR below 100%. This is a decrease from six banks at end-December 2021. Among those banks that eliminated their shortfalls between end-December 2021 and end-June 2022, HQLA decrease by less than net liquidity outflows for two banks while the increase in HQLA exceeded the increase in net outflows for one bank. All Group 2 banks report an LCR well above 100%.

Liquidity Coverage Ratio[1] Graph 79



[1] See Section 1.3.3 for details on box plots. The sample is capped at 400%, meaning that all banks with an LCR above 400% were set to 400%. The horizontal line represents a 100% LCR (applicable as from 1 January 2019).

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

As highlighted above, in the current reporting period there are several Group 1 banks with an LCR below 100% and hence a shortfall (ie the difference between HQLA and net cash outflows) which amounts to €14.8 billion.

6.2 Net Stable Funding Ratio

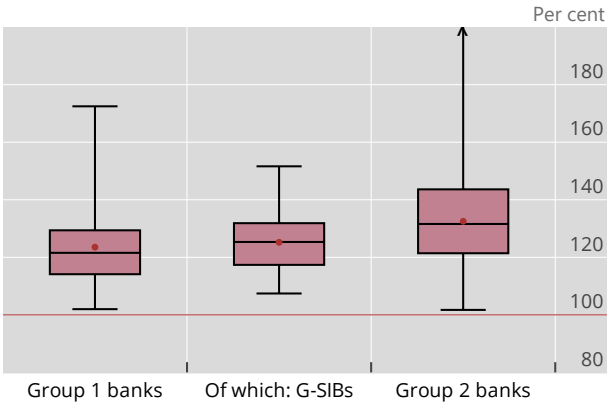
The second liquidity standard introduced by the Basel III reforms is the Net Stable Funding Ratio (NSFR), a longer-term structural ratio designed to reduce funding risk by requiring banks to fund their activities with sufficiently stable sources of funding to mitigate the risk of future funding stress.

For the NSFR, data provided by 155 banks (104 Group 1 and 51 Group 2 banks) was of sufficient quality and coverage to be incorporated in the analysis in this report. As of the reporting date, these banks had total assets of approximately €84.5 trillion.

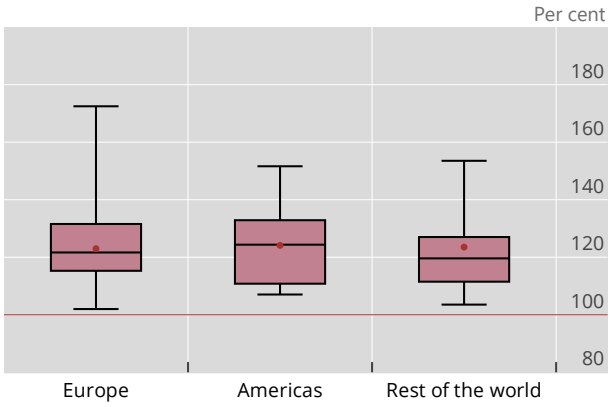
The weighted average NSFR was 123.5% for Group 1 banks and 132.5% for Group 2 banks at end-June 2022 compared with 125.2% and 134.2%, respectively, at end-December 2021. Overall, all Group 1 and Group 2 banks reported an NSFR that met or exceeded 100% which was the situation observed at end December 2021.

Net Stable Funding Ratio[1] Graph 80

By bank group



Group 1 banks, by region



[1] See Section 1.3.3 for details on box plots. The red line is set at 100% (minimum NSFR level).

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Since all Group 1 and Group 2 banks exceeded 100%, there are no shortfalls.[47] For the evolution of the shortfall for a consistent sample of banks, please refer to Section 6.3.

6.3 Liquidity Coverage Ratio and Net Stable Funding Ratio shortfalls over time

Graph 81 below displays the weighted average LCR, weighted average NSFR and shortfalls associated with each standard for a balanced data set of banks across reporting periods since end-December 2012.[48] Given the different samples of banks, results for the end-December and end-June 2022 periods in this section may differ from the ones in Sections 6.1 and 6.2.

Group 1 banks that have reported LCR data for each of the reporting periods since end-December 2012 showed a decline in weighted average LCR for the second consecutive reporting period. The weighted average LCR for these banks was 138.7% at end-June 2022, compared with 143.0% at end-December 2021. The LCR was slowly increasing from end-December 2012 before decreasing end-December 2019, followed by a distinct uptick during the pandemic. The aggregate LCR shortfall increased slightly from €6.0 billion at end-December 2021 to €6.6 billion at end-June 2022.

Group 2 banks followed a similar pattern, with the weighted average LCR declining to 208.3% at end-June 2022, compared with 223.4% at end-December 2021. The reported LCR data for each of the reporting periods since end-December 2012 increased gradually through end-December 2018, before a slight decrease in 2019 and subsequently spiking during the pandemic. However, the weighted average LCR of Group 2 banks increased much more than Group 1 banks, growing from 163.0% at end-December 2019 to a high of 231.9% at the end-June 2021 reporting date.

47 The shortfall in stable funding measures the difference between balance sheet positions after the application of available stable funding factors and the application of required stable funding factors for banks where the former is less than the latter.

48 Only those banks are included in this analysis that are reporting LCR and NSFR data for each reporting period since end-December 2012. LCR and NSFR samples are different.

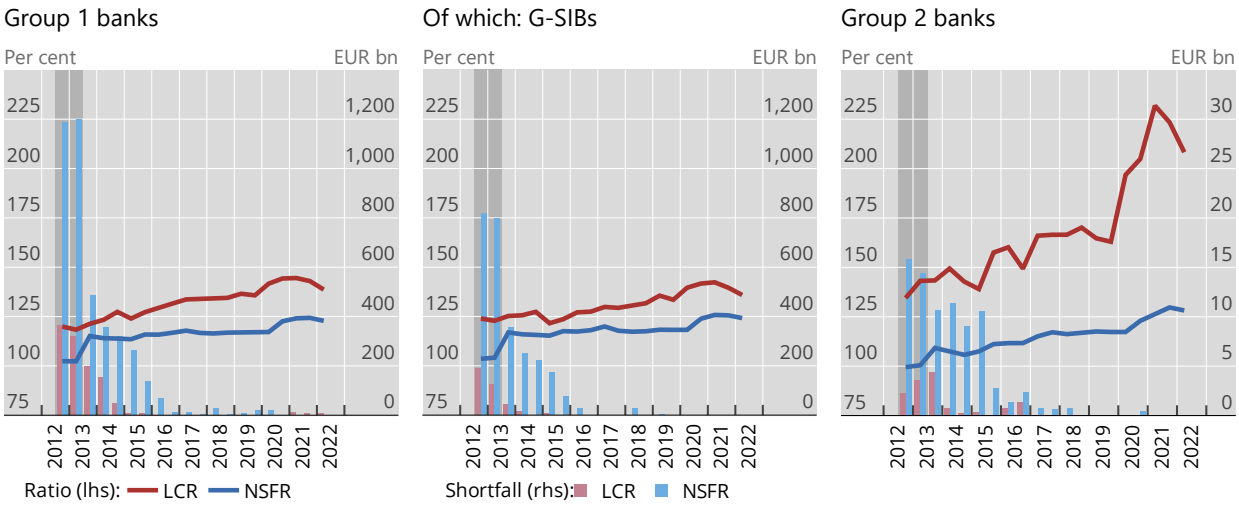
The graph also displays NSFRs since end-December 2012.[49] The weighted average NSFR for Group 1 banks was 122.8% at end-June 2022 and 124.3% at end-December 2021. The weighted average NSFR for Group 2 banks was 128.2% at end-June 2022 and 129.7% at end-December 2021.

The aggregate shortfall for Group 1 banks that do not meet the 100% requirement generally declined for each of the respective standards from end-June 2012 through end-December 2017. Since then, the aggregate shortfall has consistently been relatively small. For the third period in a row, there was no aggregate shortfall with regard to the 100% NSFR minimum requirement for both Group 1 banks and Group 2 banks at end-June 2022.

In spite of the recent decreases in LCR and NSFR for all groupings, both liquidity ratios remain significantly above pre-pandemic levels.

LCR, NSFR and related shortfalls at a 100% minimum requirement[1]

Balanced data set, exchange rates as at the reporting dates — Graph 81



[1] As described in the text, the NSFR time series depicts data reflecting NSFR standards released in December 2010, January 2014 and October 2014. Since the Committee did not collect NSFR data through its Basel III monitoring exercise for the end-June 2020 reporting date, the relevant data points show the same values as for end-December 2019.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 82 displays the regional breakdown of the weighted average LCR and the weighted average NSFR for a balanced data set of Group 1 banks across reporting periods since end-December 2012. The weighted average LCR at end-June 2022 for Europe and the rest of the world was respectively 152.4% and 144.9%, while the average LCR of the Americas is around 120%. While Europe and the Americas had initially lower average LCRs compared with the rest of the world, the average LCRs of Europe and the rest of the world tended to converge gradually before the onset of the pandemic. The regions with lower end-2012 average ratios saw important increases in particular between end-December 2012 and end-December 2014, and again since the start of the pandemic. The increase in Europe is now reversing, although the LCR of European banks is still above end-2019 levels.

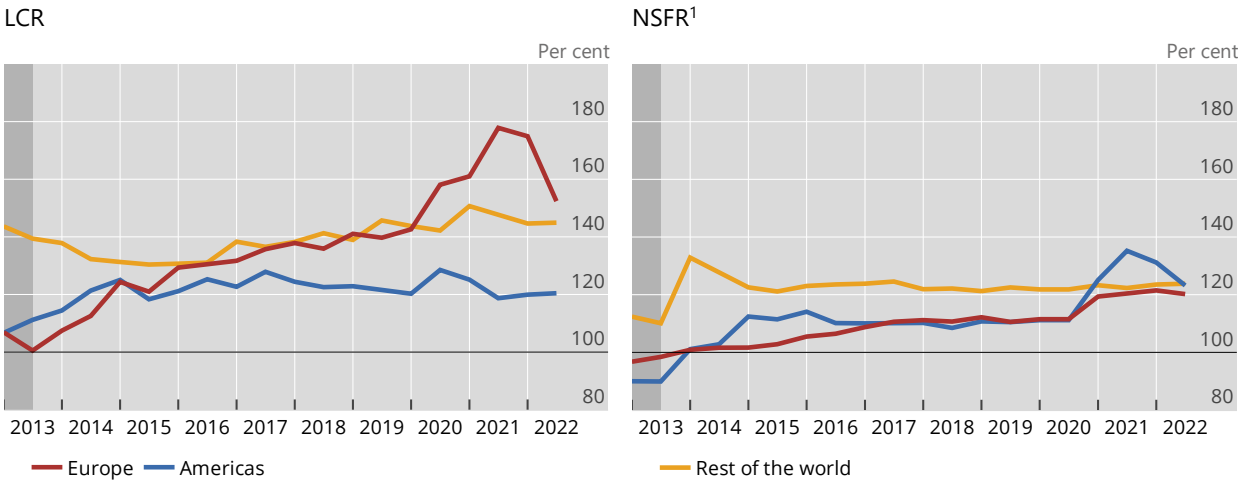
The weighted average NSFR at end-June 2022 for Group 1 banks in each of the three regions was well in excess of 100%. While the NSFR has been roughly stable across all regions since end-December

[49] Graph 81 depicts the NSFR as calculated under different versions of the NSFR framework (released in December 2010, January 2014 and October 2014, respectively). Calculations performed according to the final standard approved by the Committee in October 2014 start with the end-December 2014 reporting period. See Basel Committee on Banking Supervision, *Basel III: the net stable funding ratio*, October 2014, www.bis.org/bcbs/publ/d295.htm. Since the Committee did not collect NSFR data through its Basel III monitoring exercise for the end-June 2020 reporting date, the relevant data points show the same values as for end-December 2019.

2016, the average NSFRs of banks in Europe and the Americas have significantly increased over the past two years, from 111.5% and 111.2% since end-December 2019 to respectively 120.2% and 123.2% at end-June 2022 (despite the decrease observed between June 2021 and June 2022). This increase brought both regions to a level in line with the rest of the world, which reported an average NSFR of 123.8% at end-June 2022. The average NSFR of banks in Americas has decreased from a peak of 135.2% at end-June 2021 to 123.2% at end-June 2022.

LCR and NSFR by region

Group 1 banks, balanced data set — Graph 82



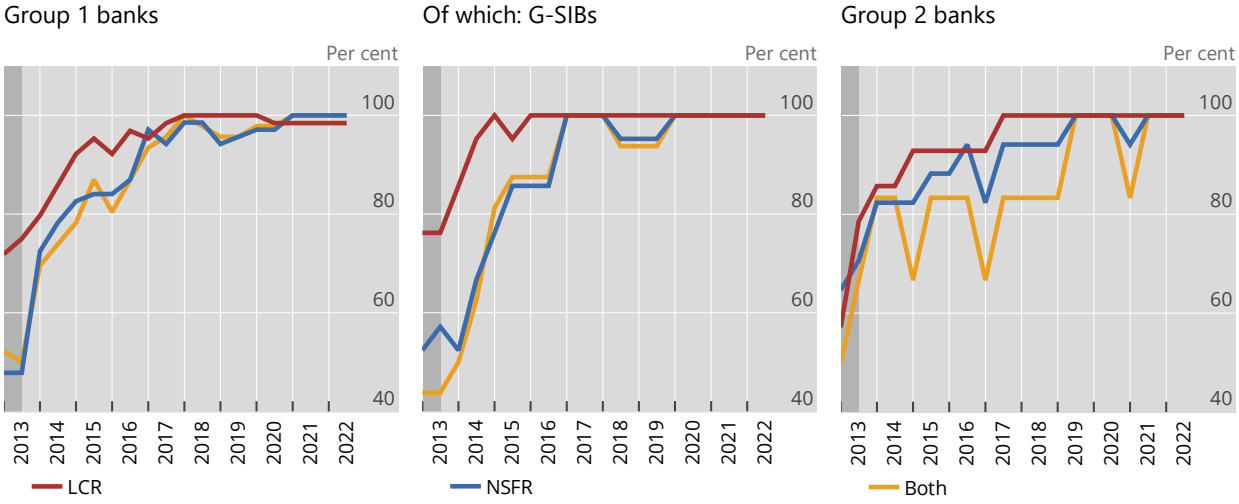
[1] See footnote 1 to Graph 88.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The LCR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Graph 83 displays the share of banks, in a balanced data set, that meet the 100% LCR and NSFR requirements. The share of Group 1 banks meeting both requirements has increased from 52.2% at end-December 2012 to 100.0% at end-June 2022, while the share of Group 2 banks meeting both requirements increased from 50.0% to 100.0% during the same period.

Share of banks meeting the LCR and NSFR requirements[1]

Balanced data — Graph 83



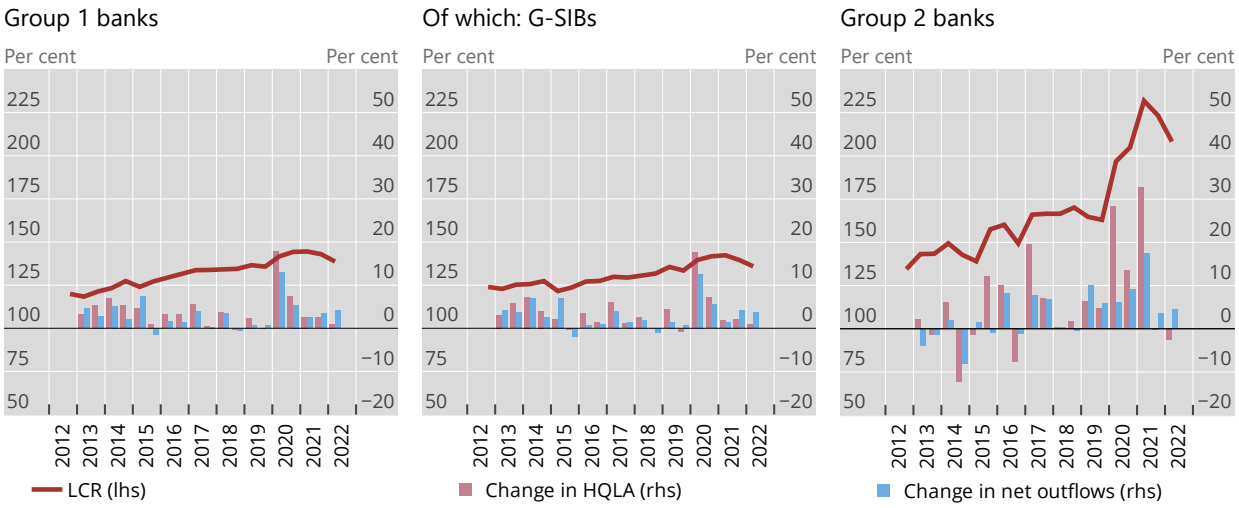
[1] Samples for LCR and NSFR may differ.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 84 displays the weighted average LCR for a balanced data set of banks across reporting periods since end-December 2012, along with a breakdown of the period-to-period changes of the LCR into changes in HQLA and changes in net outflows. This decomposition shows that the recent decrease in the weighted average LCR for Group 1 banks is driven by increases in net outflows which was only partially offset by increases in HQLA. The decrease since June 2021 in weighted average LCR for Group 2 banks has been driven by a stagnation followed by a decrease in HQLA and an increase in net outflows. This follows three reporting periods where HQLA increased significantly driven by central bank reserves.

LCR and change in HQLA and net outflows

Balanced data set, exchange rates as of the current reporting date — Graph 84



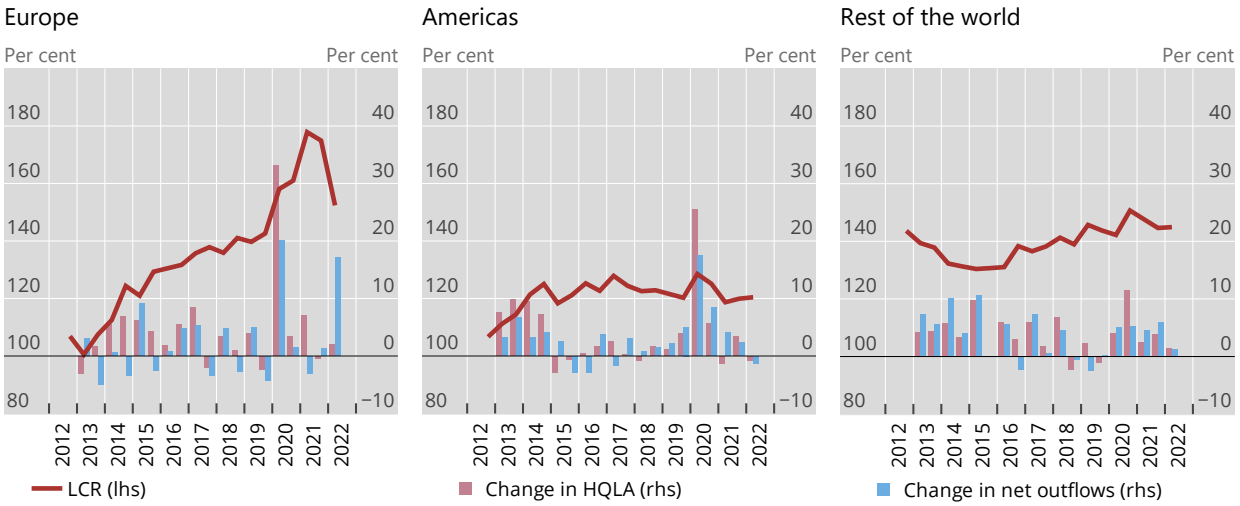
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 85 provides a breakdown by region of the results in Graph 84 for Group 1 banks. It displays the weighted average LCR and a decomposition of period-to-period LCR changes into changes in HQLA

and net outflows. As can be seen in the graph, LCR of banks in Europe have decreased as net outflows significantly increased while the amount of HQLA remained overall stable. The LCR of banks in the Americas picked up at end-June 2020 as a result of the increase in HQLA that exceeded the increase in net outflows before declining and stabilising around 120% since June 2021. For the rest of the world, both net outflows and HQLA increased until end-December 2021 and since then the LCR decreased to 145%.

LCR and change in HQLA and net outflows, by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 85

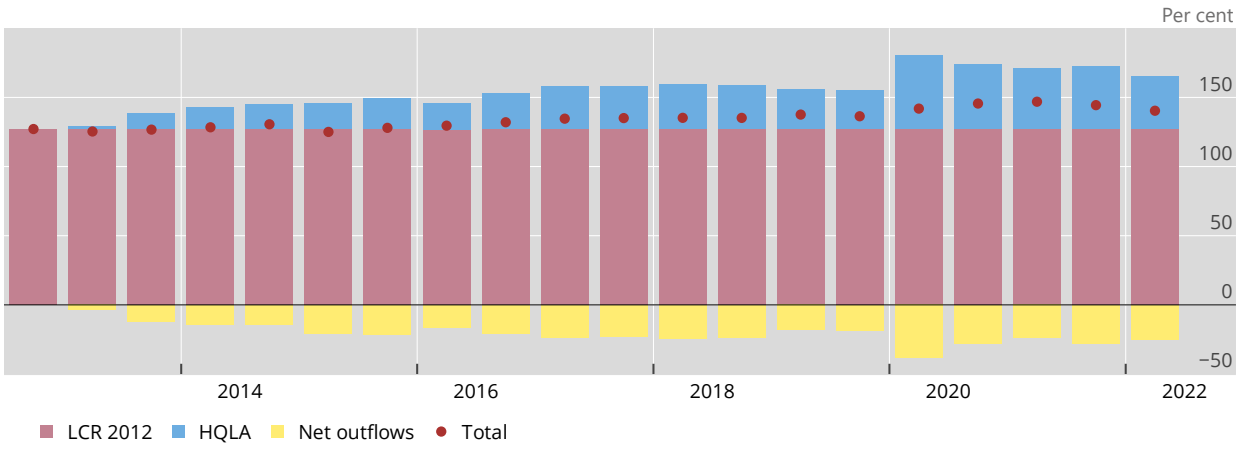


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The LCR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Graph 86 shows the evolution of the LCR and its drivers. Starting with the June 2012 LCR, the cumulative effect on the LCR of an increase in HQLA is added to the LCR, while the impact of cumulative increases in net outflows is subtracted from the baseline LCR. HQLA have grown faster over the years compared with the net outflows, which has resulted in an overall improvement in the LCR over time.

Evolution of the LCR and its drivers

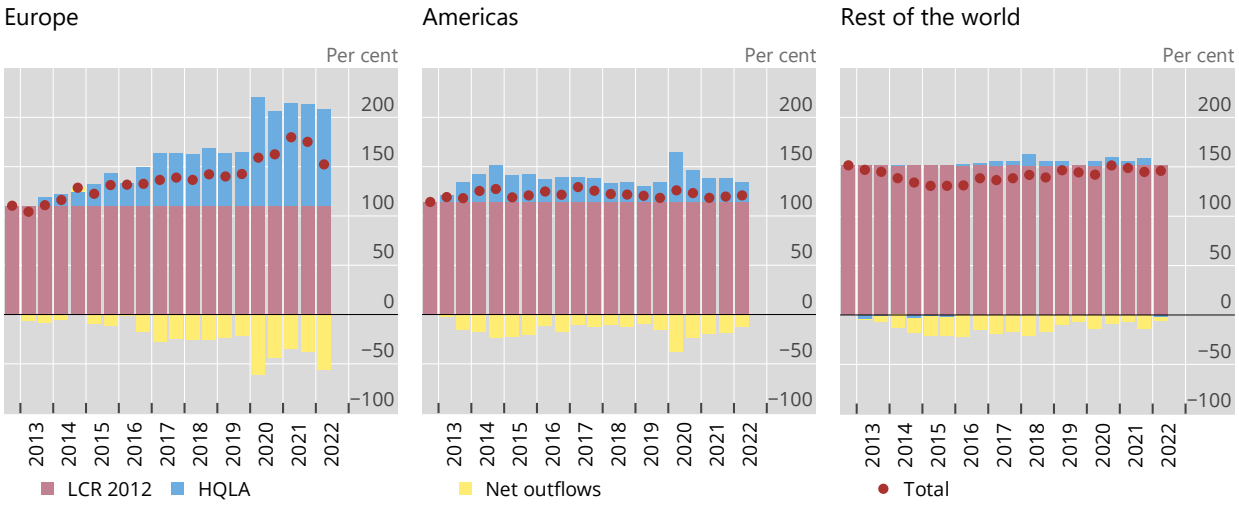
Group 1 banks, balanced data set — Graph 86



Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Evolution of the LCR and its drivers, by region

Group 1 banks, balanced data set — Graph 87



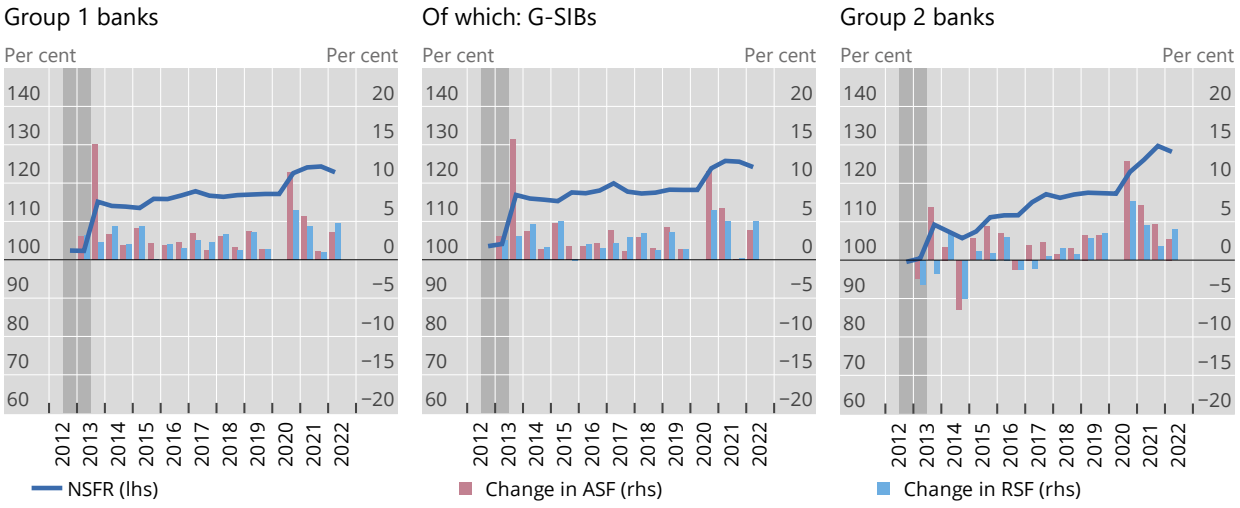
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The LCR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Graph 88 depicts the change in Available Stable Funding (ASF) and Required Stable Funding (RSF) over time. For all bank groups, there were significant positive changes in ASF of more than 6.8 percentage points for the end-December 2013 reporting date, also reflecting the changes to the definition of the NSFR standard. Since 2015, the change in ASF and RSF have generally stabilised for Group 1 banks within 5% over a six-month period but experienced a turbulence during the pandemic. For this period, the effect of the pandemic seemed to have settled down as end-December 2021 reporting period which showed a 1.2% increase in ASF and a 1.0% increase in RSF before increasing by end-June 2022 when banks experienced an increase in ASF and RSF respectively of 3.5% and 4.8%. The average NSFR is on a decreasing trend since end December 2021 for Group 1 and Group 2 banks, respectively from 124.3% to 122.8% and from 129.7% to 128.2%. Figures of Group 2 banks were slightly more volatile for both ASF and RSF but also stabilised since 2015 until the pandemic. For Group 2 banks, the end-June 2022 reporting period shows less important variation than for Group 1 variation with a 2.8% increase in ASF and a 4.0% increase in RSF from previous period, compared with a 4.7% increase in ASF and an 1.8% increase in RSF in end-December 2021 period.

Graph 89 illustrates a regional breakdown of the evolution of the weighted average NSFR and changes in ASF and RSF for Group 1 banks over time. For all regions, figures in 2013 reflect changes to the definition of the NSFR standard.

NSFR and change in ASF and RSF[1]

Balanced data set, exchange rates as of the current reporting date — Graph 88

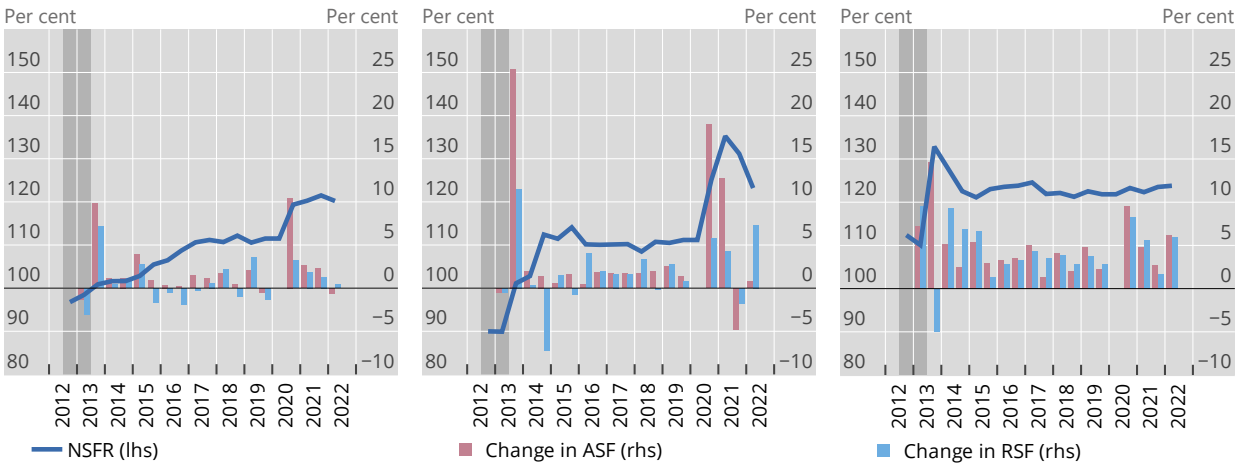


[1] See footnote 1 to Graph 81.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

NSFR and change in ASF and RSF,[1] by region

Group 1 banks, balanced data set, exchange rates as of the current reporting date — Graph 89



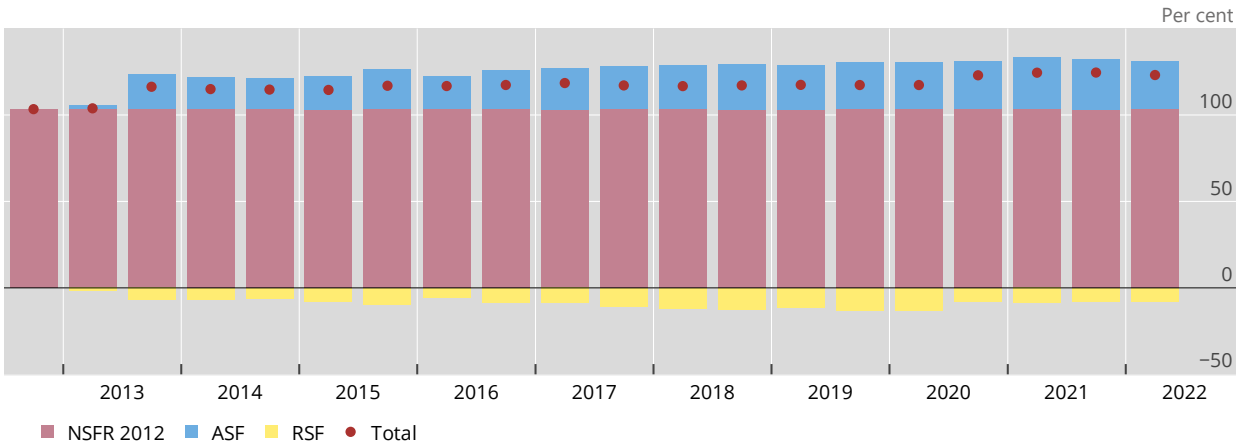
[1] See footnote 1 to Graph 81.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The NSFR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Graph 90 shows the evolution of the NSFR and its drivers.[50] Starting with the June 2012 NSFR, the cumulative effect on the NSFR of an increase in ASF is added to the NSFR, while the impact of cumulative increases in RSF is subtracted from the baseline NSFR. ASF has grown faster over the years compared with RSF, which has resulted in an overall improvement in the NSFR over time. Graph 91 shows the same evolution for the three regions.

Evolution of NSFR and its drivers[1]

Group 1 banks, balanced data set — Graph 90



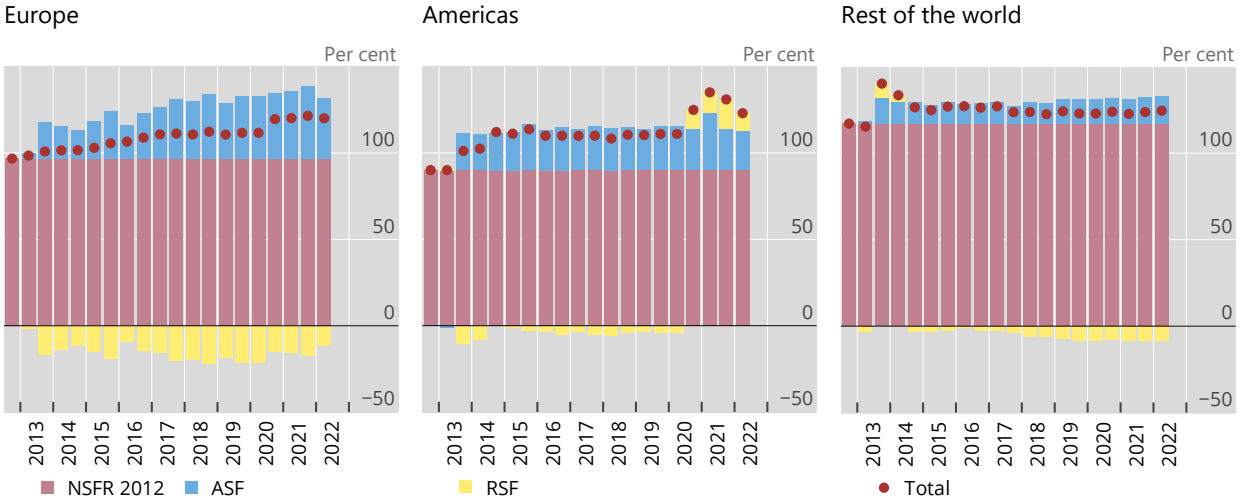
[1] See footnote 1 to Graph 81.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

[50] Please note that while Graph 88 shows significant increases in both ASF and RSF, this is not the case for Graph 90. Graph 90 uses a different methodology in which the growth rate of both ASF and RSF is deflated by the growth in total assets/liabilities to avoid continuously growing stacks of ASF and RSF, which cancel each other out. Consequently, it will show an increase in ASF/RSF if this increase is more than proportionate to the growth of assets and cause a discrepancy in the evolution of ASF/RSF as shown in Graph 88. To give an example, at end-December 2020 there was an RSF increase of 6.0%. However, this increase was less than proportionate to the growth of assets, resulting in a decrease of the yellow RSF stack in Graph 90 compared with the previous period. The same remark goes for the discrepancy between Graph 89 and Graph 91.

Evolution of NSFR and its drivers,[1] by region

Group 1 banks, balanced data set — Graph 91



[1] See footnote 1 to Graph 81.

Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The NSFR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

7. Exposures to cryptoassets

7.1 Data and sample

The Basel III monitoring exercise based on end-2021 data introduced a new cryptoasset data collection template. The template was specifically designed to support the Committee's two consultative documents on the prudential treatment of banks' cryptoasset exposures, which were published on 10 June 2021 and 30 June 2022.[51] The Committee published the final prudential standard on 16 December 2022, which it agreed to implement by 1 January 2025.[52] The template collects granular information on banks' cryptoasset exposures and cryptoassets under custody, including information at the level of individual cryptoassets and activities.

As of end-June 2022, 17 Group 1 banks reported cryptoasset exposures or cryptoassets under custody – 11 from the Americas, 4 from Europe, and 2 from the rest of the world (Graph 92, left-hand panel). Compared with end-2021, three European Group 2 banks are no longer included in the sample as they did not submit cryptoasset data,[53] while one bank from the Americas was added to the sample. These banks make up a significant share of the wider sample of 181 banks considered in the Basel III monitoring exercise in terms of total RWA (21%) and overall leverage ratio exposure measure (LREM) (24%) (Graph 92, right-hand panel). Furthermore, there may be banks included in the wider Basel III monitoring exercise sample with cryptoasset exposures or cryptoassets under custody who nonetheless did not submit data related to those exposures, leading to potential underestimation.

51 See www.bis.org/bcbs/publ/d533.htm.

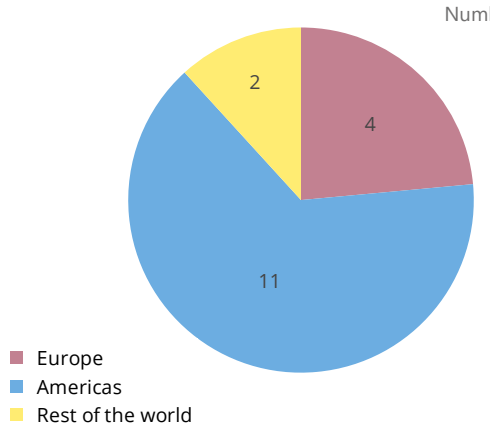
52 See www.bis.org/bcbs/publ/d545.htm.

53 Two of the banks that dropped out of the sample had participated in the end-2021 crypto exercise but not the wider Basel III monitoring exercise and appeared to specialise in cryptoasset activity.

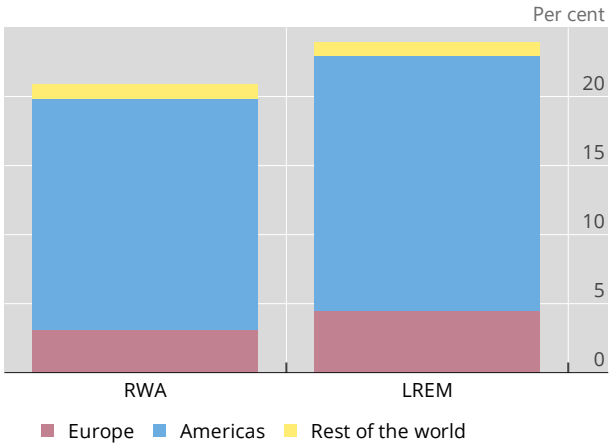
A small portion of banks reported cryptoasset exposures or cryptoassets under custody as of end-June 2022

Graph 92

Sample of reporting banks



Proportion of crypto reporting banks to total sample[1]



[1] As a percentage of the full Basel III monitoring sample of banks.

Source: Basel Committee on Banking Supervision

7.2 Overall amounts of prudential exposures and assets under custody

Total prudential cryptoasset exposures[54] and cryptoassets under custody reported by banks amount to approximately €2.9 billion and €1.0 billion, respectively (Graph 93, left and middle panel).[55] In relative terms, prudential exposures make up only 0.013% of total exposures on a weighted average basis across the sample of banks reporting cryptoasset exposures,[56] while cryptoassets under custody make up only 0.005% of total exposures. When considering the whole sample of banks included in the Basel III monitoring exercise,[57] the share shrinks to 0.003% and 0.001% of total exposures, respectively.

Compared with end-2021 data, the reported prudential exposures increased by €0.68 billion (+30%), while cryptoassets under custody declined by €2.0 billion (-66%). Approximately 40% of the drop in reported cryptoassets under custody is due to the reduction in the sample of banks participating in the exercise, as mentioned above, while the remainder is due to the general decline in the market value of cryptoassets since end-2021 and/or banks' reduced positions compared with the previous period. The increase in prudential exposures is due to increased underlying cryptoasset activity, partially offset by the reduction in the sample mentioned above.

[54] Prudential cryptoasset exposures are defined here as direct cryptoasset exposures, including synthetic or derivative exposures, that give rise to credit or market RWA.

[55] Some of the figures may not be fully comparable with those included in the Basel III monitoring report based on end-2021 data. This is due to resubmissions of end-2021 data and significant improvements in data quality which allow to better distinguish between prudential exposures, assets under custody, and other exposures/amounts (eg, related to certain facilitation of client activities that do not result in prudential exposures or assets under custody). Accordingly, the results in this report present prudential exposures and cryptoassets under custody separately, and do not include other exposures/amounts which do not give rise to credit or market RWA. In contrast, due to data limitations, prudential exposures, assets under custody, and other exposures/amounts were reported together in the Basel III monitoring report based on end-2021 data, leading to larger overall reported cryptoasset amounts.

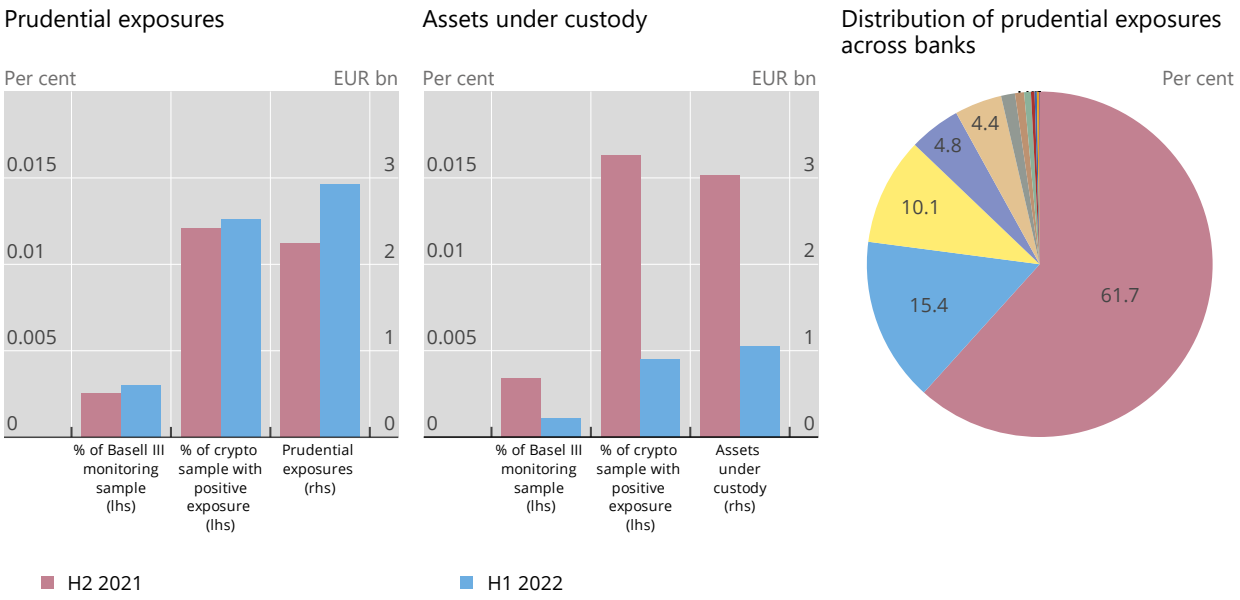
[56] Cryptoasset exposures are weighted by the leverage ratio exposure measure.

[57] That is, additionally including those banks that did not report cryptoasset exposures or cryptoassets under custody, but which participated in the wider Basel III monitoring exercise.

Cryptoasset exposures are distributed unevenly across reporting banks. One bank makes up more than half of overall cryptoasset prudential exposures (62%), while four more banks make up just below 35% of the remaining exposures (Graph 93, right-hand panel).

Crypto exposures and activities remain small and unevenly distributed

Unbalanced sample — Graph 93



Source: Basel Committee on Banking Supervision.

7.3 Composition of prudential exposures

The underlying assets of the reported prudential cryptoasset exposures are primarily Bitcoin (43%), Coinbase[58] (29%), Ether (4%), Singtel Group (3%), and Sembcorp Financial Services[59] (1%) (Graph 94, left-hand panel). Almost all (99%) of exposures with underlying exposures to Bitcoin or Ether are due to products linked to these two cryptoassets, rather than spot exposures (Graph 94, middle panel).

Banks reported many different activities giving rise to prudential cryptoasset exposures. For the purpose of this report, they have been grouped as follows:

1. **Clearing**: clearing of cryptoasset derivatives
2. **Trading**: trading of cryptoassets or cryptoasset-linked products
3. **Holdings**: owning cryptoassets or cryptoasset-linked products
4. **Lending and SFTs**: lending to entities with cryptoasset exposures or against cryptoasset collateral; and securities financing transactions (SFTs) involving cryptoassets
5. **Facilitation**: facilitation of client trading (self- or manager-directed) or other activity of cryptoasset-linked products; and management of investment portfolios
6. **Other**: provision of insurance for cryptoassets; internal or intra-bank operational use of cryptoassets; and all other activity.

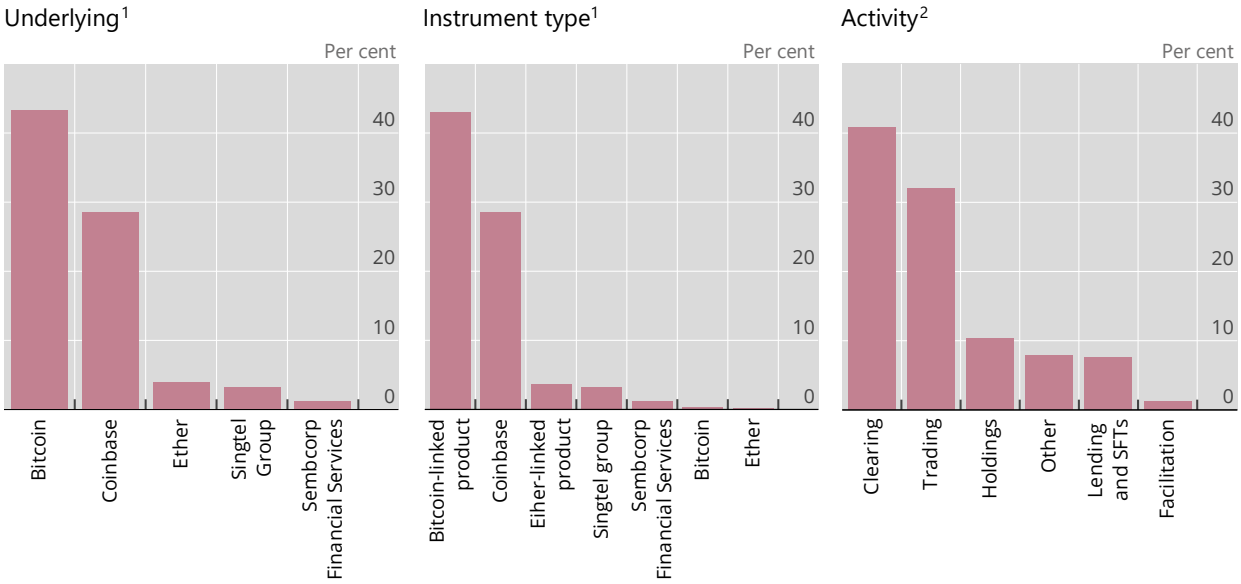
[58] The reported exposures to Coinbase include equities and debt issued by this firm.

[59] The reported exposures to Singtel Group and Sembcorp Financial Service relate to tokenised bonds issued by these firms.

Nearly three-quarters of reported prudential cryptoasset exposures are generated by banks' clearing (41%) and trading activity (32%) (Graph 94, right-hand panel). The remainder is roughly divided evenly amongst banks' holdings (10%), lending and SFTs (8%), and other activities (8%).

Prudential exposures by various criteria

Graph 94



[1] The reported exposures to Coinbase include equities and debt issued by this firm, while the reported exposures to Singtel Group and Sembcorp Financial Service relate to tokenised bonds issued by these firms. [2] *Clearing:* clearing of cryptoasset derivatives; *Trading:* trading of cryptoassets or cryptoasset-linked products; *Holdings:* owning cryptoassets or cryptoasset-linked products; *Lending and SFTs:* lending to entities with cryptoasset exposures or against cryptoasset collateral, and SFTs involving cryptoassets; *Facilitation:* facilitation of client trading (self- or manager-directed) or other activity of cryptoasset-linked products, and management of investment portfolios; *Other:* provision of insurance for cryptoassets, internal or intra-bank operational use of cryptoassets, and all other activity.

Source: Basel Committee on Banking Supervision.

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Secretariat of the Basel Committee on Banking Supervision

Regional distributions of Group 1 and Group 2 banks and their impact on results in the Basel III monitoring reports

Compared with the previous period, the total sample size for the cumulative impact assessment fell from 169 to 135 banks for the end-June 2022 reporting date. The number of Group 1 banks declined by 10% (Graph 1), while RWA increased slightly (Graph 2). In contrast, the number of Group 2 banks decreased by nearly 40%, while RWA decreased by 44%. The RWA increase for Group 1 banks is driven mainly by portfolio changes, whereas the RWA decrease for Group 2 banks is driven mainly by sample changes. The different development between both groups stems from an underlying issue: while the sample of Group 1 banks is somewhat balanced between banks from Europe, the Americas and the rest of the world, the sample of Group 2 banks is strongly dominated by European banks.

As of end-December 2021, the European Banking Authority (EBA) decided to make the Basel III monitoring exercise mandatory for the year-end reporting dates in order to ensure a more stable and representative sample in Europe. While this resulted in a somewhat larger sample for the end-2021 exercise, several European banks decided not to participate in the end-June 2022 exercise. Therefore, the sample size in the Committee's Basel III monitoring reports will show a high volatility between end-June and end-December reporting dates. Since European banks are especially prominent in the Group 2 sample, this development is particularly visible in this group.

Considering that the Basel III monitoring analyses build the base for policy decisions, both banks and supervisors benefit from representative samples for all reporting dates. Hence, providing data for all reporting dates is highly appreciated.

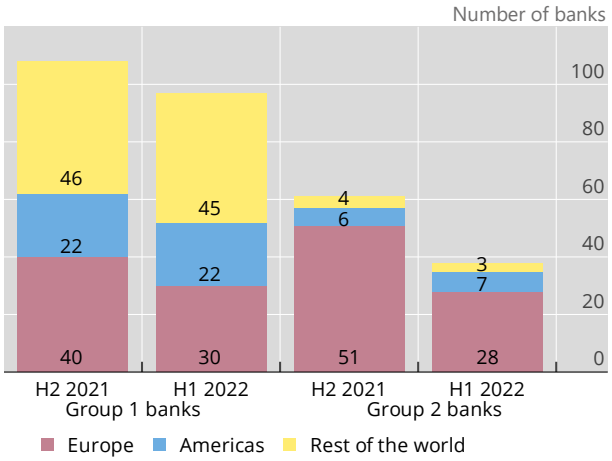
Comparing the sample composition across regions strengthens the thesis that Group 2 banks' participation is above average in the European Union. About half of the European banks belong to Group 2 (Graph 1, left-hand panel). Nevertheless, Group 2 banks do not materially contribute to total RWA in any region (Graph 2, left-hand panels with different scales). In Europe, the share of Group 2 banks in total RWA at the end-June 2022 reporting date is less than 10%, and in the other two regions it is even less than 1%.

This difference between regions is driven by different degrees of concentration of the banking systems across Basel Committee member countries and by the different application of the Basel framework. While the Basel framework is designed for internationally active banks, some jurisdictions such as the European Union decided to also apply the framework to smaller domestic banks to maintain a domestic level playing field. Hence, the participation of Group 2 banks in this study is of particular interest to these policymakers.

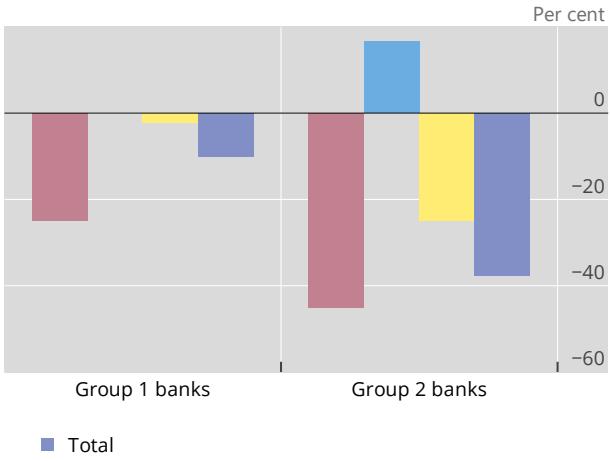
Changes in number of banks between end-December 2021 and end-June 2022

Graph 1

Number of banks



Relative changes

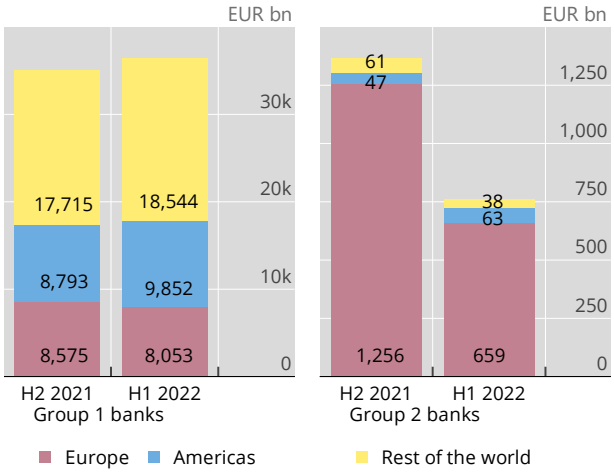


Source: Basel Committee on Banking Supervision.

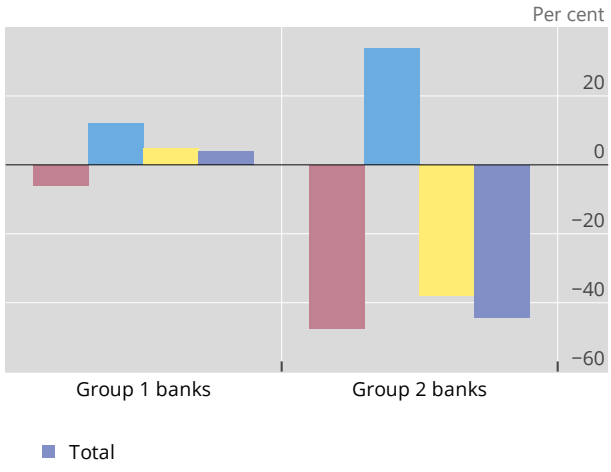
Changes in RWA between end-December 2021 and end-June 2022

Graph 2

RWA



Relative changes



Source: Basel Committee on Banking Supervision.

Table 1 shows the composition of the Group 1 bank sample. The sample is quite balanced: For the end-December 2021 reporting date, about 40% of banks belong to Europe and the rest of the world, each, while banks from the Americas contribute 20% of banks to the sample. For the end-June 2022 reporting date, fewer European banks are represented in the sample. Therefore, the European share decreased to 31%, resulting in increasing shares for the Americas (23%) and the rest of the world (46%). Overall, the shift between both reporting dates is not material. Furthermore, the change in sample composition did not affect Group 1 banks' RWA distribution significantly. For both reporting dates, about one quarter is contributed by European and American banks, each. Therefore, more than 50% of RWA stem from banks in the rest of the world.

Composition of the Group 1 banks sample

Table 1

	H2 2021				H1 2022			
	Number of banks		Total RWA		Number of banks		Total RWA	
Europe	40	37%	8,575	24%	30	31%	8,053	22%
Americas	22	20%	8,793	25%	22	23%	9,852	27%
Rest of the world	46	43%	17,715	50%	45	46%	18,544	51%
All	108	100%	35,083	100%	97	100%	36,449	100%

Source: Basel Committee on Banking Supervision.

In contrast, Group 2 banks are strongly dominated by European banks (Table 2). For the end-December 2021 reporting date, 84% of participating banks belong to the European region. Even though the number of European Group 2 banks reduced significantly for the end-June 2022 reporting date, the vast majority of Group 2 banks still originates from Europe (74%). Analysing the composition of Group 2 banks' RWA strengthens this observation. European banks contribute 92% of RWA in H2 2021 and still 87% in H1 2022.

Composition of the Group 2 banks sample

Table 2

	H2 2021				H1 2022			
	Number of banks		Total RWA		Number of banks		Total RWA	
Europe	51	84%	1,256	92%	28	74%	659	87%
Americas	6	10%	47	3%	7	18%	63	8%
Rest of the world	4	7%	61	4%	3	8%	38	5%
All	61	100%	1,364	100%	38	100%	760	100%

Source: Basel Committee on Banking Supervision.

The imbalance of regions within Group 2 banks also results in a bias towards European banks in the overall aggregate key figures for this group (Table 3). Calculating the average MRC impact across regions shows that average numbers in the Americas and in the rest of the world deviate significantly from the numbers populated at the global level (Table 4 in the body of this report), because European banks offset the effects observed in these regions nearly completely. For Group 1 banks, the total averages are less biased towards the results of European banks, thus presenting more balanced results at the global level.

A more detailed observation of Group 1 and Group 2 banks' change in MRC among countries that provide data for both groups supports this thesis. Overall, 10 countries provide reliable data for both groups. For most of them, Group 2 banks show a lower average MRC change. There is only one country where average MRC change for Group 2 banks exceeds the one for Group 1 banks.

Weighted average changes in Tier 1 MRC at the target level due to the final Basel III standards across regions

In per cent

Table 3

	H2 2021		H1 2022	
	Group 1	Group 2	Group 1	Group 2
Europe	17.5	6.1	15.9	-1.0
Americas	3.9	2.4	1.9	0.9
Rest of the world	-6.8	0.0	-3.9	-9.8
Global	2.4	5.7	2.8	-2.0

Source: Basel Committee on Banking Supervision.

This explains another observation. For the end-December 2021 and earlier reporting dates, the average MRC change at global level was usually higher for Group 2 banks than for Group 1 banks. This could lead to the impression that Group 2 banks face a stronger impact of the final Basel III framework. Considering the average MRC changes across regions as shown in Table 3 proves that this assumption is not accurate. Global average MRC changes are higher only for Group 2 banks, because the sample is biased towards European banks. Observing the individual regions, Group 2 banks average MRC changes are lower than Group 1 banks average MRC changes in every region. Therefore, there is no evidence for a genuinely higher impact of the revisions to the framework on smaller banks. Instead, differences in the current national implementation of the Basel II and initial Basel III frameworks may explain some of the differences in impact.

Annex A: Basel III standards and phase-in arrangements

Basel III minimum requirements and buffers

Table A.1

	As of 1 January 2019
Leverage ratio	3.0%
Minimum CET1 ratio	4.5%
Capital conservation buffer	2.50%
G-SIB surcharge	1.0%–2.5%
Minimum common equity plus capital conservation buffer	7.0%
Phase-in of deductions from CET1 (including amounts exceeding the limit for DTAs, MSRs and financials)	100%
Minimum Tier 1 capital	6.0%
Minimum total capital	8.0%
Minimum total capital plus capital conservation buffer	10.5%
Capital instruments that no longer qualify as Tier 1 capital or Tier 2 capital	Phased out over 10-year horizon beginning 2013
Liquidity Coverage Ratio	100%
Net Stable Funding Ratio	100%[1]

[1] Note that as of May 2020, a final rule for the Net Stable Funding Ratio is in force in 12 out of 27 Basel Committee member jurisdictions. See Basel Committee on Banking Supervision, *Eighteenth progress report on adoption of the Basel regulatory framework*, July 2020, www.bis.org/bcbs/publ/d506.htm, p 8.

Final Basel III phase-in arrangements

Shading indicates transition periods – all dates are as of 1 January.

Table A.2

	2023	2024	2025	2026	2027	2028
Revisions to the standardised and internal ratings-based approaches to credit risk	Introduce					
Revised CVA and market risk frameworks	Introduce					
Revised operational risk framework	Introduce					
Output floor	50%	55%	60%	65%	70%	72.5%
	Increase in RWA subject to 25% cap at national discretion.					
Leverage ratio exposure measure and G-SIB surcharge	Introduce					

Definition of different Basel III regimes

Table A.3

	Initial Basel III framework	Transitional final Basel III framework	Fully phased-in final Basel III framework
Definition of capital	*Basel III: A global framework for more resilient banks and the banking system*, www.bis.org/publ/bcbs189.htm		
Credit risk	*Basel III: A global framework for more resilient banks and the banking system*, www.bis.org/publ/bcbs189.htm *Capital requirements for bank exposures to central counterparties,* www.bis.org/publ/bcbs227.htm	Basel III: Finalising post-crisis reforms, www.bis.org/bcbs/publ/d424.htm Capital requirements for bank exposures to central counterparties, www.bis.org/publ/bcbs227.htm Capital requirements for banks' equity investments in funds, www.bis.org/publ/bcbs266.htm	
Operational risk	Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework, www.bis.org/publ/bcbs128.htm	Basel III: Finalising post-crisis reforms, www.bis.org/bcbs/publ/d424.htm	
Market risk	Revisions to the Basel II market risk framework, www.bis.org/publ/bcbs158.htm Guidelines for computing capital for incremental risk in the trading book, www.bis.org/publ/bcbs159.htm	Minimum capital requirements for market risk, www.bis.org/bcbs/publ/d457.htm	
Counterparty credit risk	Basel III: A global framework for more resilient banks and the banking system, www.bis.org/publ/bcbs189.htm	The standardised approach for measuring counterparty credit risk exposures, www.bis.org/publ/bcbs279.htm	
CVA	Basel III: A global framework for more resilient banks and the banking system, www.bis.org/publ/bcbs189.htm	Basel III: Finalising post-crisis reforms, www.bis.org/bcbs/publ/d424.htm Targeted revisions to the revised CVA framework published in July 2020 are **not** yet considered for the end-December 2019 reporting date. They will be reflected in the exercise on the end-2020 reporting date. www.bis.org/bcbs/publ/d507.htm	
Securitisation	Basel III: A global framework for more resilient banks and the banking system, www.bis.org/publ/bcbs189.htm	Revisions to the securitisation framework, www.bis.org/bcbs/publ/d374.htm	
Floor	Basel II: International Convergence of Capital Measurement and Capital Standards: A Revised Framework, www.bis.org/publ/bcbs128.htm	Output floor of 50%, Basel III: Finalising post-crisis reforms, www.bis.org/bcbs/publ/d424.htm	Output floor of 72.5%, Basel III: Finalising post-crisis reforms, www.bis.org/bcbs/publ/d424.htm
Leverage ratio	Basel III: A global framework for more resilient banks and the banking system, www.bis.org/publ/bcbs189.htm; Basel III leverage ratio framework and disclosure requirements, www.bis.org/publ/bcbs270.htm	Basel III: Finalising post-crisis reforms, www.bis.org/bcbs/publ/d424.htm; Leverage ratio treatment of client cleared derivatives www.bis.org/bcbs/publ/d467.htm	

Minimum and target risk-based capital and leverage ratio requirements

Fully phased-in final Basel III standards, in per cent — Table A.4

	Fully implemented risk-based requirement			Fully implemented leverage ratio requirement	
	Minimum	Target non-G-SIBs	Target G-SIBs	Minimum all banks and target non-G-SIBs	Target G-SIBs
CET1 capital	4.5	7.0	8.0–9.5		
Tier 1 capital	6.0	8.5	9.5–11.0	3.0	3.5–4.25
Total capital	8.0	10.5	11.5–13.0		

Annex B: Sample statistics

Number of banks for which data have been included[1] Table B.1

	Group 1 banks						Group 2 banks					
	All	RWA and capital	Leverage	LCR	NSFR	Securitisation	All	RWA and capital	Leverage	LCR	NSFR	Securitisation
Argentina (AM)	0	0	0	0	0	0	3	3	3	3	3	3
Australia (RW)	4	4	0	4	3	0	1	1	0	1	1	0
Belgium (EU)	2	2	2	2	1	2	2	2	2	2	1	1
Brazil (AM)	2	2	2	2	2	2	0	0	0	0	0	0
Canada (AM)	6	6	6	6	6	6	0	0	0	0	0	0
China (RW)	6	6	6	6	6	0	0	0	0	0	0	0
France (EU)	5	5	5	5	3	4	2	2	2	2	0	0
Germany (EU)	11	11	11	11	11	3	25	25	24	25	23	0
India (RW)	9	9	9	9	9	3	0	0	0	0	0	0
Indonesia (RW)	0	0	0	0	0	0	2	2	2	2	2	2
Italy (EU)	2	2	2	2	2	2	8	8	8	8	1	5
Japan (RW)	15	12	15	15	12	11	1	1	1	1	1	1
Korea (RW)	8	8	8	8	8	5	0	0	0	0	0	0
Luxembourg (EU)	0	0	0	0	0	0	2	2	2	2	2	2
Mexico (AM)	2	2	2	2	2	2	4	4	4	4	4	1
Netherlands (EU)	4	4	4	4	2	3	4	4	4	4	3	1
Saudi Arabia (RW)	3	3	3	3	3	1	0	0	0	0	0	0
Singapore (RW)	3	3	3	3	3	2	0	0	0	0	0	0
South Africa (RW)	4	4	4	4	4	4	2	2	2	2	2	1
Spain (EU)	2	2	2	2	2	2	4	4	4	4	2	3
Sweden (EU)	3	3	3	3	3	2	3	3	3	3	3	0
Switzerland (EU)	2	2	2	2	2	2	0	0	0	0	0	0
Turkey (EU)	3	3	2	3	3	0	0	0	0	0	0	0
United Kingdom (EU)	5	5	5	5	5	5	3	3	3	3	3	3
United States (AM)	13	13	13	13	11	8	0	0	0	0	0	0
Total	114	111	109	114	103	69	66	66	64	66	51	23
Of which: G-SIBs	30	30	30	30	28	26	0	0	0	0	0	0

[1] The regional grouping to which a country is assigned is included in parentheses. AM denotes Americas, EU Europe and RW the rest of the world.

Source: Basel Committee on Banking Supervision.

Additional sample statistics[1]

In billions of euros

Table B.2

	Number of banks	Tier 1 capital	Risk-weighted assets	Accounting total assets	Leverage total exposure
Group 1 banks	96	5,301	36,367	84,094	88,329
Of which: Europe	30	1,298	8,053	26,026	26,079
Of which: Americas	22	1,367	9,852	21,841	24,673
Of which: Rest of the world	44	2,635	18,462	36,226	37,576
Of which: G-SIBs	30	3,787	25,810	61,185	63,598
Group 2 banks	38	134	760	2,459	2,443

[1] Tier 1 capital, RWA and leverage ratio exposure assume full implementation of Basel III.

Source: Basel Committee on Banking Supervision.

Number of banks for which data have been included in the assessment of the impact of the final Basel III framework[1]

Table B.3

	Group 1 banks	Group 2 banks
Argentina (AM)	0	3
Belgium (EU)	2	1
Brazil (AM)	2	0
Canada (AM)	6	0
China (RW)	5	0
France (EU)	4	0
Germany (EU)	3	9
India (RW)	5	0
Indonesia (RW)	0	2
Italy (EU)	2	5
Japan (RW)	10	1
Korea (RW)	7	0
Luxembourg (EU)	0	2
Mexico (AM)	2	4
Netherlands (EU)	4	3
Saudi Arabia (RW)	2	0
Singapore (RW)	3	0
South Africa (RW)	4	1
Spain (EU)	2	3
Sweden (EU)	3	3
Switzerland (EU)	2	0
Turkey (EU)	2	0
United Kingdom (EU)	5	3
United States (AM)	11	0
Total	86	40

[1] The regional grouping to which a country is assigned is included in brackets. AM denotes Americas, EU Europe and RW the rest of the world.

Source: Basel Committee on Banking Supervision.

Previous monitoring reports published by the Basel Committee

December 2010	*Results of the comprehensive quantitative impact study*, December 2010, www.bis.org/publ/bcbs186.htm	
April 2012	*Results of the Basel III monitoring exercise as of 30 June 2011*, www.bis.org/publ/bcbs217.htm	
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