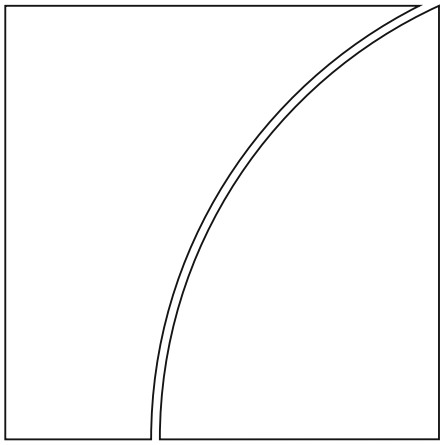
Basel Committee
on Banking Supervision



Basel III
Monitoring Report

September 2021

BIS

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

In contrast to previous editions of this report, this edition no longer includes 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 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 20 August 2021.

Quantitative Impact Study Working Group
of the Basel Committee on Banking Supervision

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Highlights of the Basel III monitoring exercise as of 31 December 2020

During the Covid-19 crisis, banks made further progress towards meeting fully phased-in final Basel III capital requirements and on average improved their capital and liquidity ratios compared with end-2019

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 31 December 2020.[2] Furthermore, this report includes a special feature on exemptions from the leverage ratio exposure measure due to Covid-19. 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. Data were included for 178 banks, including 111 large internationally active ("Group 1") banks, among them all 30 G-SIBs, and 67 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 take into account 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 31 December 2020. 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, 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

	30 December 2019[1]			31 December 2020		
	Group 1	Of which: G-SIBs	Group 2	Group 1	Of which: G-SIBs	Group 2
Initial Basel III framework						
CET1 ratio (%)	13.0	12.8	15.2	13.2	13.0	16.3
Target capital shortfalls (€ bn);[2] of which:	0.0	0.0	0.9	0.0	0.0	1.0
CET1	0.0	0.0	0.0	0.0	0.0	0.0
Additional Tier 1	0.0	0.0	0.9	0.0	0.0	1.0
Tier 2	0.0	0.0	0.0	0.0	0.0	0.0
TLAC shortfall 2022 minimum (€ bn)	0	0		18.4	18.4	
Total accounting assets (€ bn)	65,468	47,328	4,110	72,357	51,021	2,886
Leverage ratio (%)[3]	6.2	6.1	5.6	6.6	6.6	5.8
LCR (%)	137.6	135.6	186.0	142.8	141.2	208.3
NSFR (%)	117.2	118.3	122.1	123.0	124.5	125.7
Fully phased-in final Basel III framework (2028)						
Change in Tier 1 MRC at the target level (%)	1.8	1.8	8.4	2.9	3.5	6.4
CET1 ratio (%)	12.5	12.4	13.2	12.8	12.7	14.5
Target capital shortfalls (€ bn); of which:	10.7	10.7	2.9	6.1	6.1	1.8
CET1	3.3	3.3	1.3	0.0	0.0	0.6
Additional Tier 1	3.8	3.8	0.8	2.0	2.0	0.7
Tier 2	3.6	3.6	0.9	4.1	4.1	0.6
TLAC shortfall 2022 minimum (€ bn)	1.9	1.9		17.9	17.9	
Leverage ratio (%)[3]	6.2	6.1	5.5	6.5	6.4	5.6

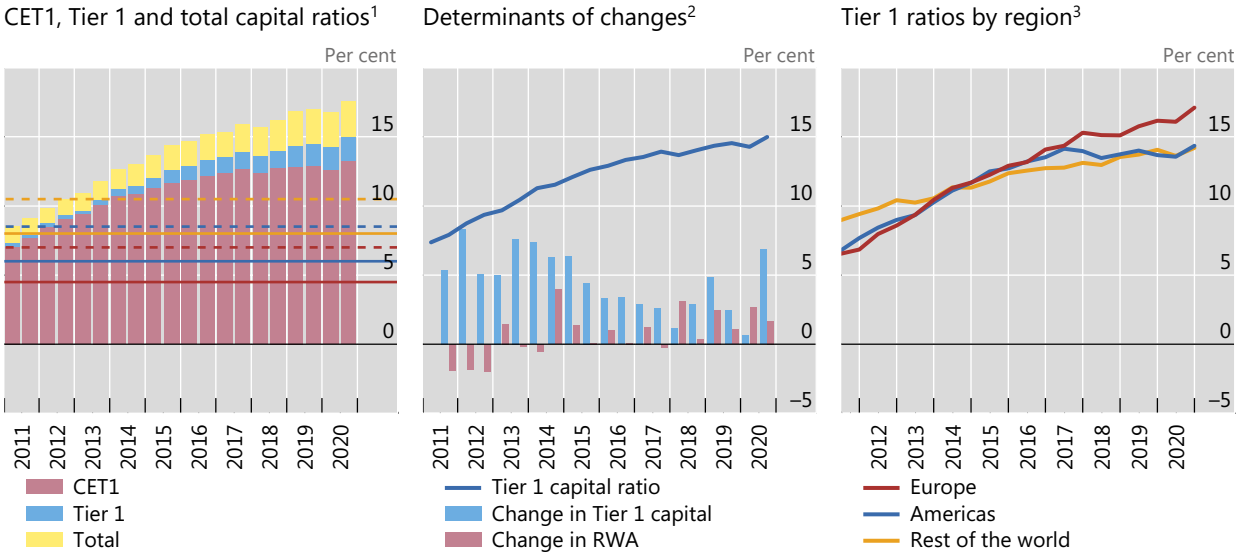
See Table A.4 for the target level capital requirements. [1] Current results are compared to end-2019 since no full data collection was conducted for end-June 2020. The values for the previous period may slightly differ from those published in the end-December 2019 report at the time of its release. This is caused by data resubmissions for previous periods in order 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 for 31 December 2020 reflect temporary exclusions from leverage exposures introduced in some jurisdictions.

Source: Basel Committee on Banking Supervision.

- Compared with the end-December 2019 reporting period, the average Common Equity Tier 1 (CET1) capital ratio under the initial Basel III framework has increased from 13.0% to 13.2% for Group 1 banks and from 15.2% to 16.3% for Group 2 banks.
- The average impact of the final Basel III framework on the Tier 1 Minimum Required Capital (MRC) of Group 1 banks is higher (+2.9%) when compared to the 1.8% increase at end-December 2019.
- The total capital shortfalls under the fully phased-in final Basel III framework as of the end-December 2020 reporting date for Group 1 banks decreased to €6.1 billion in comparison to end-December 2019 at €10.7 billion.
- Applying the 2022 minimum TLAC requirements and the initial Basel III framework, two of the 25 G-SIBs reporting total loss-absorbing capacity (TLAC) data reported an aggregate incremental shortfall of €18.4 billion.
- Group 1 banks' average Liquidity Coverage Ratio (LCR) increased from 137.6% to 142.8%, while the average Net Stable Funding Ratio (NSFR) increased only slightly from 117.2% to 123.0%. For Group 2 banks, there was also an increase for the NSFR and a significant increase by more than 20 percentage points for the LCR.

Initial Basel III capital ratios increase in the second half of 2020

Consistent sample of Group 1 banks — Graph 1



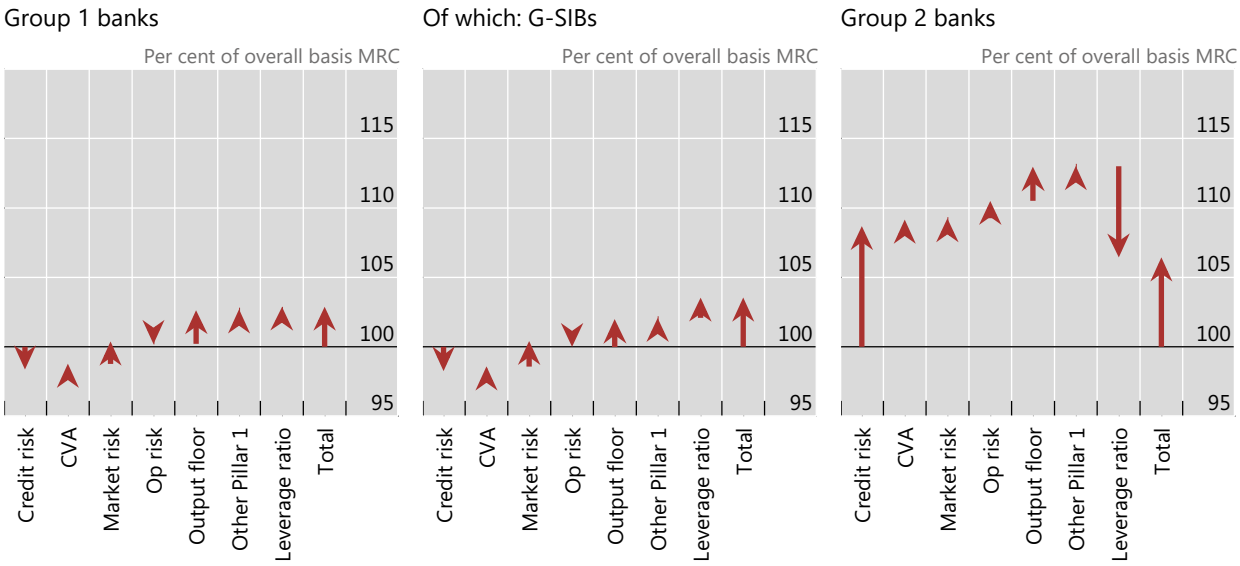
[1] The solid lines depict the relevant minimums, the dotted lines the minimums plus the capital conservation buffer. See Table A.4 for the relevant levels. [2] Exchange rates as of the current reporting date. [3] See Table B.1 for the composition of the regions.

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

- After Group 1 banks showed a slight drop in capital ratios in H1 2020, initial Basel III capital ratios have started to increase again. The overall CET1 capital ratios for Group 1 banks in the consistent sample have increased to 13.3% in December 2020 from 12.9% in December 2019 and 12.6% in June 2020. The overall increase in Tier 1 and total capital ratios was slightly higher.
- 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.
- Most of the capital ratios in Europe and the Americas saw increases, with the largest improvement coming from Europe. Capital ratios in the rest of the world were almost flat over 2020.

Change in Tier 1 MRC at the target level for Group 1 banks due to the final Basel III standards compared to end-December 2019 higher for Group 1 banks but lower for Group 2 banks

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.

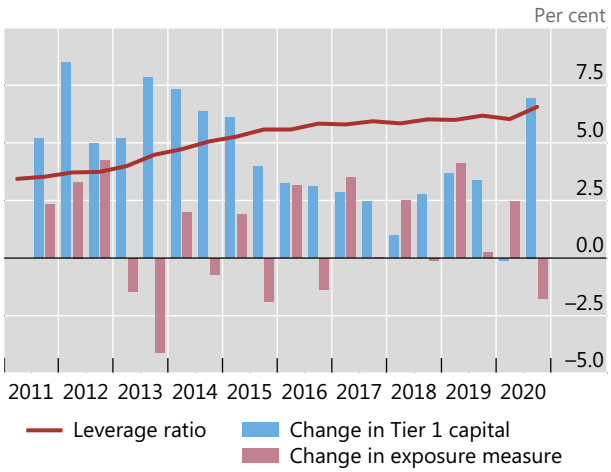
Source: Basel Committee on Banking Supervision. See also Table 4.

- For Group 1 banks, the Tier 1 minimum required capital (MRC) would increase by 2.9%, following full phasing-in of the final Basel III standards. This increase is composed of a 2.7% rise in the combined risk-based components. Those are driven by positive contributions of the output floor (+2.4%), market risk (+1.6%), CVA (+0.4%) and other Pillar 1 requirements (+0.1%) on the one hand and a reduction in credit risk (-1.6%) and operational risk (-0.2%) on the other hand. The rise of the combined risk-based components is accompanied by a positive effect of the leverage ratio requirements (+0.2%).
- The impact on MRC across regions is very heterogeneous for Group 1 banks with a moderate decrease in the rest of the world (-5.8%), a small increase shown in the Americas (+2.5%) and in contrast to this a strong increase in MRC for European banks (+17.6%).
- For Group 2 banks, the overall 6.4% increase in Tier 1 MRC is driven by an increase in the risk-based measure of 13.0%, mainly stemming from credit risk (+8.7%) and the output floor (+2.5%), while the leverage ratio measure partially offsets this increase at -6.6%.
- The average impact of the final Basel III framework on Group 1 banks at +2.9% is higher when compared to end-December 2019 results (+1.8%). However, it has decreased by 2 percentage points over 2020 for Group 2 banks. The higher impact for Group 1 banks and G-SIBs may be partially driven by the different treatment of the outlier banks that were previously excluded with their market risk results. Furthermore, measures taken by some jurisdictions during the Covid-19 pandemic that reduce current capital requirements but leave capital requirements under the fully phased-in final Basel III standard unaffected could explain parts of the observed increase of the impact.

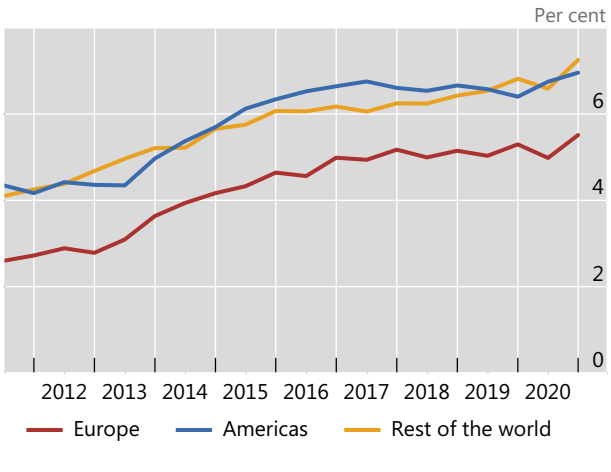
Fully phased-in Basel III leverage ratios[1] increased in H2 2020

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 3

Leverage ratios and their determinants



Leverage ratios by region



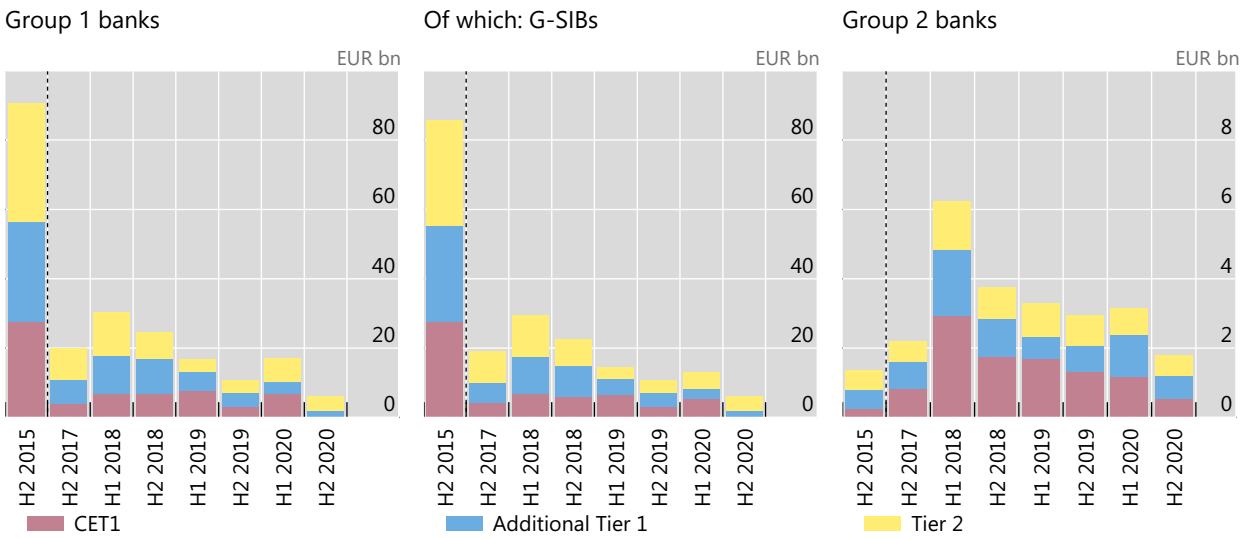
[1] Data points from H1 2011 to H2 2012 use the original definition of the leverage ratio. Data points from H1 2013 to H1 2017 use the definition of the leverage ratio set out in the 2014 version of the framework. Note that the data points for H1 2013 use an approximation for the initial definition of 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-December 2020 reporting date, the average fully phased-in final Basel III Tier 1 leverage ratios are 6.5% for Group 1 banks, 6.4% for G-SIBs and 5.6% for Group 2 banks.
- For the consistent sample of Group 1 banks, the leverage ratio shows an uptick from the prior period. This results from an increase in Tier 1 capital and a reduction in the leverage ratio exposure measure. Changes in exposure measures are in part driven by the temporary exclusions from the leverage ratio exposure measure that have been put in place in several jurisdictions in the context of the Covid-19 pandemic. The special feature at the end of this report focusses on the impact of these exclusions.
- Leverage ratios are lower in Europe (5.5%) as compared to the Americas (7.0%) and the rest of the world (7.3%).
- Compared to end-December 2019, there was a visible uptick across all regions.

Combined capital shortfalls at the target level under the final Basel III standards decreased compared with end-December 2019

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



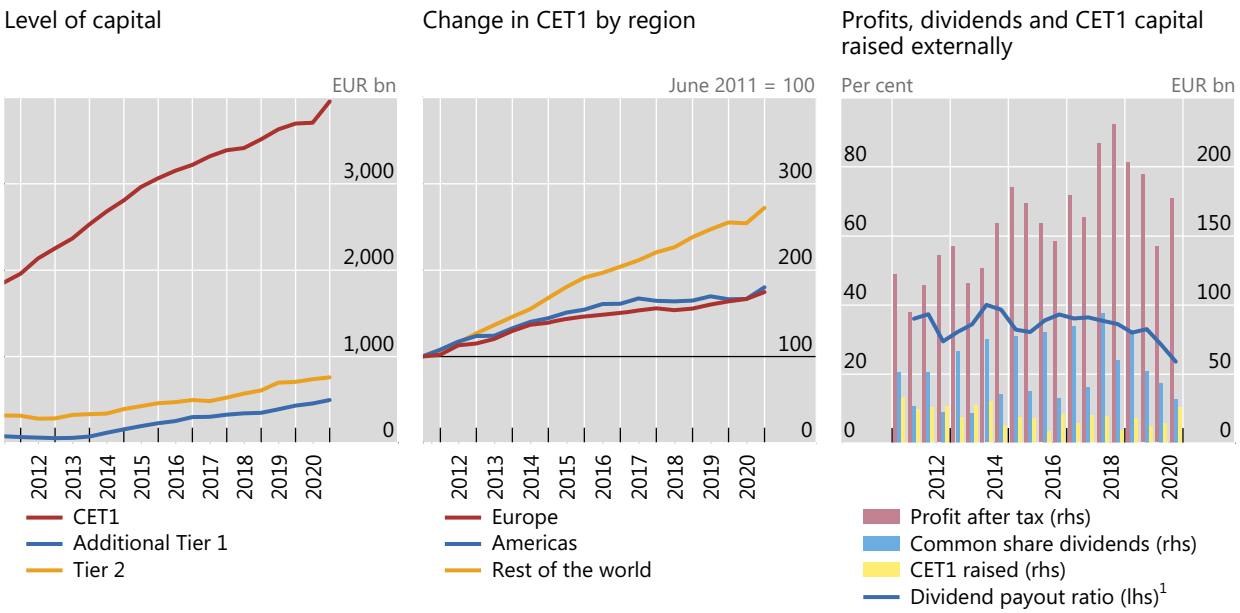
[1] Results for H2 2015 are based on the Committee's cumulative Quantitative Impact Study and are not fully comparable from a methodological point of view. Compared to H2 2017 and H1 2018, the results since H2 2018 include the revised market risk framework as finalised in January 2019.

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

- For this reporting date, Group 1 banks reported total regulatory capital shortfalls amounting to €6.1 billion. These results are roughly in line with the shortfall observed at the end-December 2019 reporting period. Shortfalls were somewhat higher at end-June 2020, though these were computed based on the end-December 2019 MRC changes, combined with the end-June 2020 current MRC basis (see also footnote 3 on Graph 21).
- Currently, capital shortfalls are at a historically low level for Group 1 banks and there is no shortfall of CET1 capital anymore. Distribution constraints during the Covid-19 period in several jurisdictions may have contributed to the decrease of the shortfall.
- For Group 2 banks, the aggregate total capital shortfall decreased to €1.8 billion. Even though the number of banks in the sample decreased (currently 55 compared to 61 banks at end-2019), the reduced shortfall does not result from sample changes.

Fully phased-in regulatory CET1 increased by 7% during 2020 for large internationally active banks

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 5



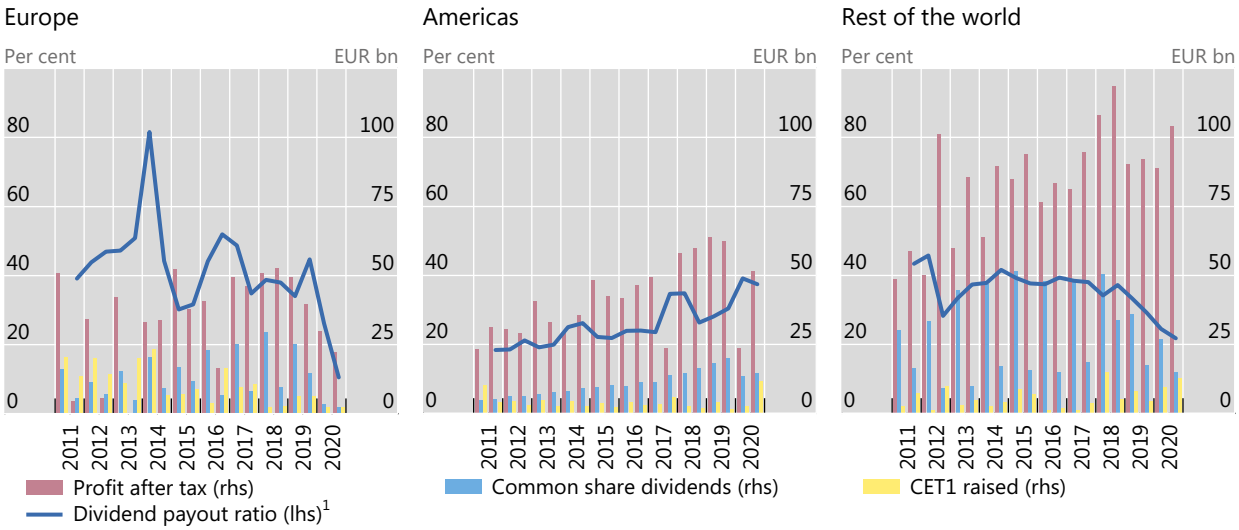
[1] The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12 months window.

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-December 2020, the level of Group 1 banks' CET1 capital has increased by 113% from €1,856 billion to €3,955 billion. Since end-December 2019, Group 1 CET1 capital has increased by €255 billion (or 7%).
- At a regional level, while CET1 capital in the rest of the world is now more than 2.7 times of its value in 2011, the increase in Europe and in the Americas was more limited at 74% and 80%, respectively.
- Overall, Group 1 banks' profits after tax were lower in 2020 compared to 2019 and stand at €142 billion in H1 2020 and €178 billion in H2 2020.

Profits recorded a decline in the last year in Europe and the Americas

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 6



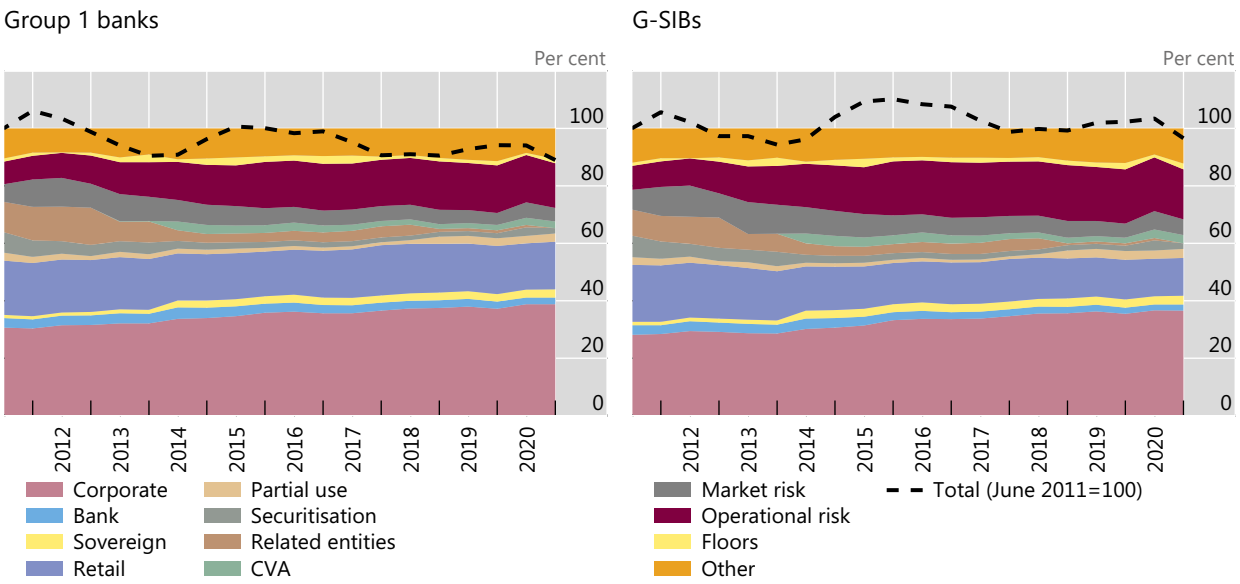
[1] The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12 months window.

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 dropped significantly in Europe, decreased in the Americas and increased in the rest of the world.
- Over the previous year, the annual dividend payout ratios for Europe and the rest of the world dropped significantly to 10% and 22%, respectively, while they increased to 37% for the banks in the Americas.

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

Consistent sample of banks — 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.

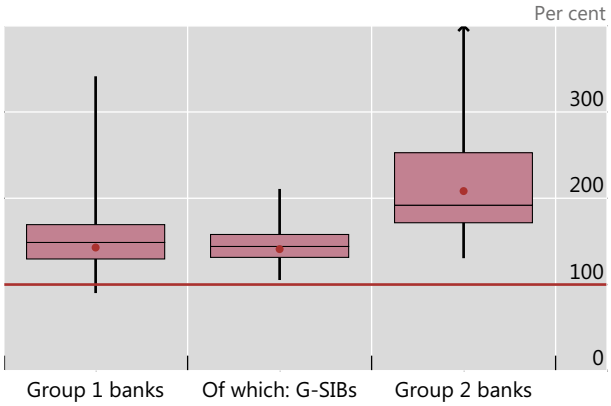
- As of end-December 2020 and for a consistent sample of Group 1 banks, credit risk[4] continues to compose the dominant portion of overall minimum required capital (MRC), on average comprising 65.3% of total MRC. However, the share of credit risk has declined significantly from 74.4% at the end of June 2011.
- Conversely, the share of operational risk MRC increased sharply from 7.9% at the end of June 2011 to 16.1% at the end of 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 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.
- Among the credit risk asset classes, the share of MRC for corporate exposures increased from 30.7% to 38.8% between June 2011 and December 2020, while the share of MRC for securitisation exposures declined from 7.2% to 1.8%.

[4] 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.

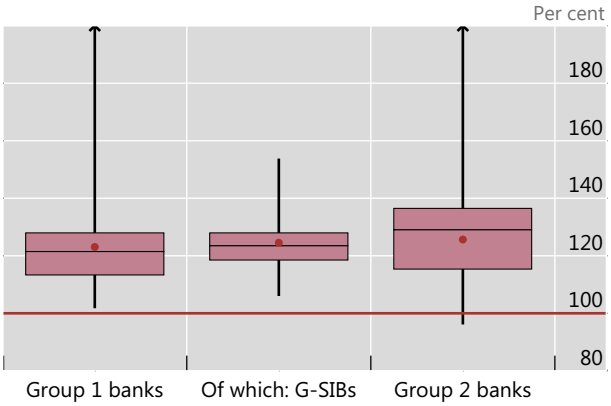
Average liquidity ratios improve, but some banks in the Americas and the rest of the world used LCR reserves during the Covid-19 pandemic[1]

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).

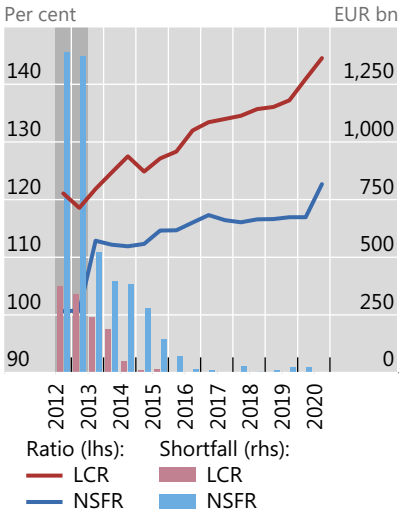
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- The weighted average LCR for the Group 1 banks increased by 5.2 percentage points from 137.6% at end-December 2019 to 142.8% at end-December 2020. The weighted average LCR for Group 2 banks increased by 22.3 percentage points from 186.0% at end-December 2019 to 208.3% at end-December 2020.
- In the current reporting period there are seven 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 €19.6 billion.
- The weighted average NSFR was 123.0% for Group 1 banks and 125.7% for Group 2 banks at end-December 2020 compared with 117.2% and 122.1% respectively, at end-December 2019.
- All Group 1 banks and all but two Group 2 banks (ie 96.7%) reported an NSFR that met or exceeded 100%.

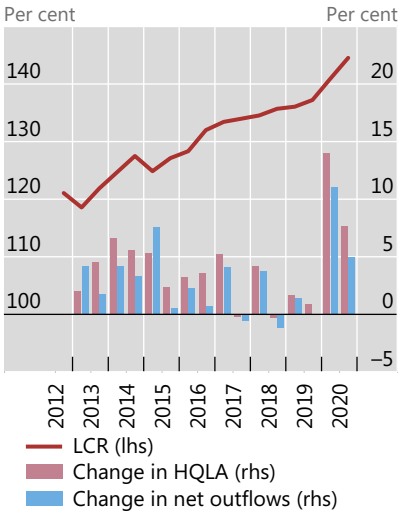
For Group 1 banks, LCRs and NSFRs increase on average while the LCR shortfall slightly increased over 2020

Consistent sample of Group 1 banks[1] Graph 9

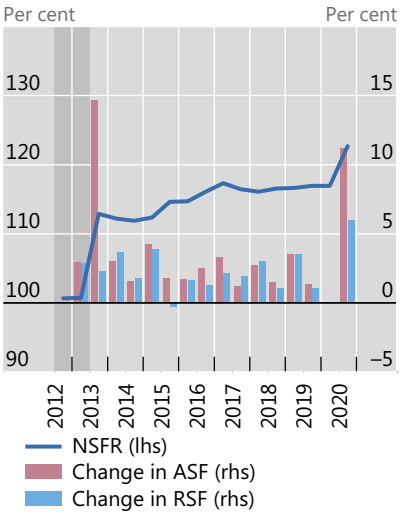
LCR, NSFR and related shortfalls[2]



LCR and change in its determinants[3]



NSFR and change in its determinants[3]



[1] As described in Section 6.3, footnote 43, 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.

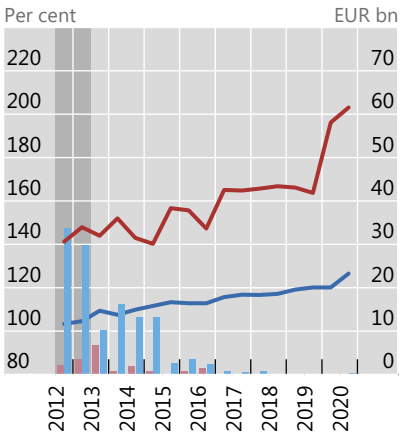
- Also for a consistent sample of Group 1 banks, not all banks comply with the 100% LCR minimum requirement at end-December 2020, resulting in an aggregate shortfall of €0.4 billion.[5] Nonetheless, the average LCR for this sample increased to 144.6% from 137.2% at end-December 2019.
- For the first time since the start of the series, there was no aggregate NSFR shortfall for a consistent sample of Group 1 banks, compared with €20.5 billion at end-December 2019. The average NSFR for the same sample of banks has increased to 122.7% from 116.9% at end-December 2019.

[5] Note that the LCR shortfall in the entire sample at end-December 2020 is €19.6 billion.

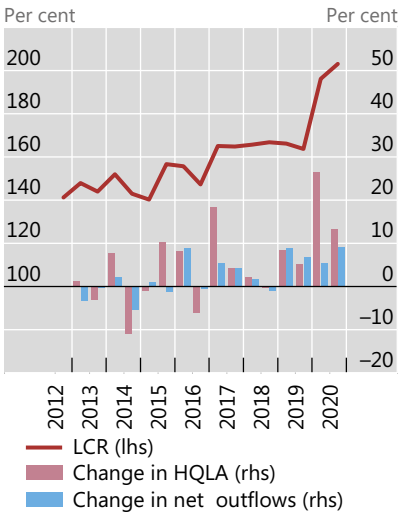
Group 2 banks show small LCR shortfall, NSFR shortfall remains at zero

Consistent sample of Group 2 banks[1] Graph 10

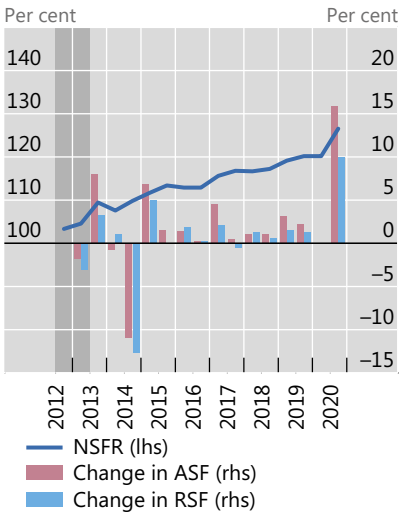
LCR, NSFR and related shortfalls[2]



LCR and change in its determinants[3]



NSFR and change in its determinants[3]



[1] As described in Section 6.3, footnote 43, 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.

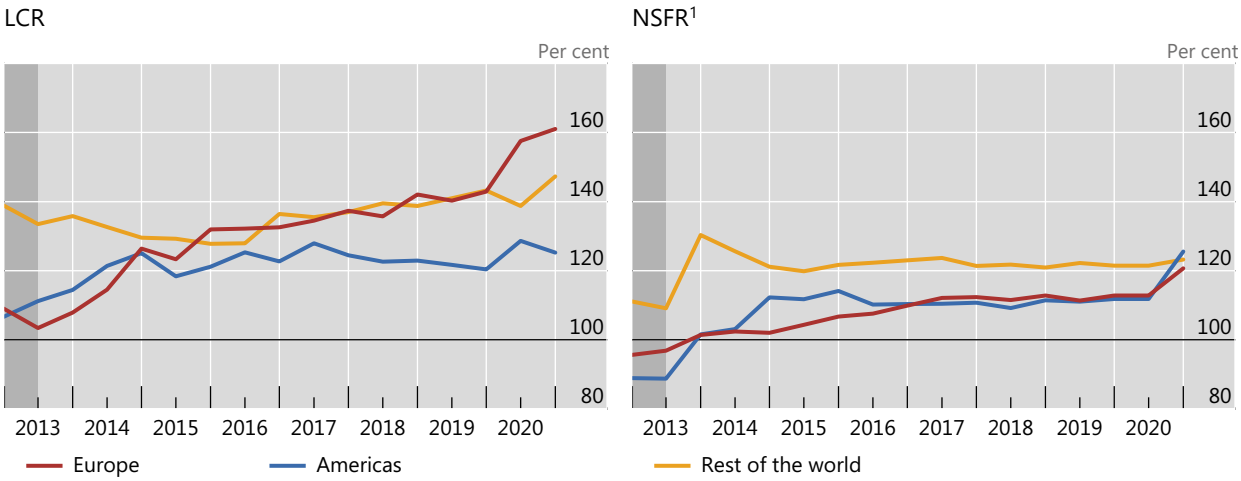
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

- For a consistent sample of Group 2 banks, the LCR shortfall remains at zero since December 2020. The average LCR for the same sample of banks increased by 7 percentage points to 203.1%.
- The aggregate NSFR shortfall increased to €0.4 billion while it has been at zero since end-June 2019 for a consistent sample of Group 2 banks. The average NSFR for the same sample of banks increased by 6.4 percentage points to 126.6%.

For Group 1 banks, LCRs remain lower in the Americas while the difference across regions narrowed down for NSFRs in 2020

Consistent sample of Group 1 banks

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.

- The weighted average LCR at end-December 2020 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 again since the start of the pandemic.
- The weighted average NSFR at end-December 2020 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 112.8% and 111.8% at end-December 2019, respectively, to 120.7% and 125.5% at end-December 2020. This brings both regions to a level in line with the rest of the world which on average reports an NSFR of 123.2%.

Detailed results of the Basel III monitoring exercise as of 31 December 2020

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 31 December 2020.[4] The Committee believes that the information contained in the report will provide relevant stakeholders with a useful benchmark for analysis.

In contrast to previous editions of this report, this edition no longer includes 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 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.

1.1 Scope of the monitoring exercise

All but one of the 27 Committee member countries and Finland participated in the Basel III monitoring exercise as of 31 December 2020. The estimates presented are based on data submitted by the participating banks and their national supervisors in reporting questionnaires and in accordance with the

[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 September 2020, 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 31 October 2020, which corresponds to Canadian banks' fiscal year-end.

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 20 August 2021. 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 178 banks, including 111 Group 1 banks and 67 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 to end-2019 with 112 Group 1, 70 Group 2 banks and 182 banks overall, the sample decreased by one bank for Group 1 and three banks for Group 2. The impact of the final Basel III framework could be assessed for a sample of 143 banks, among which 89 Group 1 banks and 54 Group 2 banks, which is an increase by seven Group 1 banks and a decrease by six Group 2 banks compared to the previous report.[8]

Banks were asked to provide data at the consolidated level as of 31 December 2020. 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 consistent sample of banks. This consistent sample represents only those banks that reported necessary data at the June 2011 (labelled "H1 2011") through December 2020 ("H2 2020") reporting dates, in order to make more meaningful period-to-period comparisons. The consistent sample differs for the various analyses; typically, it includes around 78 Group 1 banks, of which 27 are G-SIBs, and around 27 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 2020, 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

[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.

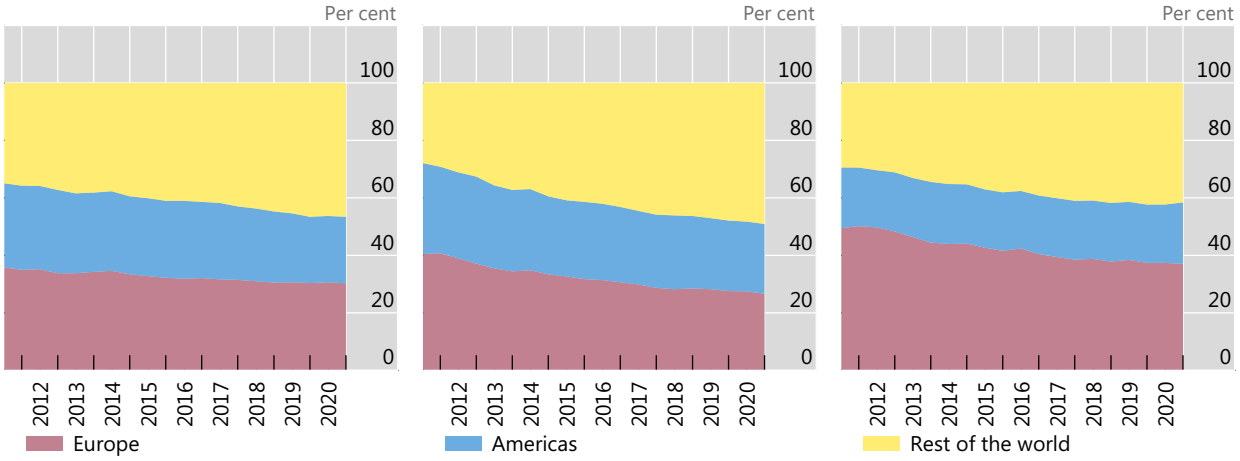
[8] See Table B.3 in the Statistical Annex for details on the sample for the assessment of the final Basel III framework. Also note that while all these banks provided data on the final Basel III credit and operational risk standards, some of them were unable to provide data on some other aspects of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

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 consistent sample 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 6.0 percentage points to 23.2%, while the share in RWA decreased by 7.4 percentage points to 24.3%. The Americas' share in accounting total assets increased slightly from 21.1% to 21.4%. The share of European banks decreased by 5.6 percentage points to 30.3% in terms of Tier 1 capital, by 13.8 percentage points to 26.6% in terms of RWA and by 12.5 percentage points to 37.0% in terms of accounting total assets. Conversely, the share of banks in the rest of the world increased by 11.6 percentage points to 46.5% in terms of Tier 1 capital, by 21.2 percentage points to 49.1% in terms of RWA and by 12.2 percentage points to 41.6% by 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], consistent sample of Group 1 banks, 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 end-2020. The impact of temporary exclusions is presented in the special feature at the end of this report.

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 show the range of the entire sample unless noted otherwise. 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

In order 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. 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 2020 reporting date may differ from the H2 2020 data point in graphs and tables showing the time series for the consistent sample of banks 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 31 December 2020 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, as they do not give any recognition for non-qualifying instruments that will actually be phased out until 1 January 2022. 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.
- Three G-SIBs are outliers due to overly conservative assumptions under the revised market risk framework.[9] Therefore, the results for market risk for 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. Please refer to the previous reports for the treatment at the end-June and end-December 2019 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 to the actual situation where those additional requirements would be considered.

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.

[9] Specifically, the banks treated 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.

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	13.2	13.4	12.8	0.0	0.0	0.0
Tier 1 capital[3]	14.9	15.0	14.4	0.0	0.0	2.0
Total capital[4]	17.4	17.3	16.7	0.0	0.0	4.1
Sum				0.0	0.0	6.1
Of which: G-SIBs						
CET1 capital	13.0	13.1	12.7	0.0	0.0	0.0
Tier 1 capital[3]	14.7	14.8	14.3	0.0	0.0	2.0
Total capital[4]	17.3	17.2	16.6	0.0	0.0	4.1
Sum				0.0	0.0	6.1
Group 2 banks						
CET1 capital	16.5	14.9	14.5	0.0	0.6	0.6
Tier 1 capital[3]	17.4	15.4	15.1	1.0	0.7	0.7
Total capital[4]	19.8	17.2	16.9	0.0	0.6	0.6
Sum				1.0	1.8	1.8

[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	106	13.2	96	13.4	12.8
Of which: Europe	35	14.9	35	13.0	12.1
Of which: Americas	19	12.6	18	12.5	12.4
Of which: RW	52	12.7	43	14.0	13.6
Of which: G-SIBs	30	13.0	30	13.1	12.7
Group 2 banks	61	16.8	57	15.3	14.9

Source: Basel Committee on Banking Supervision.

2.1 Risk-based capital ratios

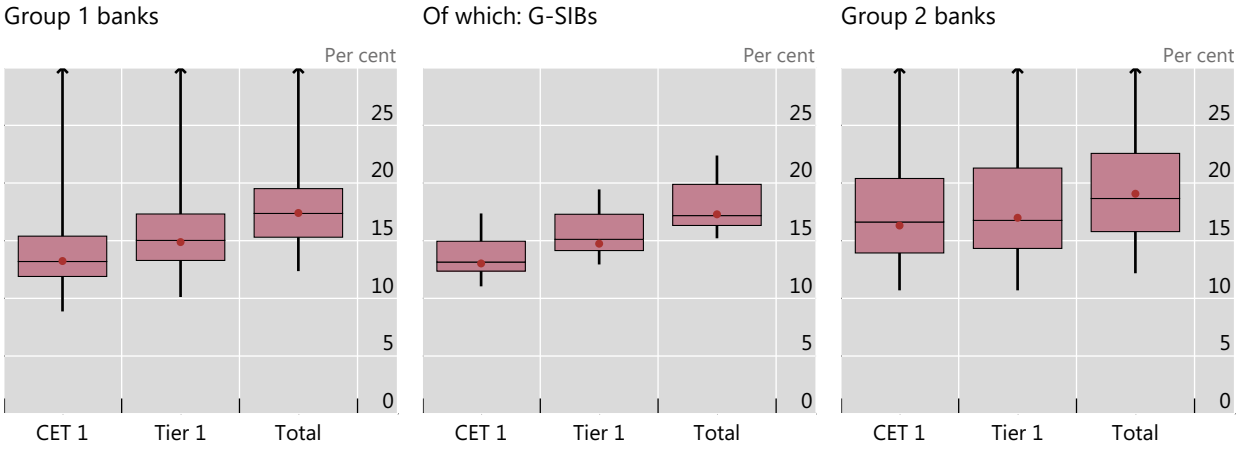
2.1.1 Initial Basel III standards

Regarding initial Basel III capital ratios, results continue to show quite significant dispersion across banks as shown in Graph 13, both for Group 1 and Group 2 banks.

For example, for Group 1 banks, the lowest initial Basel III CET1 capital ratio amounts to 8.9% whereas the highest ratio is reported at 31.2%. Contrary, the dispersion for G-SIBs is remarkably lower: Initial Basel III CET1 capital ratios range between 11.1% and 17.4%. Group 2 banks continue to show the highest dispersion compared with the other groups; for example, CET1 capital ratios range between 10.7% and 57.6%.

Apart from that, more than 96% of the Group 1 banks show an initial CET1 capital ratio above 10%. For Group 2 banks, all participants presented an initial CET1 capital ratio above 10%.

Initial Basel III CET1, Tier 1 and total capital ratios[1] Graph 13



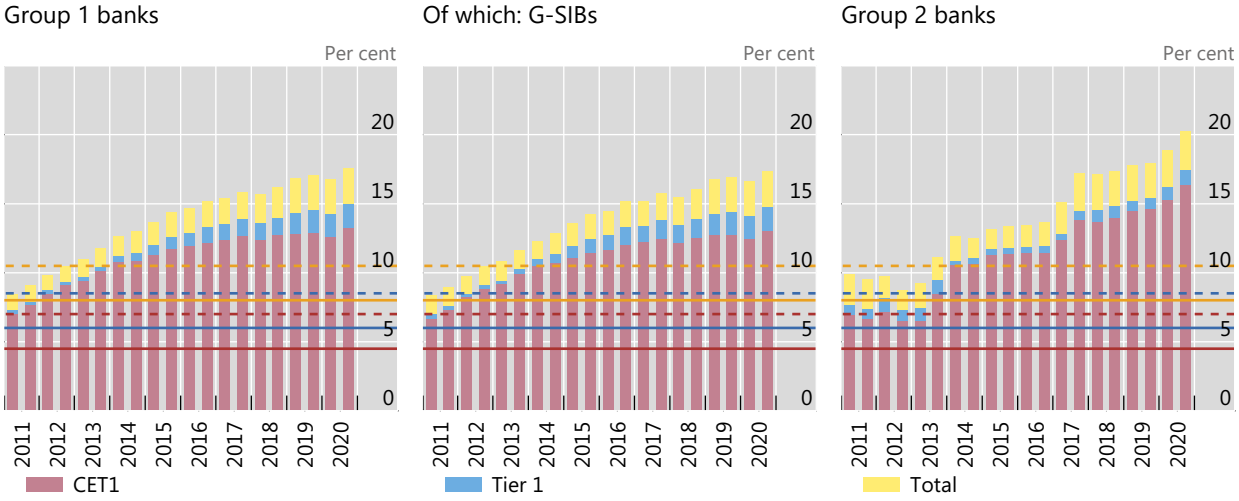
[1] The median value is represented by a horizontal line, with 50% of the values falling in the 25th to 75th percentile range shown by the box. The upper and lower end points of the vertical lines generally show the range of the entire sample. In some cases, arrows at the top of the vertical line indicate banks with capital ratios outside the range shown in the graph. The dots represent weighted averages.

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.

After Group 1 banks showed a slight drop in capital ratios in H1 2020, initial Basel III capital ratios have started to increase again. Meanwhile, Group 2 banks continuously showed a steady increase in capital ratios. More particularly, for Group 1 banks, total capital ratios increased by 0.8 percentage points over the second half of 2020, whereas G-SIBs showed an increase in total capital ratios of 0.7 percentage points. The biggest increase can be observed for Group 2 banks: Total capital ratios rose by 1.4 percentage points.

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

Consistent sample of banks — Graph 14



[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.

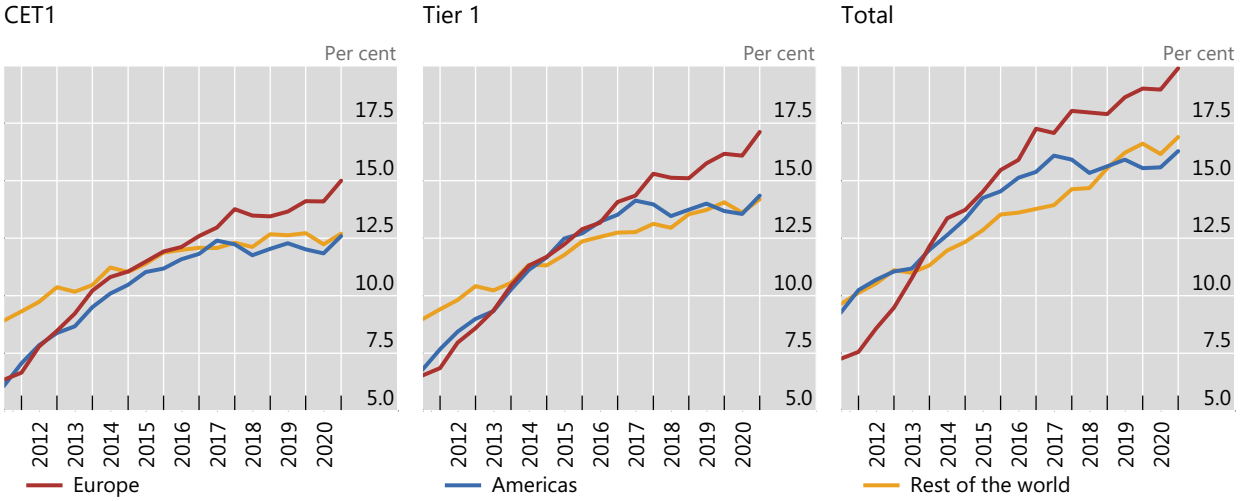
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. Note that the Excel file shows Tier 1 and total capital ratios as increments over the next lower Tier of capital.

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 remarkable 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. As at 2019, the initial Tier 1 capital ratio in the Americas is even lower than in the rest of the world.

Generally, capital ratios increased across all regions since end-June 2020. The biggest increases were reported for the capital ratios in Europe (CET1: +91 basis points; Tier 1: +102 basis points; total: +93 basis points). Capital ratios in the Americas rose by 71 to 80 basis points. The smallest increases were observed in the rest of the world (CET1: +46 basis points; Tier 1: +59 basis points; total: +75 basis points). When observing the development of G-SIBs, the figures appear similar.

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

Consistent sample of Group 1 banks — Graph 15



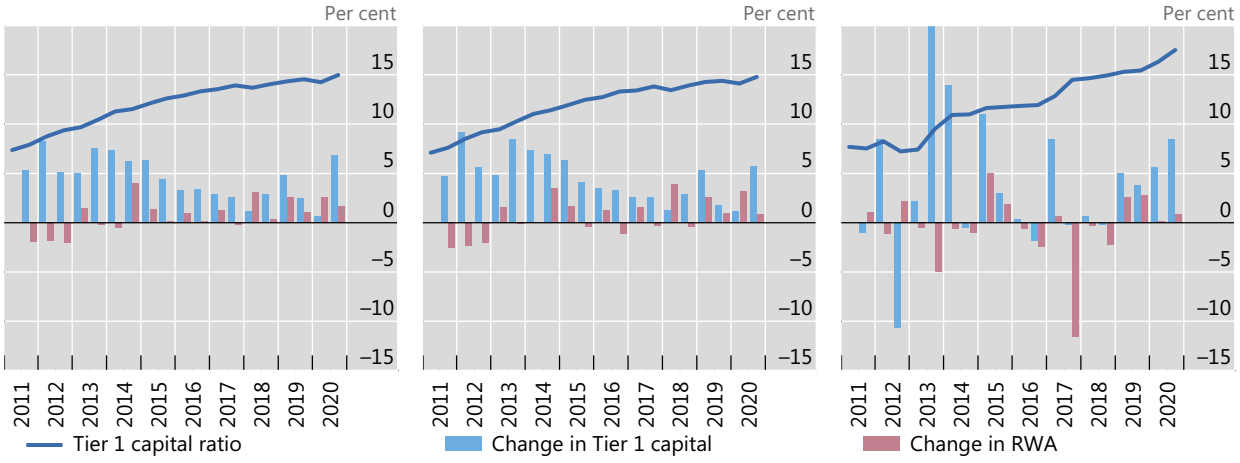
[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter.

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.

Over the second half of 2020, RWA increased the most for Group 1 banks (1.7%). The RWA for G-SIBs and Group 2 banks both increased by 0.9%. Simultaneously, Tier 1 capital increased significantly. Group 1 banks report an increase of 6.9%, G-SIBs of 5.8% and Group 2 banks of 8.5%. Consequently, the strong increase in Tier 1 capital ratios offsets the RWA increase, thus resulting in rising Tier 1 capital ratios.

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

Consistent sample of banks, 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.

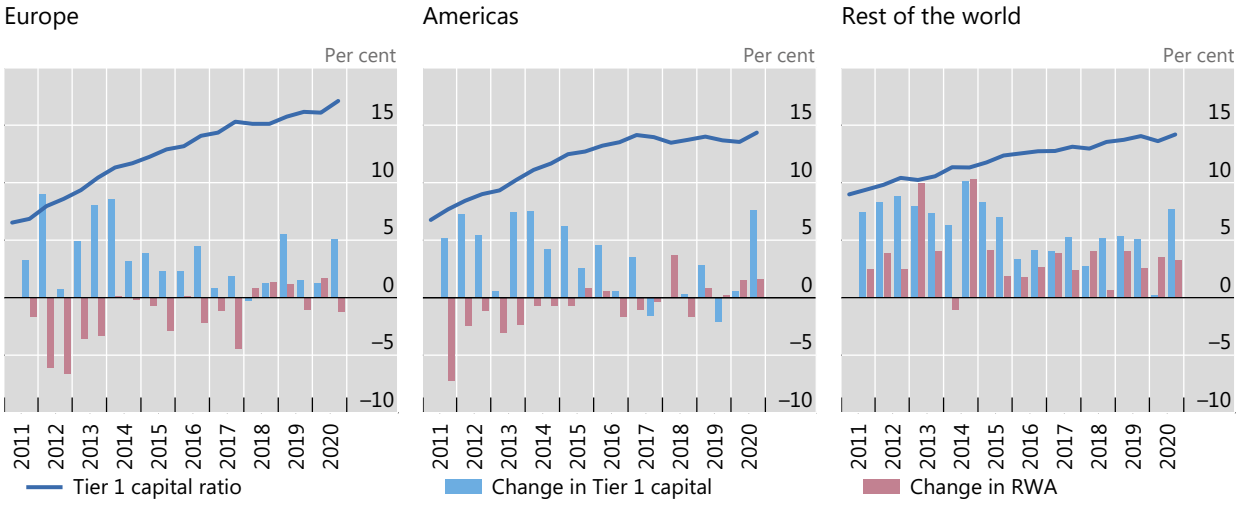
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Compared with end-June 2020, all regions show a significant increase in Tier 1 capital. The smallest increase is observed in Europe (+5.1%). In the Americas and the rest of the world, Tier 1 capital

increased about 3 percentage points more, 7.6% and 7.7%, respectively. In contrast, the changes in RWA were quite heterogeneous across regions. European banks show a decrease in RWA of -1.2%, whereas the RWA increased in the Americas (+1.7%) and the rest of the world (+3.2%). Therefore, all regions report rising Tier 1 capital ratios.

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

Consistent sample of Group 1 banks, 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.

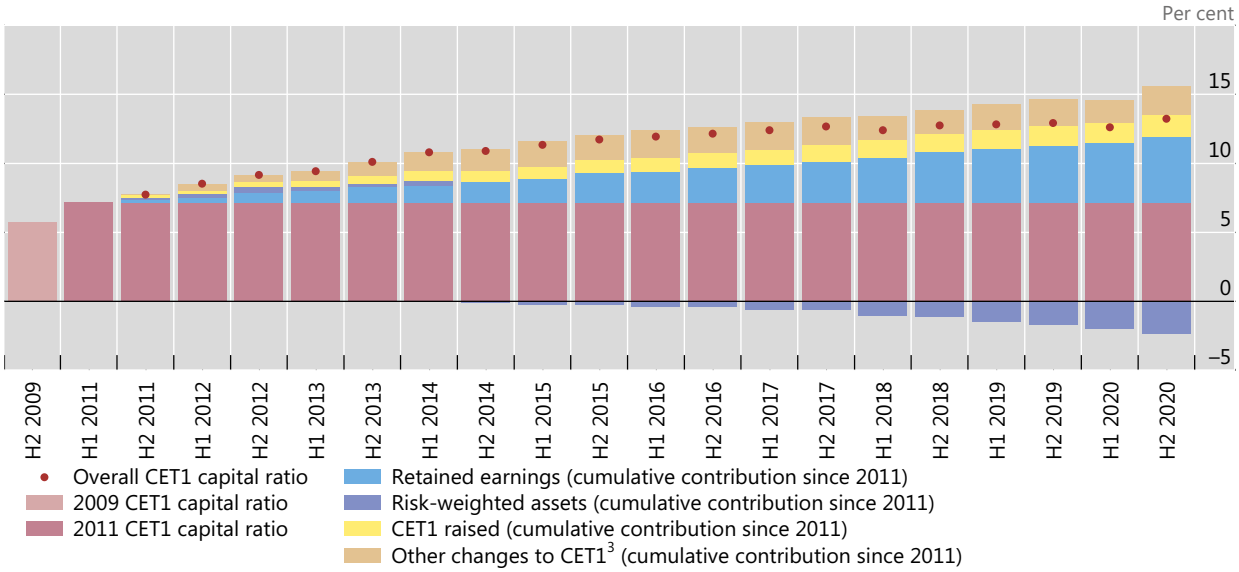
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

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, the first graph suggests that retained earnings were the by far most significant contributor to the improvements in CET1 capital ratios. 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 contrast, the rest of the world shows a quite balanced movement between an increase in CET1 due to retained earnings and a negative effect due to the increase in total RWA.

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

Consistent[2] sample of Group 1 banks — Graph 18

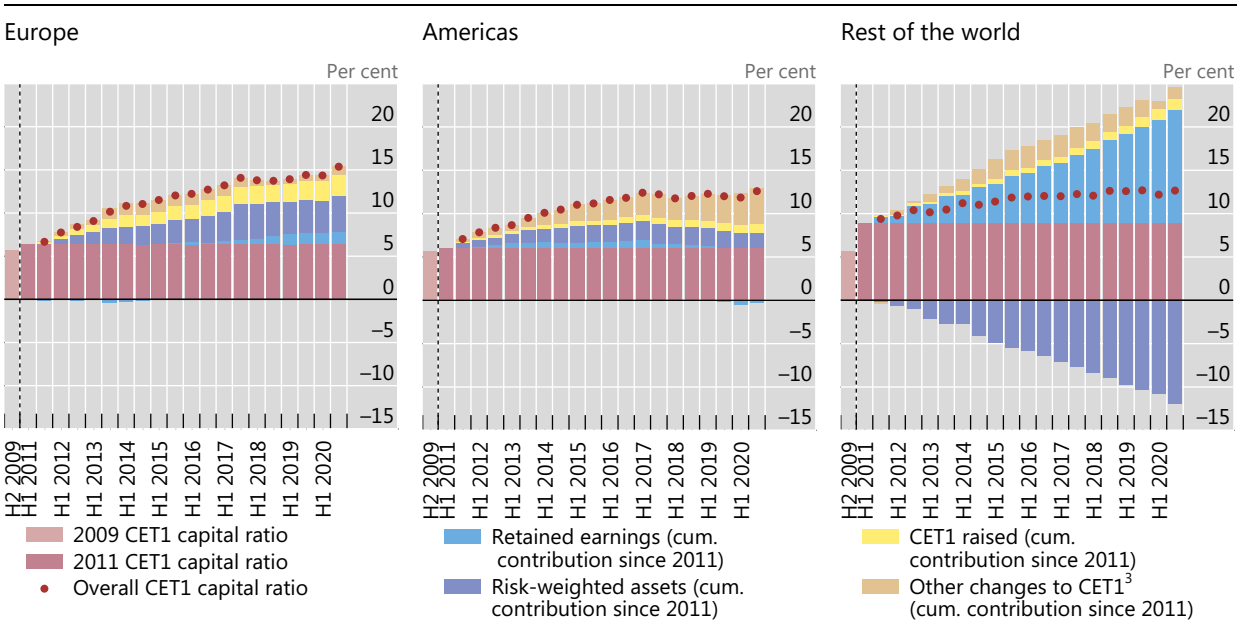


[1] The graph shows the fully phased-in initial Basel III framework for the data points up to and including the end of 2018 and the actual framework in place at the reporting date for all data points thereafter. [2] Except the ratio for H2 2009, which is based on the different sample of the Committee's 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

Consistent[2] sample of Group 1 banks — 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

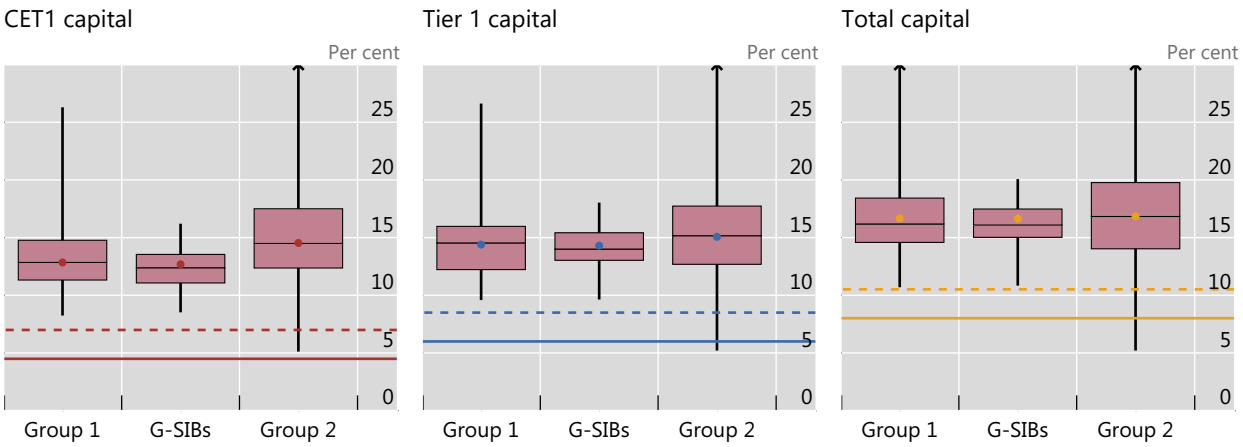
On average, the initial Basel III CET1 capital ratio of Group 1 banks and G-SIBs (Graph 13) compared to the fully phased-in final Basel III CET1 capital ratio (Graph 20) would decline by about 40 basis points from 13.2% to 12.8%. The difference for G-SIBs is slightly smaller, with CET1 ratio dropping from 13.0% to 12.7%. Apart from that, Group 2 banks show a larger CET1 capital ratio decline by 180 basis points from 16.3% to 14.5%.

Similar to CET1 capital ratios, Tier 1 and total capital ratios would also decline for both groups. The Tier 1 capital ratios of Group 1 and Group 2 banks decrease, respectively, by 50 and 190 basis points. Total capital ratios show a 70 basis points decline for Group 1 banks and a more pronounced decline of 220 basis points for Group 2 banks.

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, almost half (48%) of Group 1 banks report a CET1 ratio higher than 13% and roughly 92% have a CET1 ratio amounting to more than 10%. For Group 2 banks, one bank fails to meet the minimum fully phased-in capital requirement of 4.5% under the final Basel III framework. Nevertheless, the vast majority (95%) of Group 2 banks has a CET1 capital ratio that is higher than 10%. Furthermore, more than half (68%) have a capital ratio over 13%.[11]

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

Graph 20



[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 vertical lines generally show the range of the entire sample. In some cases, arrows at the top of the vertical line indicate banks with capital ratios outside the range shown in the graph. The dots represent weighted averages. 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 +2.9%. The average Tier 1 MRC change for G-SIBs is slightly higher (+3.5%). Compared to that, Group 2 banks show with +6.4% the biggest change in Tier 1 MRC (see Graph 21). In contrast to the

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

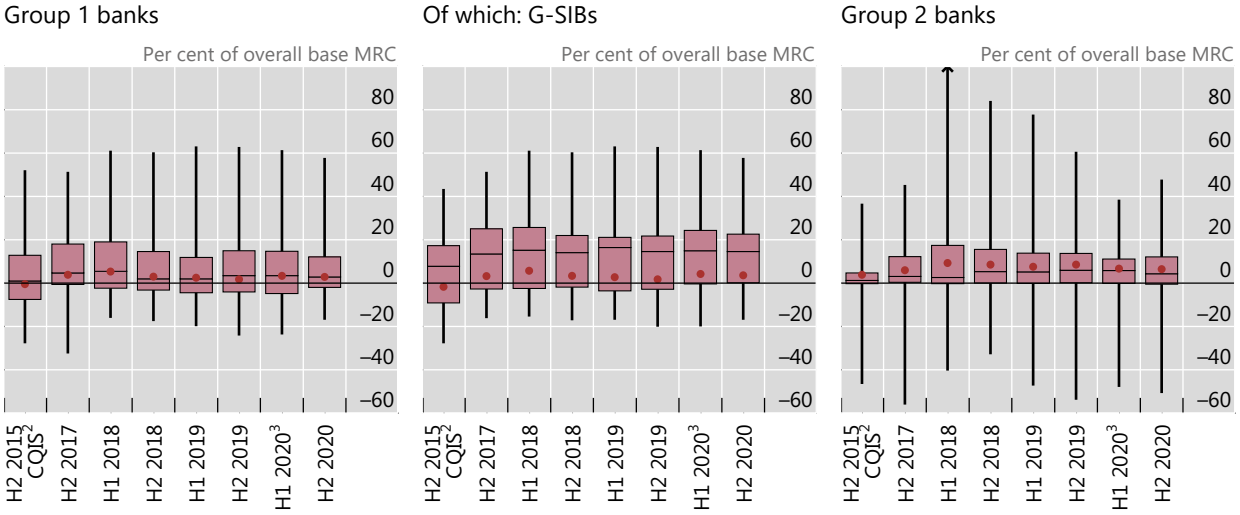
results of the cumulative Quantitative Impact Study (CQIS),[12] these numbers include the impact of the amended minimum capital requirements for market risk published in January 2019 and the targeted revisions to the CVA framework in July 2020.

Moreover, Graph 21 shows the dispersion of changes in MRC across the Group 1 banks, G-SIBs and Group 2 banks in the sample. The change in MRC including market risk for the current period for 50% of the Group 1 banks is between -2.0% and +12.1%, with a median of 2.8%. The distribution for G-SIBs is shifted towards a higher impact on MRC with a median of 14.5% and an interval from 0.2% to 22.6% for 50% of the sample. The smallest variation is observed for Group 2 banks where 50% of the sample range between -0.4% and 12.1%. The median for this sample is determined at a 4.3% increase.

Compared to the end-2019 reporting date, the average impact of the final Basel III framework on MRC increased for Group 1 banks and G-SIBs and decreased for Group 2 banks. Furthermore, for all groups the dispersion is smaller than at the end-2019 reporting date. The higher impact for Group 1 banks and G-SIBs may be partially driven by the different treatment of the outlier banks that were previously excluded with their market risk results. Furthermore, measures taken by some jurisdictions during the Covid-19 pandemic that reduce current capital requirements but leave capital requirements under the fully phased-in final Basel III standard unaffected could explain parts of the observed increase of the impact.

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

Samples as at the reporting dates — Graph 21



[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 vertical lines generally show the range of the entire sample. The dots represent weighted averages. [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 to provide an additional breakdown of the total change in MRC:

[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.

- *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,[13] including the effect from migration of approaches.[14]
- *CVA* shows the change in Tier 1 MRC due to the revisions to the CVA framework.[15]
- *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.

Applying the fully phased-in definition of the final Basel III standards, the Tier 1 MRC would increase by 2.9% for Group 1 banks. This increase is composed of a 2.7% rise in the combined risk-based components. Those are driven by positive contributions of the output floor (+2.4%), market risk (+1.6%), CVA (+0.4%) and other Pillar 1 requirements (+0.1%) on the one hand and a reduction in credit risk (-1.6%) and operational risk (-0.2%) on the other hand. The rise of the combined risk-based components is accompanied by a positive effect of the leverage ratio requirements (+0.2%).

[13] 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 jurisdiction 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 EU rules require the aforementioned split.

[14] 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.

[15] Targeted revisions to the revised CVA framework were published in July 2020 and, therefore, are not yet considered in the Basel III monitoring exercise as of end-December 2019. They will be reflected in the exercise on the end-2020 reporting date. See Basel Committee on Banking Supervision, *Targeted revisions to the credit valuation adjustment risk framework, July 2020*, www.bis.org/bcbs/publ/d507.htm.

Box B

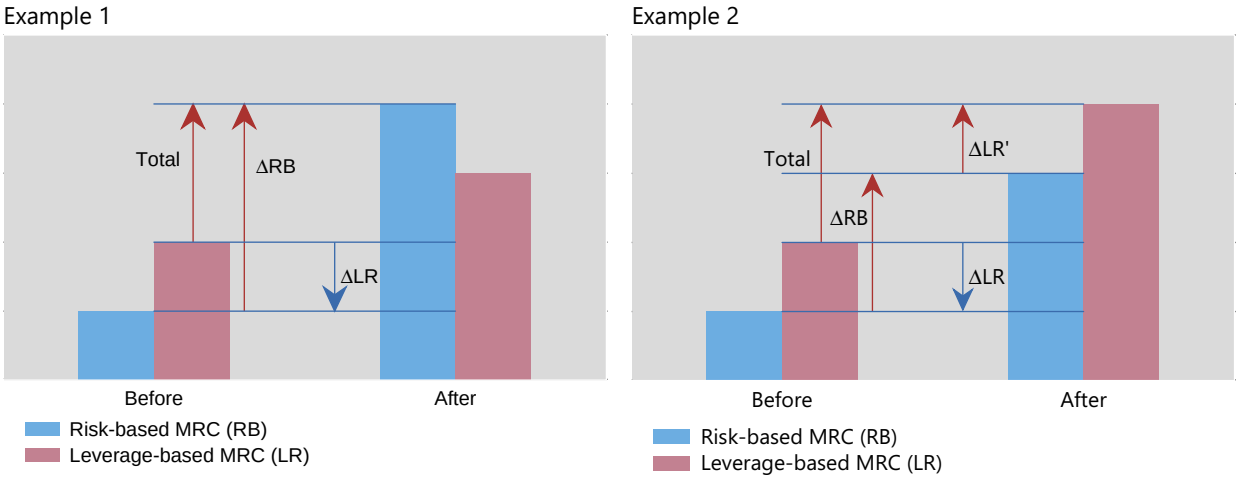
Aggregation of changes in risk-based and leverage ratio MRC

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

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.

Aggregation of changes in risk-based and leverage ratio MRC

Graph A



Regarding the impact on MRC across regions, one can observe very heterogeneous developments. Banks in the rest of the world show a remarkable decrease in MRC (-5.8%), mostly driven by credit risk (-6.5%) and operational risk (-1.4%) and slightly outweighed by the output floor (+1.8%). In the Americas, banks record a modest increase in MRC of 2.5% to which risk-based and leverage ratio requirements contribute (+1.3% and +1.7%, respectively). The biggest impact comes from market risk with +4.1% which is reduced by negative effects of operational risk (-2.4%) and the output floor (-1.9%). The largest increase is reported by European banks: MRC increases by 17.6%. The biggest impact stems from the output floor (+7.3%), but all other risk-based components have positive impacts as well (credit risk and operational risk about +4.0% and CVA and market risk +2.1% each). These effects are slightly compensated by the leverage ratio (-1.6%) and other Pillar 1 requirements (-0.1%).

For Group 2 banks, the overall 6.4% increase in Tier 1 MRC is driven by an increase in the risk-based measure of 13.0%, mainly stemming from credit risk (+8.7%) and the output floor (+2.5%), while the leverage ratio measure partially offsets this increase at -6.6%.

It should be noted that the Group 1 and Group 2 bank samples are not directly comparable due to different business models and different regional distribution of the samples.

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	89	2.9	2.7	–1.6	0.4	1.6	–0.2	2.4	0.1	0.2
Of which: Europe	33	17.6	19.2	4.0	2.1	2.1	3.8	7.3	–0.1	–1.6
Of which: AM	18	2.5	0.9	1.3	–0.5	4.1	–2.4	–1.9	0.3	1.7
Of which: RW	38	–5.8	–6.3	–6.5	–0.2	0.0	–1.4	1.8	0.0	0.5
Of which: G-SIBs	30	3.5	2.1	–1.8	0.3	1.8	–0.4	2.0	0.1	1.5
Group 2 banks	54	6.4	13.0	8.7	0.4	0.1	1.3	2.5	0.0	–6.6

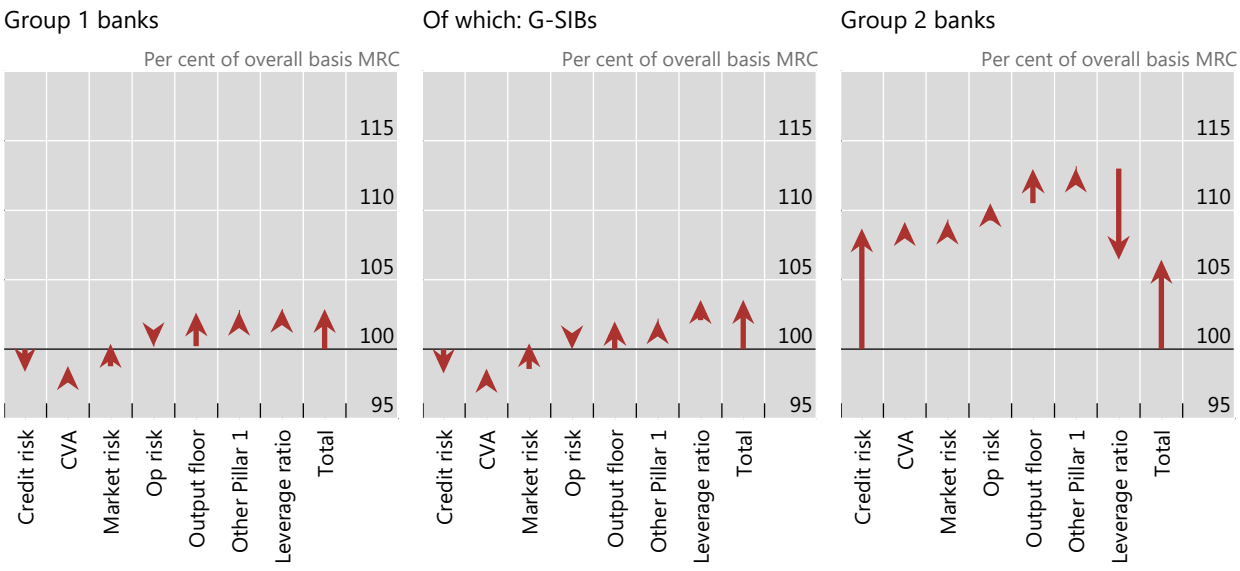
[1] Change in MRC due to the revised standardised and IRB approaches, including securitisation. [2] Change in MRC due to revised operational risk framework. Figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, increases in MRC may be overstated and reductions may be understated.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

Source: Basel Committee on Banking Supervision.

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



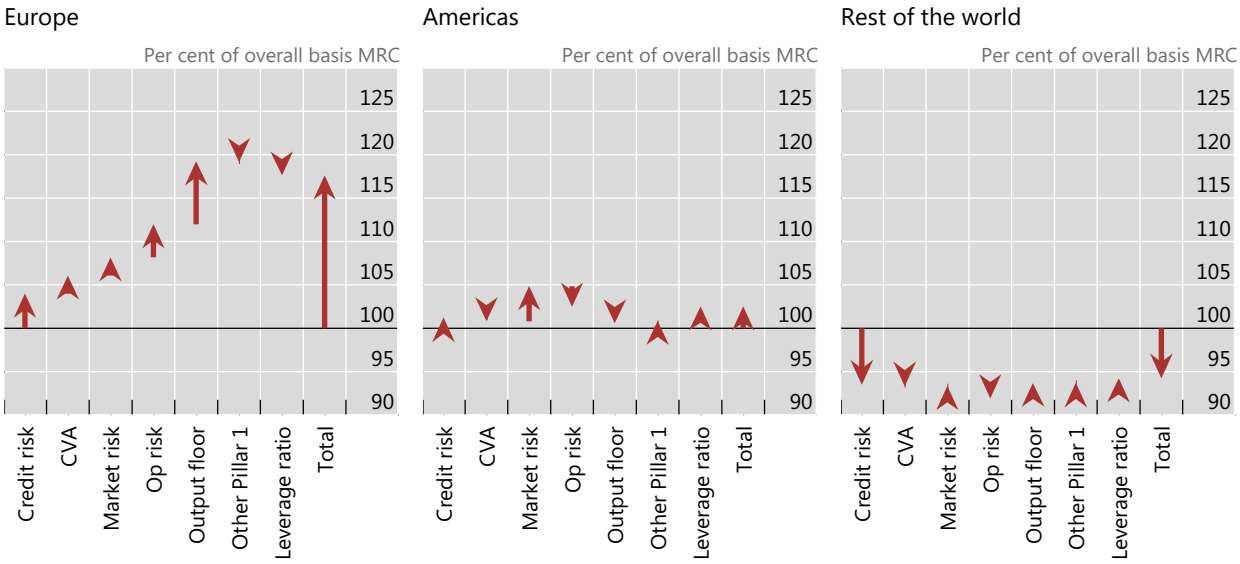
Credit risk shows the change in MRC due to revised standardised and IRB approaches, including securitisation. Operational risk figures may not show supervisor-imposed capital add-ons under Pillar 2. Therefore, increases in MRC may be overstated and reductions may be understated. Output floor results 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 shows the change in MRC due to revised standardised and IRB approaches, including 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 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 the final leverage ratio without considering any transitional arrangements set out in the in the Basel III framework.
- *denominator:* the Basel III leverage ratio exposure measure is also calculated on the same corresponding basis as the numerator above (unless otherwise stated). 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.

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. For each of these bank groups, the distribution of transitional and fully phased-in final Basel III leverage ratios are relatively similar, with a smaller dispersion under the fully phased-in approach. When comparing across groups, Group 1 and Group 2 banks show a similar interquartile dispersion – although there are more Group 2 outlier banks with lower values, whereas G-SIBs' leverage ratios are more concentrated.

Box C

Basel III leverage ratio framework

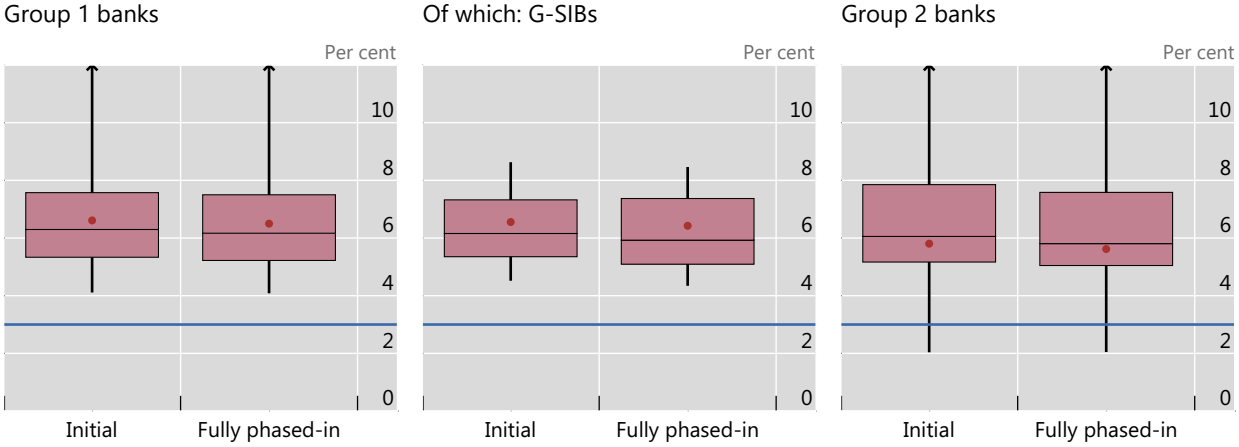
Under the January 2014 and December 2017 versions of the Basel III leverage ratio framework,① the Basel III leverage ratio exposure measure (the denominator of the Basel III leverage ratio) includes:

- 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.

The median fully phased-in final Basel III leverage ratio is 6.2% for Group 1 banks, 5.9% for G-SIBs and 5.8% for Group 2 banks, with virtually all banks well above the 3% minimum. However, two Group 2 banks in the sample would not meet the 3% ratio level, under both the initial and the fully phased-in final Basel III leverage frameworks. The aggregate leverage incremental shortfall under the initial framework is €0.9 billion.

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



[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 vertical lines generally show the range of the entire sample. Banks with Basel III leverage ratios above 12% are included in the calculation but are not shown in the graph. The dots represent weighted averages. The blue line is set at 3% (minimum leverage ratio level).

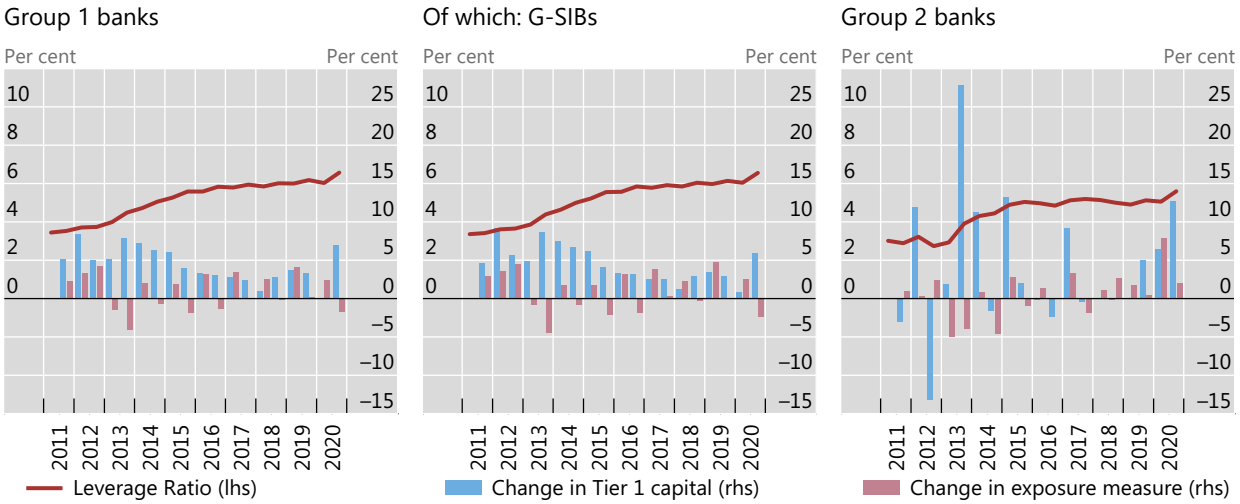
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 25 shows how the fully phased-in final Basel III leverage ratios have evolved over time for a consistent sample of banks, all of which provided leverage ratio data for all reporting dates from June

2011 to December 2020. For both Group 1 and Group 2 banks, the leverage ratio shows an uptick from end-December 2019. This results from an increase in Tier 1 capital and a reduction in the leverage ratio exposure measure for Group 1 banks, and from a relatively small increase in the leverage ratio exposure measure for Group 2 banks. Changes in exposure measures are in part driven by the temporary exclusions from the leverage ratio exposure measure that have been put in place in several jurisdictions in the context of the Covid-19 pandemic. The special feature at the end of this report explores this aspect in more detail.

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

Consistent sample of banks, exchange rates as of the current reporting date — Graph 25



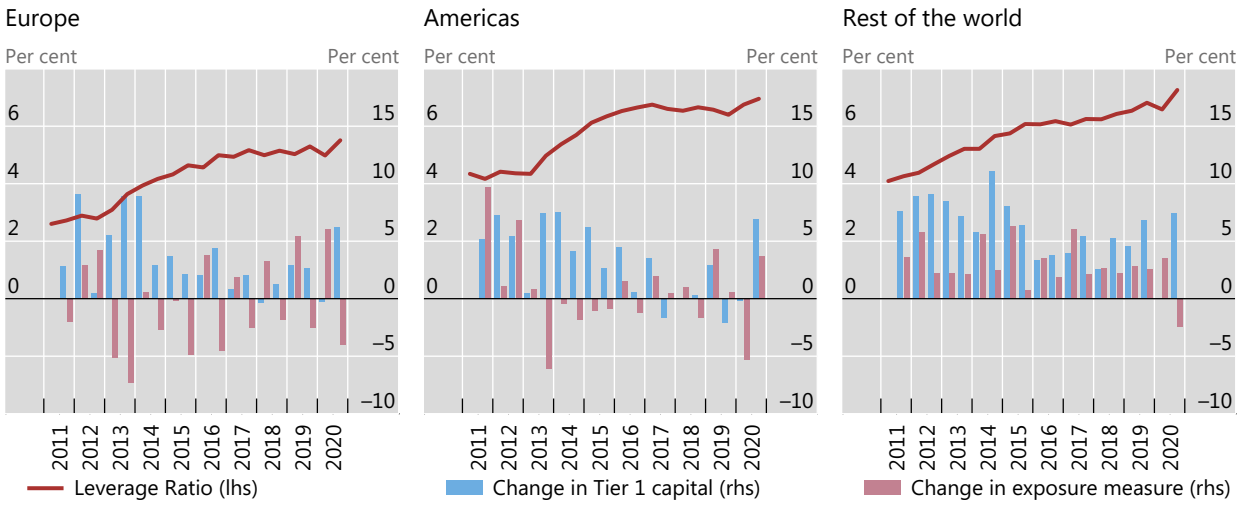
[1] Data points from H1 2011 to H2 2012 use the original definition of the leverage ratio. Data points from H1 2013 to H1 2017 use the definition of the leverage ratio set out in the 2014 version of the framework. Note that the data points for H1 2013 use an approximation for the initial definition of 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.

Graph 26 shows the same information as Graph 25, but for a consistent sample of Group 1 banks, grouped by region. Overall, the leverage ratio for all regions has been growing over the past nine years, with a visible uptick across all regions over 2020. However, leverage ratios continue to be lower in Europe (5.5%) as compared to the Americas (7.0%) and the rest of the world (7.3%).

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

Consistent sample of Group 1 banks, 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.

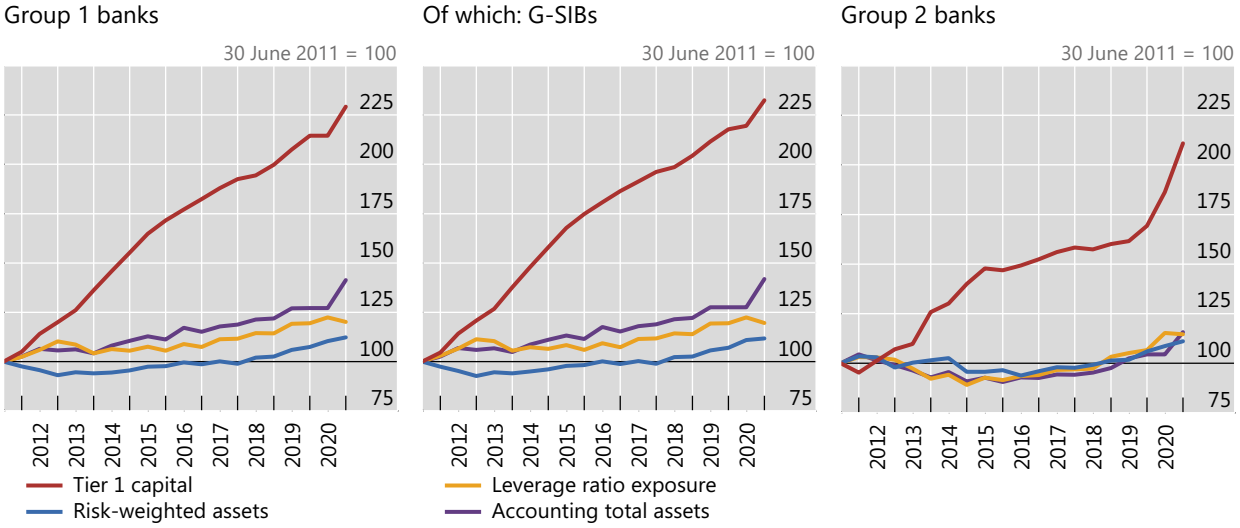
Graph 27 shows the evolution of the components of the risk-based capital and leverage ratios over time for a consistent sample of banks, ie banks that have consistently been providing the four data series for the period of June 2011 to December 2020. The four components are Basel III Tier 1 capital, RWA and the leverage ratio exposure measure, all assuming full implementation of Basel III, as well as accounting total assets. For Group 1 banks, Tier 1 capital and accounting total assets steadily increased over the period, and showed a marked uptick in the last period. RWA and leverage ratio exposures have also increased steadily during the period, with the latter showing a small decrease over the last year. While accounting total assets and leverage ratio exposure have been moving relatively in sync until the previous reporting period, they moved in opposite directions in the last period, reflecting the temporary exclusions from the leverage ratio exposure measure due to the Covid-19 pandemic. For Group 2 banks, Tier 1 capital generally increased during the period, with a substantial increase over the last year.[16] RWA, leverage ratio exposure and accounting total assets have somewhat declined in the first half of the observed period, but have steadily increased in the second half, with accounting total assets showing a marked uptick over the last year, and leverage exposures dropping slightly. For all banks, Tier 1 capital has increased at a much higher rate than accounting assets and leverage ratio exposures.

Graph 28 shows the same information for a consistent sample 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, with a small decrease in the last period.

[16] The marked increase may be due to a different and smaller sample for the end-2020 value compared to end-2019.

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

Consistent sample of banks, exchange rates as of the current reporting date — Graph 27

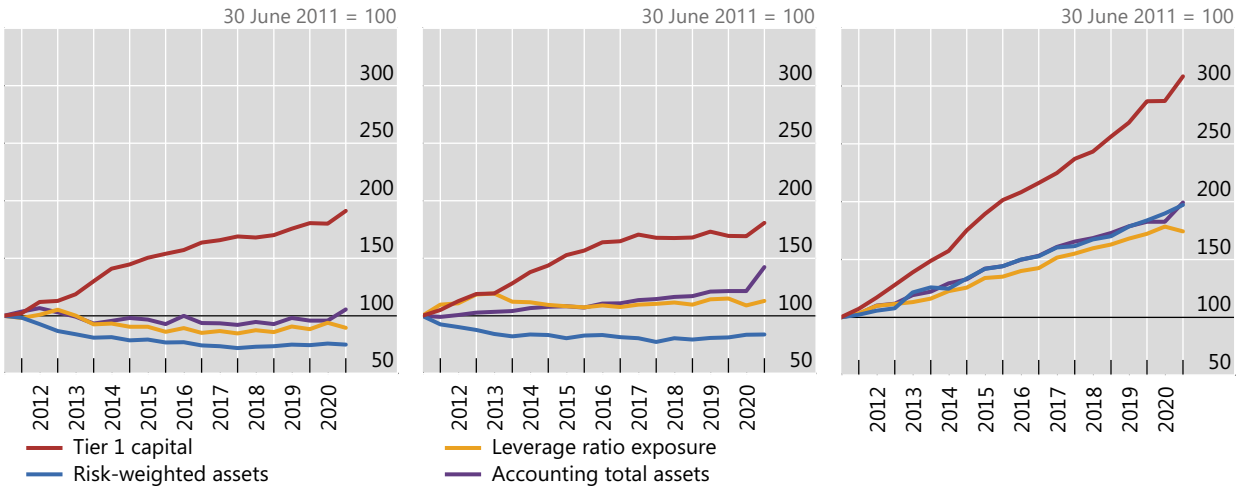


[1] Tier 1 capital, RWA and leverage ratio exposure assume full implementation of Basel III. Data points from H1 2010 to H2 2012 use the original definition of the leverage ratio. Data points from H1 2013 to H1 2017 use the definition of the leverage ratio set out in the 2014 version of the framework. 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.

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

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 28



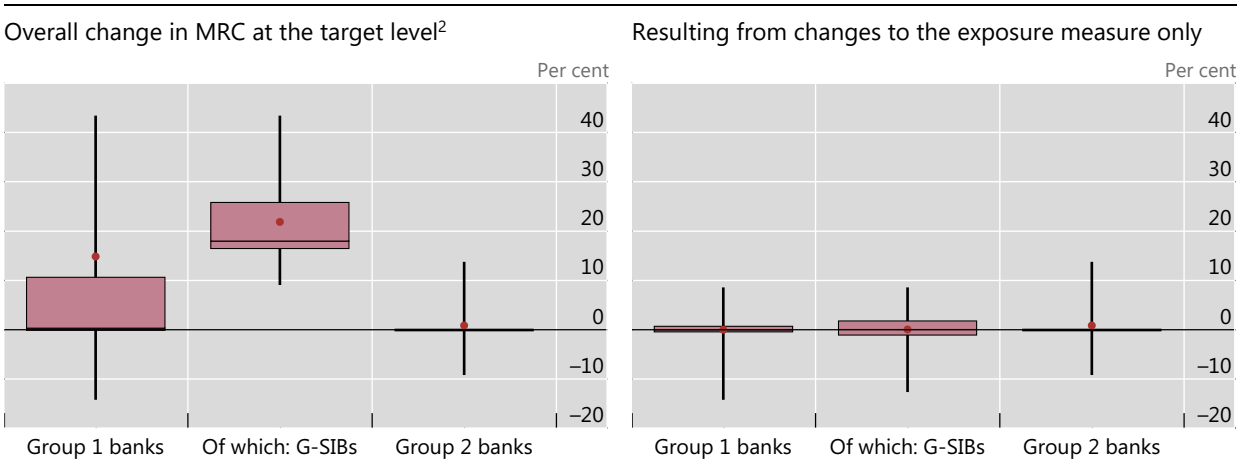
[1] See footnote 1 to Graph 27.

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.

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



[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 vertical lines generally show the range of the entire sample. The dots represent weighted averages. To the extent a bank could not provide a component under the 2017 exposure measure, the relevant component of the 2014 measure was used. [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 end-December 2020) are compared with the results of the previous cumulative QIS, using data as of end-December 2015.[17] This analysis is not reduced to a consistent sample, but relies on the different samples for the different reporting dates.

For this reporting date, Group 1 banks reported total regulatory capital shortfalls amounting to €6.1 billion. These results are roughly in line with the shortfall observed at the end-December 2019 reporting date. Shortfalls were somewhat higher at end-June 2020, though these were computed based on the end-December 2019 MRC changes, combined with the end-June 2020 current MRC basis (see also footnote 3 on Graph 21). The main driver of this development was the CET1 capital shortfall that reduced from €6.9 billion to zero. Thus, end-December 2020 the shortfall can be split into €2.0 billion additional Tier 1 capital and €4.1 billion Tier 2 capital. While the sample size of Group 1 banks changed, these

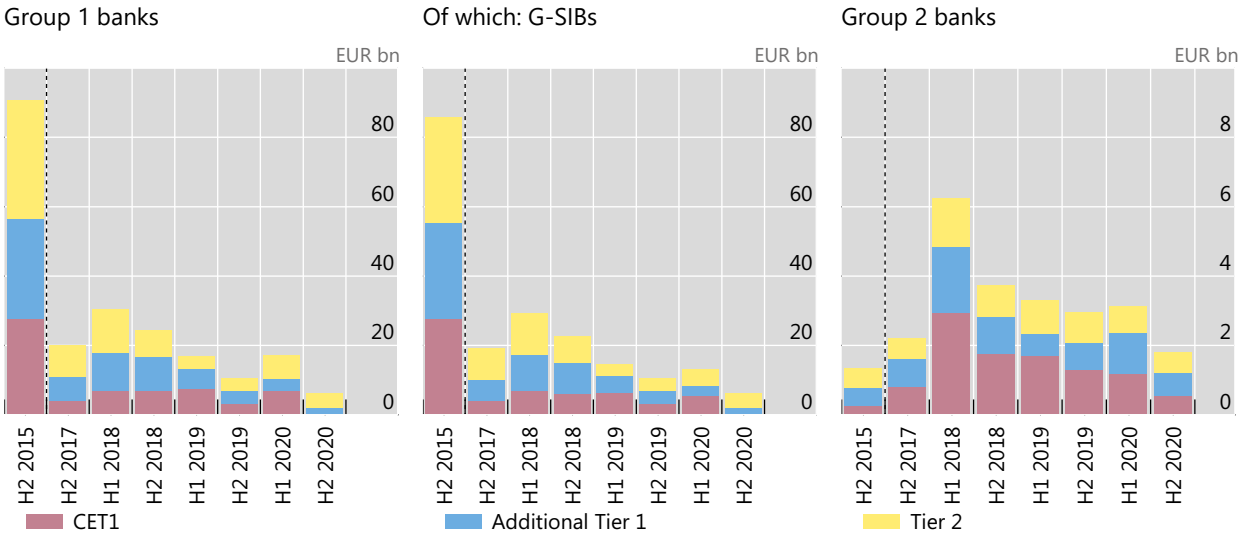
[17] Basel Committee on Banking Supervision, *Basel III Monitoring Report - Results of the cumulative quantitative impact study*, December 2017, www.bis.org/bcbs/publ/d426.htm.

developments do not result from sample changes. Distribution constraints during the Covid-19 period in several jurisdictions may have contributed to the decrease of the shortfall.

For Group 2 banks, the aggregate total capital shortfall decreased to €1.8 billion. Even though the number of banks in the sample decreased (currently 55 compared to 61 banks at end-2019), the reduced shortfall does not result from sample changes.

Combined capital shortfalls at the target level

Fully phased-in final Basel III standards[1], sample and 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 to 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

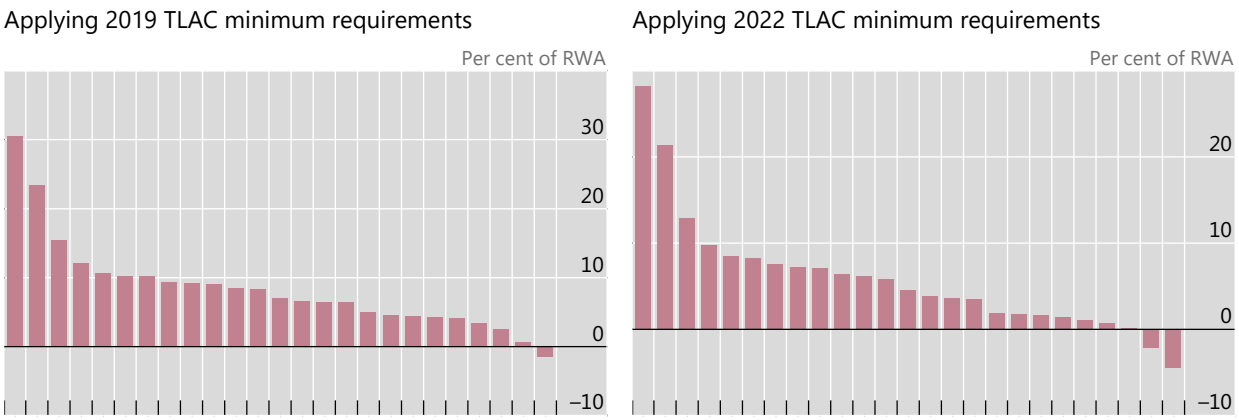
2.5.1 Initial Basel III framework

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[18] TLAC shortfall amounting to €4.7 billion, which corresponds to 1.5% of its total RWA. In the previous period, no G-SIB in the sample showed a shortfall. Moreover, two banks reported an aggregate incremental shortfall of €18.4 billion against 2022 minimum requirements while none did in the previous period. One reason is that, in line with Section 2.2, when performing the shortfall calculation exempted leverage ratio exposures are added back to the exposure measure resulting in a higher leverage ratio requirement. This particularly affects G-SIBs for whom higher leverage ratio requirements are set.

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

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

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



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

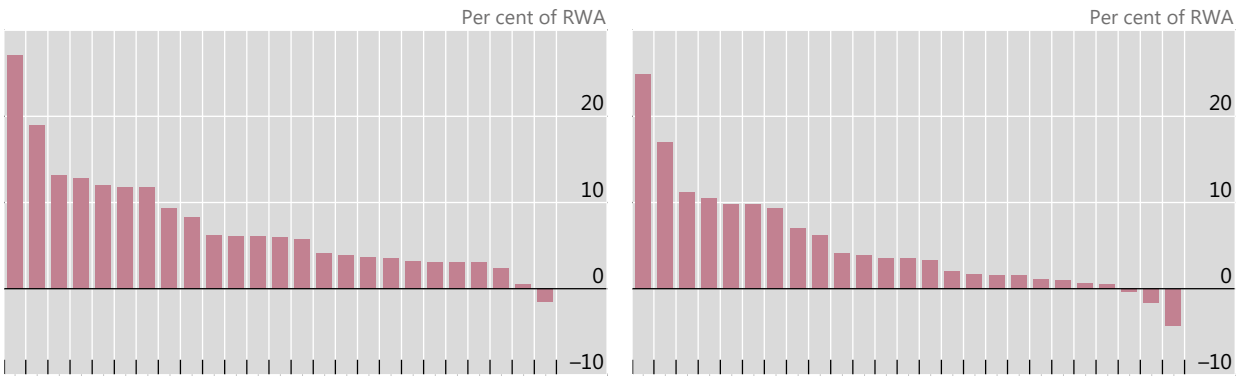
Source: Basel Committee on Banking Supervision.

2.5.2 Final Basel III framework

The final Basel III reforms, based on end-December 2020 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 number of banks or size of shortfalls against the 2019 TLAC requirements: the same G-SIB shows a slightly larger shortfall of about €4.9 billion. Relative to the 2022 TLAC requirements, combined with the final Basel III standards, two additional banks compared to the initial Basel III framework are reporting a TLAC shortfall and the aggregate shortfall is €18.6 billion with individual shortfalls corresponding to 0.4%, 1.6% and 4.3% of their respective total RWA (relative to the 2022 requirements).

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

Graph 32



[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

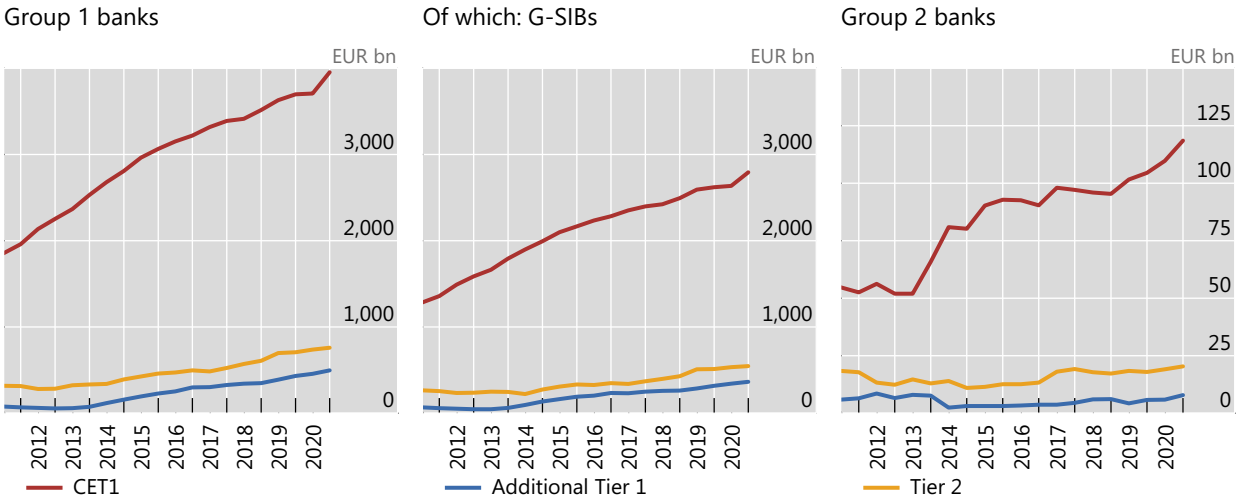
Graph 33 shows a time series of the level of regulatory capital for a consistent sample of Group 1 banks, Group 2 banks and G-SIBs. From end-December 2019 to end-December 2020, the level of CET1 capital for Group 1 banks increased by €257 billion (or 6.5%) to €3,955 billion. G-SIBs, which collectively held €2,792 billion as of end-December 2020, account for 66% of this increase. For Group 1 banks, the increase in Tier 2 capital amounts to €53 billion since December 2019, while an increase of additional Tier 1 capital of €66 billion is observed.

From end-December 2019 to end-December 2020, the level of Group 2 banks' CET1 capital increased by €14 billion (or 13%) to €119 billion. Additional Tier 1 and Tier 2 capital increased to €8 billion and €20 billion.

From end-June 2011 to end-December 2020, the level of Group 1 banks' CET1 capital has increased by 113% from €1,856 billion to €3,955 billion.

Level of capital[1]

Consistent sample of banks, 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 consistent sample of Group 1 banks, grouped by region, assuming full implementation of final Basel III standards. CET1 capital has increased for Europe and the rest of the world region over the past year by €75 and €122 billion, respectively. After a decline in the previous period, the Americas saw an increase by €61 billion. The rest of the world region also has the highest overall holdings of CET1 capital at €1,974 billion with an average of €51 billion per bank compared to €799 billion at an average of €57 billion per bank and €1,182 billion with an average of €39 billion per bank for the Americas and Europe, respectively. While CET1 capital in the rest of the world is now more than 2.7 times of its value in 2011, the increase in Europe and in the Americas was more limited at 73% and 80%, respectively.

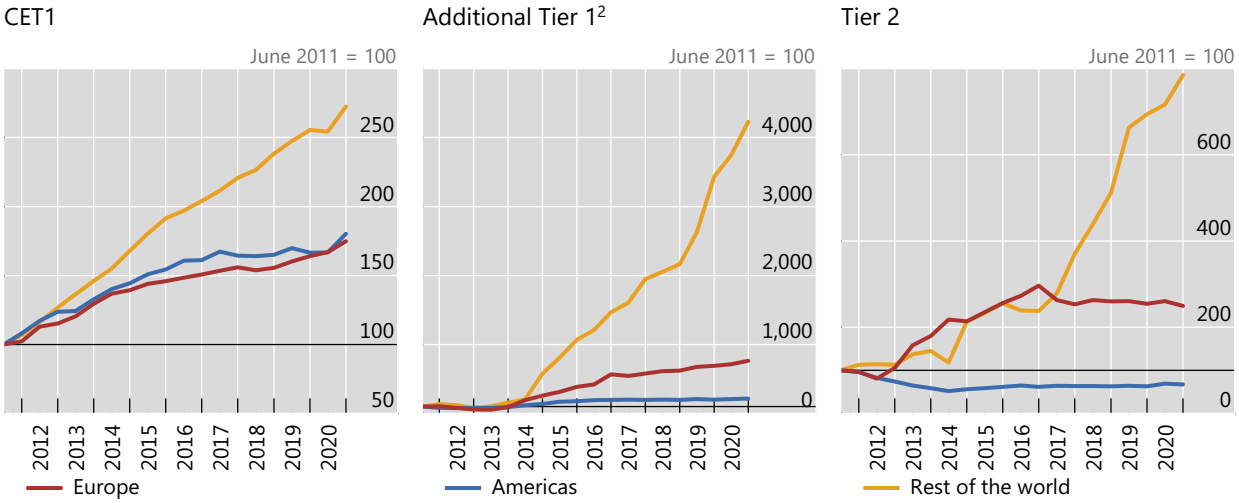
After some initial declines from 2011 through 2013 in Europe and the Americas and some mild increases in the rest of the world region, additional Tier 1 capital has grown significantly across all regions

thereafter. From end-December 2019 to end-December 2020, additional Tier 1 capital increased by €14 billion and €7 billion in Europe and the Americas, respectively, while the rest of the world reported an increase of €44 billion, continuing the trend already observed in previous reporting periods. Even with this increase, the share of additional Tier 1 capital in the rest of the world is still lower at 9% of the total capital compared to Europe (10%) and the Americas (11%).

The stock of Tier 2 capital has grown compared to 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. During 2020, the rest of the world region and the Americas have experienced an increase in the level of Tier 2 holdings (€48 billion and €8 billion), while banks' Tier 2 capital decreased in Europe (€-4 billion).

Evolution of Basel III capital,[1] by region

Consistent sample of Group 1 banks, 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.

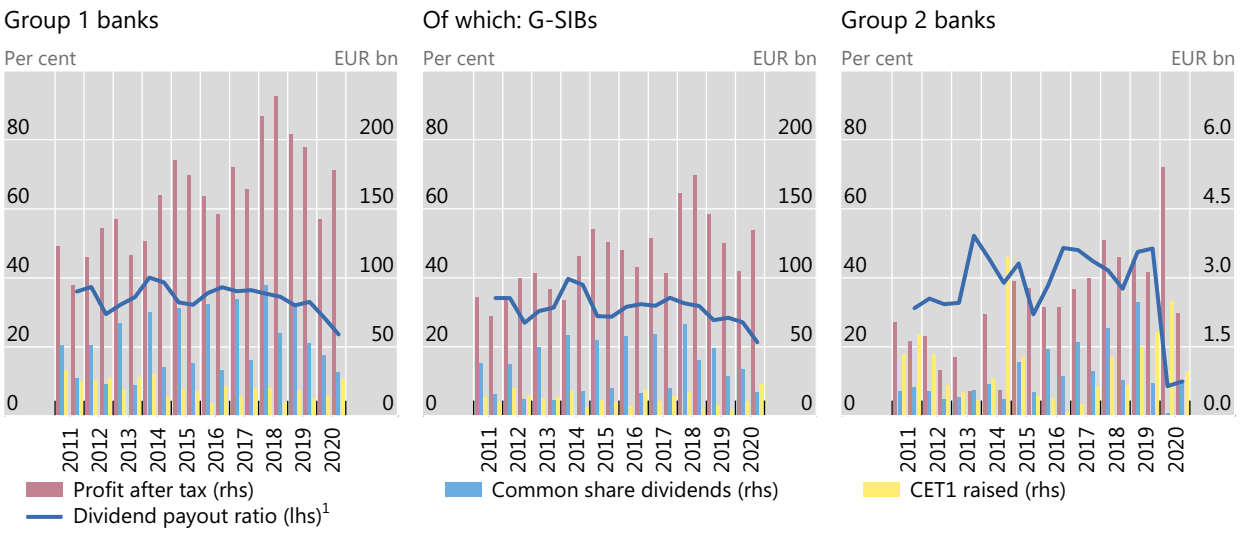
3.2 Profits, dividends and capital raised

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 were lower in 2020 compared to 2019 and stand at €142 billion in H1 2020 and €178 billion in H2 2020. For G-SIBs, a year-on-year increase of €9 billion is observed in 2020, after a decrease by €41 billion in H1 2020. Therefore, the contribution from G-SIBs increased to 76% of all the profits generated by Group 1 banks, compared to 64% in H2 2019. The annual dividend payout ratios for Group 1 banks and G-SIBs decreased to 24% and 21%, respectively, and are at their lowest values since the beginning of the exercise.

Group 2 banks posted a year-on-year €1 billion decrease in after tax profits to €2 billion and an annual dividend payout ratio of 10.0%, which is less than a quarter compared to end-December 2019. The spike in profits shown in June 2020 is driven by extraordinary revenue from M&A activity for a single yet relatively large bank in the sample; this may also contribute to the lower dividend payout ratio over 2020.

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

Consistent sample of banks, exchange rates as of the current reporting date — Graph 35



[1] The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12 months 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. Annual after tax profits for the Group 1 banks in the sample dropped significantly in Europe, decreased in the Americas and increased in the rest of the world. Over the previous year, the annual dividend payout ratios for Europe and the rest of the world dropped significantly to 10% and 22%, respectively, while they increased to 37% for the banks in the Americas. For Europe, this could be explained by the restrictions imposed by supervisors on dividend distribution.[19]

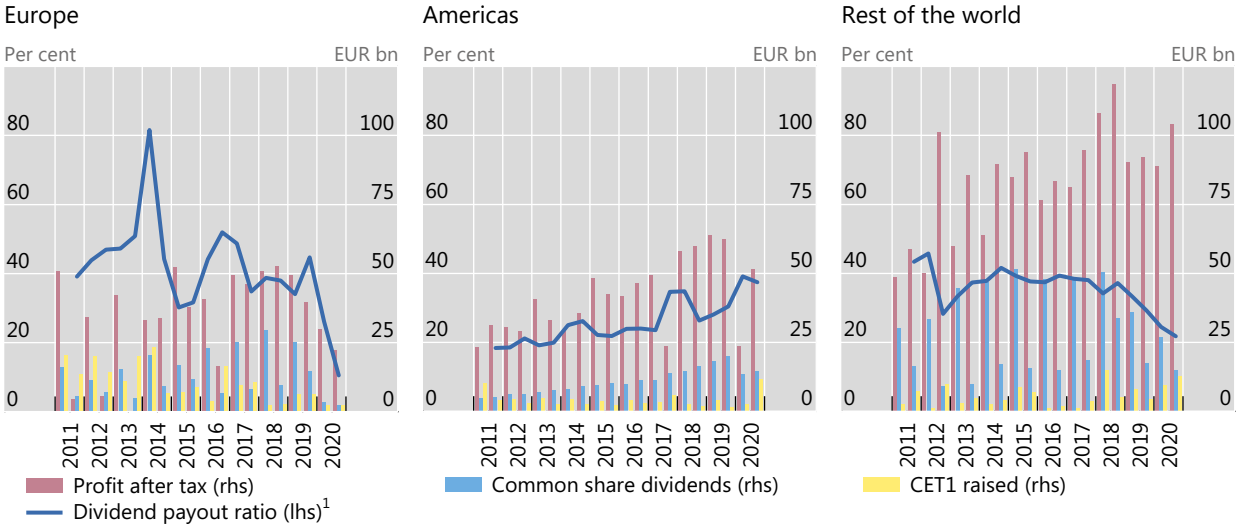
Over the year 2020, 81 out of the 107 Group 1 banks in the sample raised capital. Regarding CET1 capital, the total amount raised equals €66.6 billion (see Table 5). G-SIBs account for 51.7% of the CET1 capital raised by Group 1 banks in the sample, compared to 29% in H2 2019.

Similar to H2 2019 but less pronounced, Group 1 banks raised more additional Tier 1 capital (38.8% of the total capital raised) and Tier 2 capital (36.9%) than CET1 capital (24.3%). 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 71% of the Tier 2 capital and 65% of the overall capital raised globally was raised by banks in the rest of the world region. During 2020, Group 2 banks focused on CET1 capital (50.9% of the total capital raised), followed by Tier 2 capital (36.4%).

[19] See for instance ECB press release: *ECB asks banks not to pay dividends until at least October 2020,* 27 March 2020.

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

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 36



[1] The dividend payout ratio is calculated as common share dividends divided by profits after tax by using a rolling 12 months 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 2020

Full sample of banks, 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	107	81	66.6	106.3	101.0
Of which: Americas	20	17	15.9	18.2	7.8
Of which: Europe	34	24	5.6	25.7	21.3
Of which: Rest of the world	53	40	45.1	62.4	71.9
Of which: G-SIBs	29	28	34.4	63.2	64.7
Group 2 banks	58	23	5.6	1.4	4.0

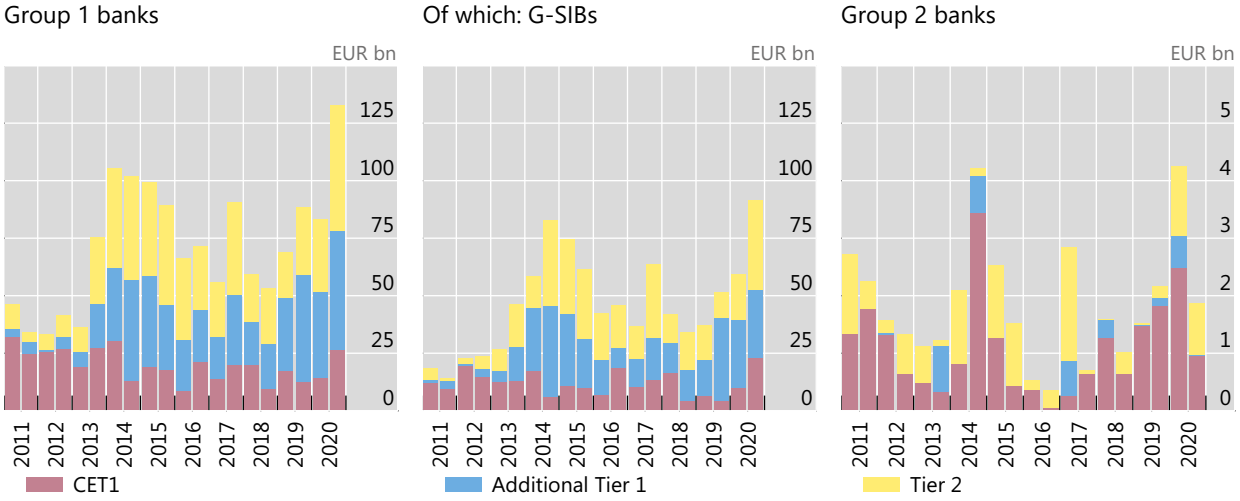
Source: Basel Committee on Banking Supervision.

Graph 37 depicts the evolution of capital raised over time for a consistent sample of banks. For Group 1 banks and G-SIBs, while the level of capital raised was in line with previous period in H1 2020, capital raised in H2 2020 was at the highest level since the beginning of the exercise. Overall, since 2011, the capital raised by G-SIBs accounts for 65% of the capital raised by Group 1 banks. Moreover, G-SIBs account for 60%, 70% and 64% respectively of CET1 capital, additional Tier 1 capital and Tier 2 capital raised by Group 1 banks.

In 2020, European Group 1 banks raised less CET1 compared to the previous year while the opposite is observed in the Americas and the rest of the world. As in 2019, there was a strong increase in additional Tier 1 and Tier 2 issuance in the rest of the world region.

Capital raised externally

Consistent sample of banks, 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-December 2020, the average share of initial Basel III CET1 capital for Group 1 banks is 75.8%. For Group 2 banks, the initial Basel III CET1 capital represents 84.4% of regulatory capital at the reporting date. Noticeably, the second largest share of total capital continues to be Tier 2 capital (14.6% for Group 1 banks and 12.2% 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 of additional Tier 1 holdings. The structure of regulatory capital had somewhat stabilised in 2017, but CET1 capital has continued to gradually decline over the more recent reporting periods for Group 1 banks, as well as G-SIBs. This period marks the first (slight) increase in the share of CET1 capital since June 2017.

For Group 2 banks, the share of CET1 capital has remained fairly stable starting at 81.5% in June 2011, reaching a peak of 88.7% in December 2014, and ending at 84.4% for the current reporting period. The opposite evolution can be observed for Tier 2 capital, whereas the share of additional Tier 1 capital remained small and stable between 1.8% and 4%.

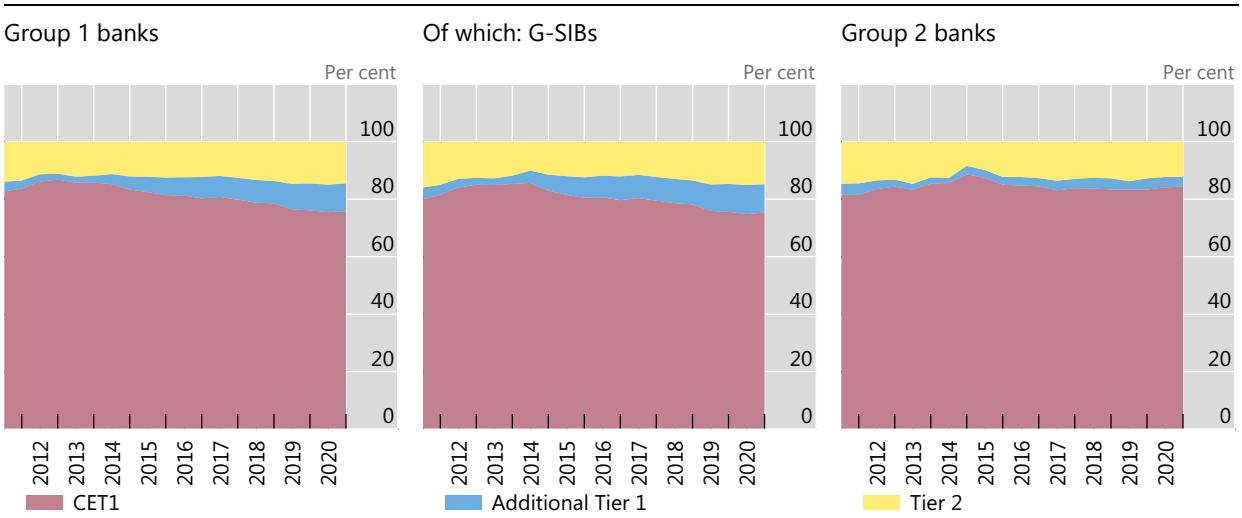
With regard to the composition of Basel III CET1 capital itself (Table 6), retained earnings and paid-in capital continue to comprise the overwhelming majority of CET1 outstanding for both Group 1 and Group 2 banks. For Group 1 banks, retained earnings and paid-in capital make up 92.8% of outstanding CET1 on average. Accumulated Other Comprehensive Income (AOCI) [20] contributes 6.4% 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'

[20] 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.

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 76.7%, while the 22.8% share of AOCI is higher compared to Group 1 banks, again with significant dispersion across banks and countries.

Structure of regulatory capital under initial Basel III[1]

Consistent sample of banks — 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.

Structure of CET1 capital, by bank group and region

Group 1 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	25.7	67.2	6.4	0.8
Of which: Americas	20	18.9	81.3	–0.3	0.1
Of which: Europe	35	36.2	53.0	9.3	1.9
Of which: Rest of the world	53	22.9	68.2	8.4	0.4
Of which: G-SIBs	30	21.6	71.5	6.0	0.9
Group 2 banks	59	38.5	38.2	22.8	0.4

Source: Basel Committee on Banking Supervision.

3.4 Regulatory adjustments

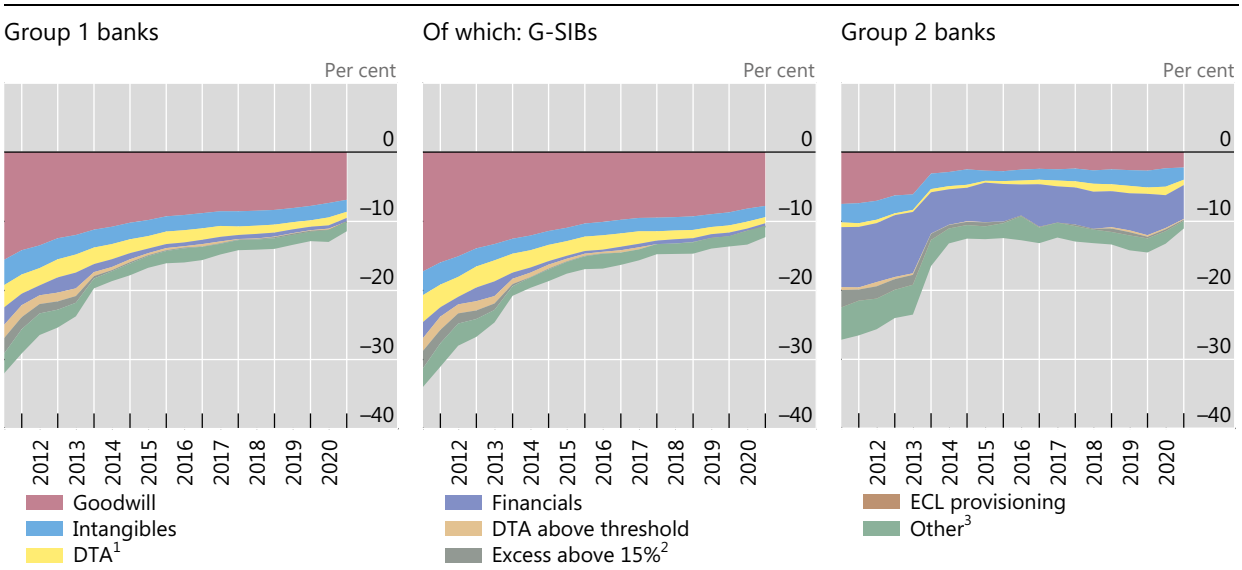
Using the consistent sample of banks over time for the current period, regulatory adjustments reduce overall gross CET1 capital (ie CET1 capital before adjustments) for Group 1 banks by 11.5% (see Graph 39). The largest driver of Group 1 bank CET1 capital adjustments continues to be goodwill (6.9%) followed by deductions for intangibles, other deductions and deferred tax assets (DTA) (1.8%, 1.4% and 0.9%,

respectively). Currently there is only a small aggregate impact from the transitional add-backs from the introduction of ECL provisioning.

The impact of regulatory adjustments on Group 2 banks is similar to Group 1 banks, on average being at around 11.1%. A limited number of large Group 2 banks drives this result. Without taking these banks into account, the overall impact of CET1 deductions would decline considerably.

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

Consistent sample of banks, in per cent of CET1 capital prior to adjustments — Graph 39

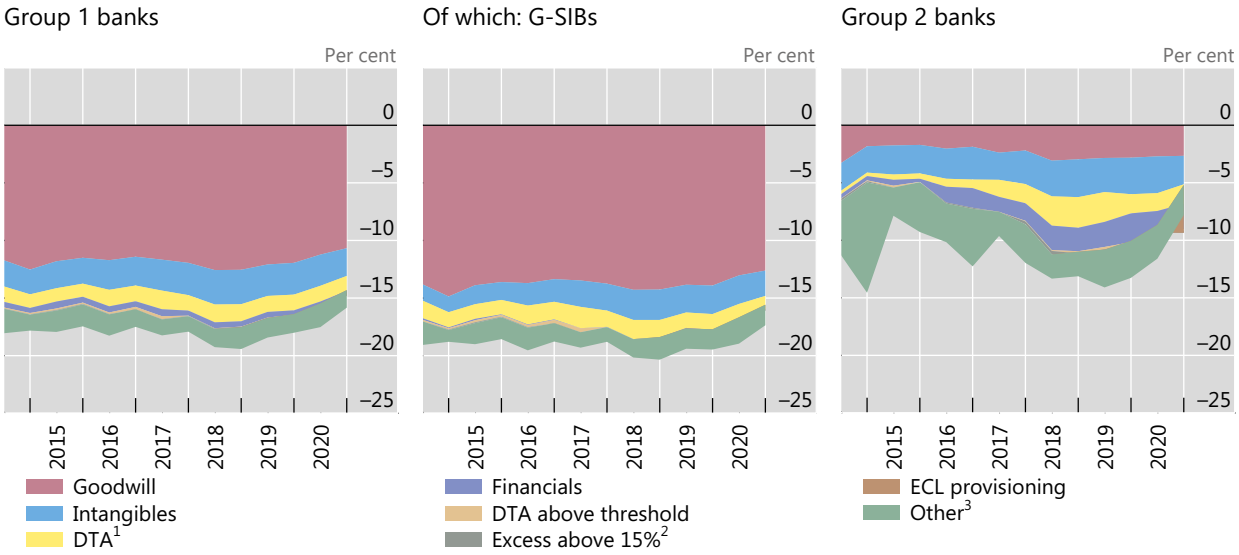


[1] DTAs are the deferred tax assets that are deducted in full under Basel III (ie they exclude DTAs that are related to temporary differences, which are only deducted when they exceed a threshold). [2] Excess above 15% pertains to significant investments in the common shares of unconsolidated financial 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

Consistent sample of banks, 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 consistent sample of Group 1 banks and G-SIBs.[21] As of end-December 2020 and for a consistent sample of Group 1 banks, credit risk[22] continues to compose the dominant portion of overall MRC, on average comprising 65.3% of total MRC. However, the share of credit risk has declined significantly from 74.4% at end-June 2011 to its lowest share of 63.4% at end-December 2014 to end-June 2015 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 related entities (10.5% to 0%) and securitisations (7.2% to 1.9%) while the MRC for corporate exposures increased over the observed period from 30.7% at end-June 2011 to 38.8% at the current reporting date.

Conversely, the share of operational risk MRC increased sharply from 7.9% at the end of June 2011 to 16.1% at the end of 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

[21] 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.

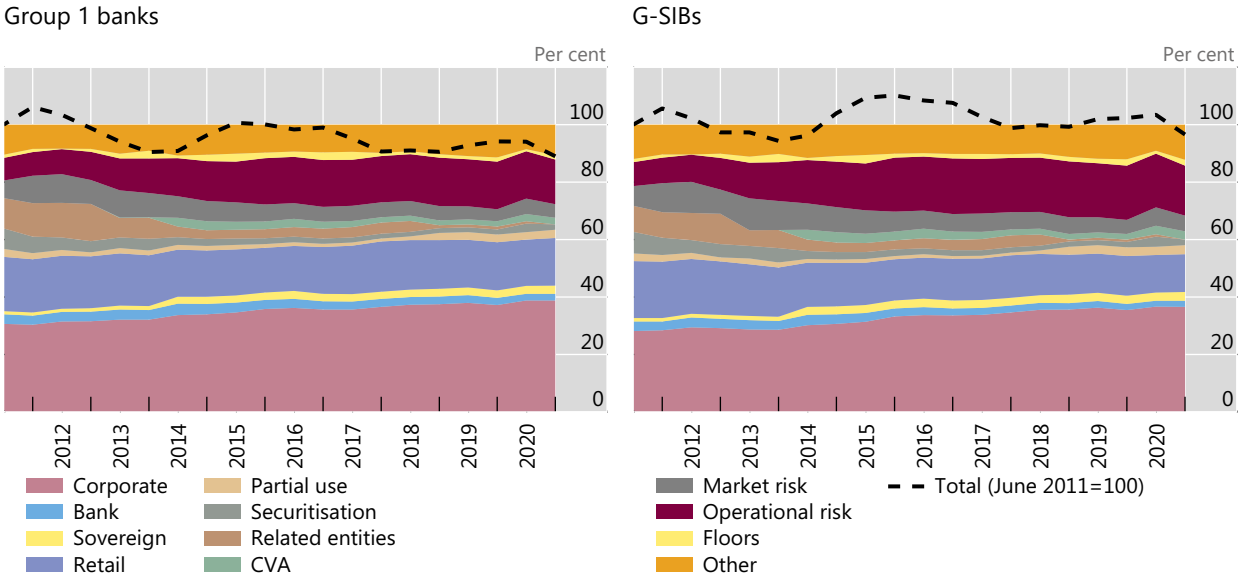
[22] Here overall credit risk is defined as the sum of corporate, bank, retail, sovereign, partial-use, securitisations and related entities as illustrated in the graph.

the financial crisis, 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 declined slightly from 6.1% to 4.8% in the observed period while the shares of "other" risk and of the floor requirement have been somewhat stable at around 8% to 11% and zero to 3%, respectively.

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

Consistent sample of banks — 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 consistent sample used for the time series above, resulting in differences for the values of the end-December 2020 reporting date. Additionally, 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.[23] Since a common exposure measure for credit, market and

[23] 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.

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, it is observed that while the retail and sovereign asset classes comprise roughly half of the exposures, their relative riskiness as measured by the average risk weight is rather low in comparison to other asset classes at 26.4% and 5.2%, respectively. With 30.7% of total exposures, the corporate asset class is the largest asset class, and it attracts a 57.2% risk weight. For Group 2 banks, corporate, retail and sovereign asset classes comprise the overwhelming majority of exposures. While Group 2 banks' average risk weights are higher for the corporate asset class, they are lower for the sovereign, bank and retail asset classes.

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:	98.7	80.0	33.6	99.5	82.9	27.1
Corporate	30.7	42.4	57.2	19.0	35.2	60.4
Sovereign	25.5	3.2	5.2	31.9	3.6	3.7
Bank	6.8	4.2	25.7	10.1	5.7	18.5
Retail	24.2	15.4	26.4	27.5	18.5	21.9
Equity	0.8	4.8	239.2	1.0	5.4	184.0
Purchased receivables	0.2	0.1	21.9	0.0	0.0	89.1
Securitisation	1.9	1.4	30.2	0.5	1.0	66.9
Related entities	0.0	0.2	228.7	0.0	0.0	315.9
Past-due items	0.1	0.2	101.5	0.3	1.2	113.0
Other assets	4.6	6.4	57.9	0.9	2.6	87.7
Failed trades and non-DVP transactions	0.1	0.2	85.4	0.0	0.0	
Not assigned[2]	3.7	9.0	100.6	8.3	12.6	49.1
Regulatory difference[3]		–7.6			–2.8	
CVA	1.0	1.6	68.5	0.4	0.8	62.4
Trading book CCR[4]		0.2			0.0	
Market risk		3.9			2.6	
Other trading book		0.1			0.0	
Operational risk		12.3			10.9	
Floor adjustment		1.2			0.1	
Other[5]		0.5			2.6	
Total	100.0	100.0	41.4	100.0	100.0	32.6

[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.

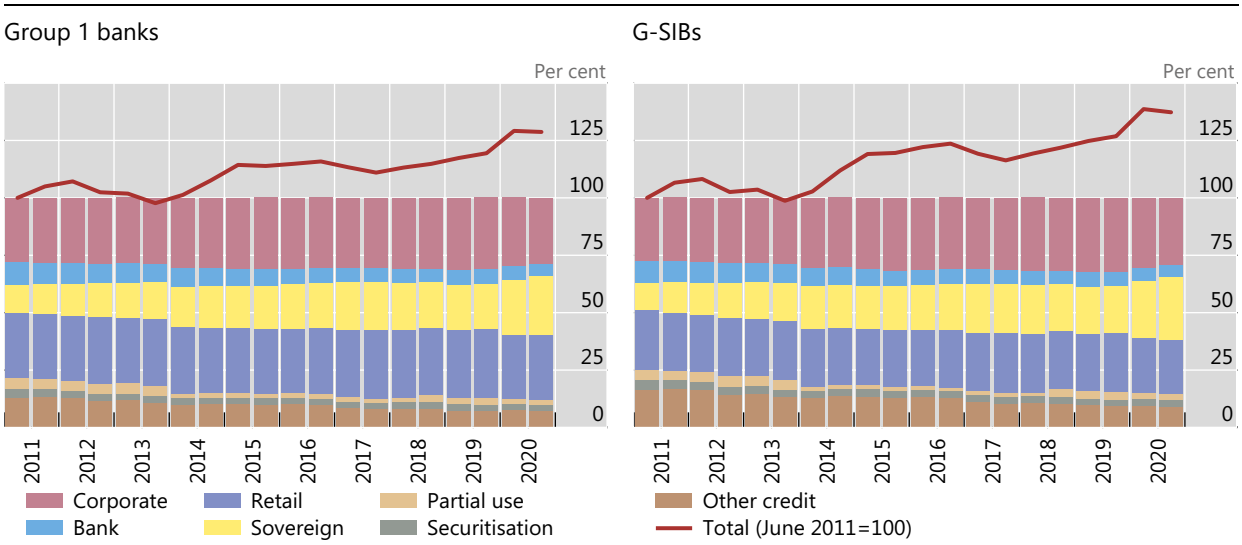
4.2 Credit risk

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

The left panel of Graph 42 shows the evolution of credit exposure for the seven major asset classes for a consistent sample of 34 Group 1 banks. The composition of credit risk exposures has remained relatively stable as overall exposure levels have grown by 28.8% over the entire period, with a slight decline in the last period. The share of sovereign exposures has increased steadily in recent years and, after a slight decline in 2018 and 2019, has increased substantially during 2020, reaching its peak at 25.8% at the end of 2020. The share of exposures to banks, corporates, retail and exposures subject to the partial use of the standardised approach and other credit exposures has declined over the last year. The right panel of Graph 42 shows the same analysis for the subset of 15 G-SIBs.

Share of credit exposure

Consistent sample of banks — 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

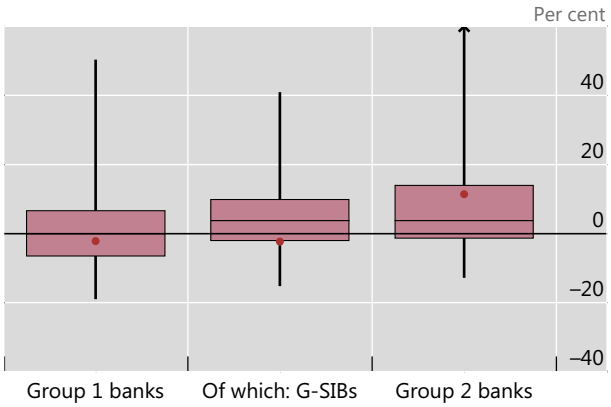
Graph 43 shows the changes in terms of current Tier 1 MRC associated with exposures under the standardised and IRB approaches for credit risk due to the final Basel III framework. The left-hand panel shows the overall distribution of the impact, while the right-hand panel provides a breakdown by asset class. On average, the impact is higher for Group 2 banks (+11.4%) than for Group 1 banks, for which the impacts on standardised approach and IRB exposures compensate each other resulting in a decrease in capital requirements of -2.2% (decrease of -2.4% for G-SIBs).

The right panel of Graph 43 breaks down the impact by asset class. For Group 1 banks, exposures to corporate and non-bank financial institutions contribute a significant decrease in MRC, while the contributions of bank and covered bonds, and equity/subordinated debt exposures to the overall MRC change are smaller but positive. For Group 2 banks, all exposures on average show an increase in MRC, driven primarily by exposures to bank and covered bonds, and to equity/subordinated debt. The contributions of real estate and retail asset classes are positive but significantly smaller. These results are mainly driven by the removal of the advanced IRB (AIRB) approach for exposures to banks and the removal of all IRB approaches for equity exposures, as well as by the reduction of the supervisory loss-given-default (LGD) parameter for unsecured corporate exposures from 45% to 40% under the foundation IRB (FIRB) approach.

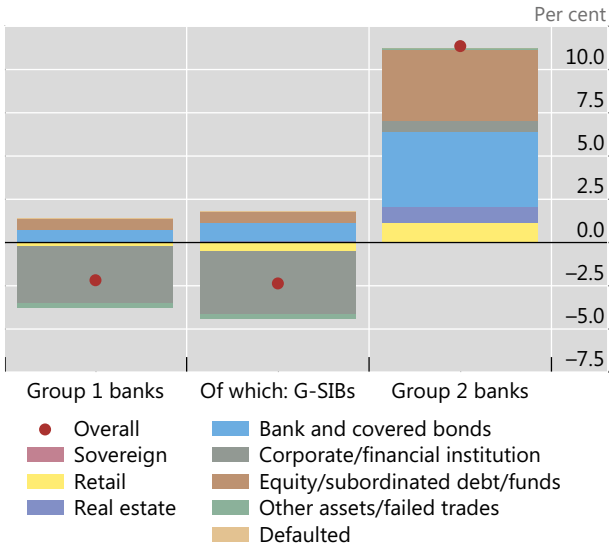
Changes in Tier 1 MRC for credit risk due to the final Basel III standards

Graph 43

Overall distribution[1]



Breakdown by asset class



[1] 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 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. The dots represent weighted averages.

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

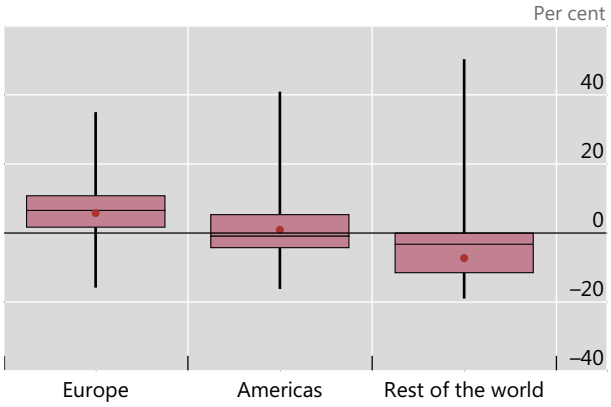
The regional breakdown for Group 1 banks in Graph 44 highlights significant differences in impact by region, which however should be carefully considered given the variable and limited number of banks per region included in the sample.

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

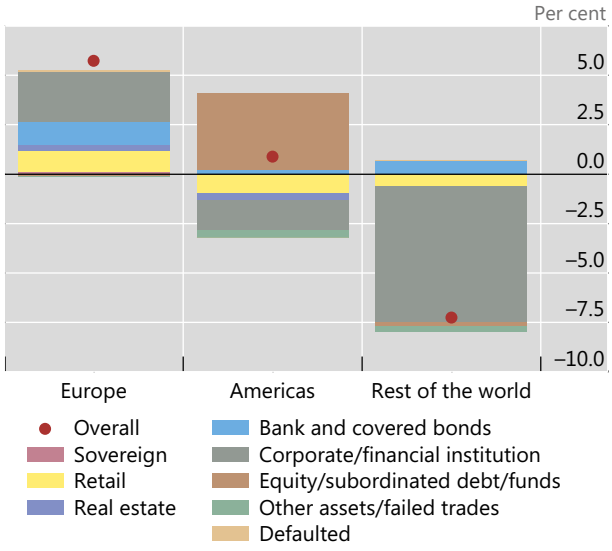
Group 1 banks

Graph 44

Overall distribution[1]



Breakdown by asset class



[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 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. The dots represent weighted averages.

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

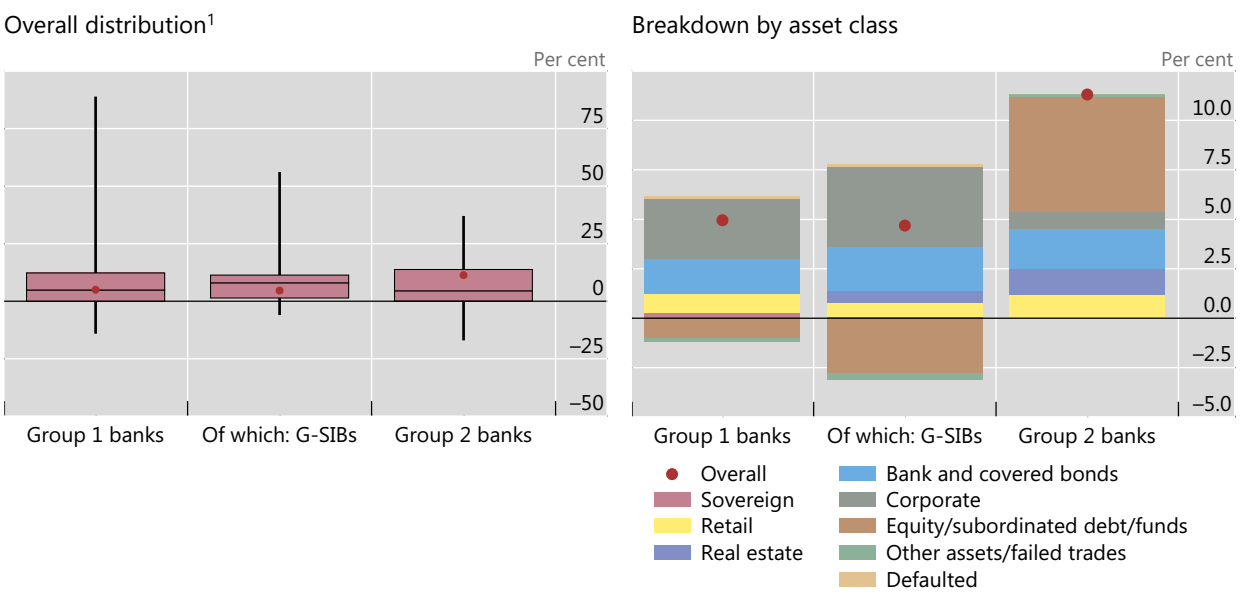
Graph 45 shows the changes in Tier 1 MRC due to the finalisation of the Basel III standards for credit risk exposures that are currently under the standardised approach. These data include exposures of banks subject to the standardised approach for credit risk as well as exposures of banks using the 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 5.0% for Group 1 banks, 4.7% for G-SIBs and 11.3% for Group 2 banks. The change in MRC for banks between the 25th and 75th percentiles of the distribution ranges from -0.1% to +12.3% for Group 1 banks, from +1.4% to +11.4% for G-SIBs and from 0.0% to +13.8% 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 corporates, followed by bank and covered bonds, and retail. MRC for sovereign, real estate and defaulted exposures are largely unchanged while equity and subordinated debt exposures on average show a decrease in MRC. For Group 2 banks, the increase in MRC is primarily driven by equity and subordinated debt exposures, followed by exposures to banks and covered bonds and, to a lesser extent, retail and real estate exposures. 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] 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 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. The dots represent weighted averages.

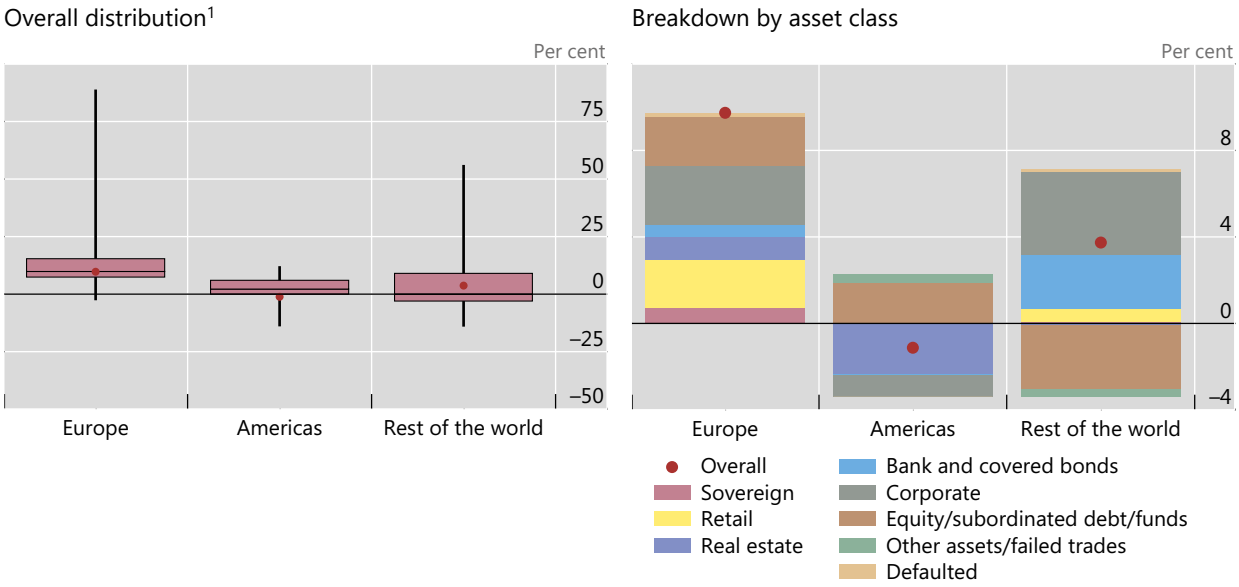
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

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 shows a positive impact on the MRC of all regions: European banks show the largest impact (+9.7%), followed by banks in the rest of the world (+3.7%) and banks in the Americas (-1.1%). The change in MRC for banks between the 25th and 75th percentile of the distribution ranges from +7.4% to +15.4% for European banks, from 0.0% to +6.1% for banks in the Americas, and from -3.0% to +9.0% for banks in the rest of the world.

Looking at individual asset classes, the results are somewhat heterogeneous. Exposures to corporates are the largest contributor to the increase in MRC for banks in Europe and the rest of the world but show a 1% decrease for banks in the Americas. Equity/subordinated debt/funds exposures have a large 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 second largest positive contributor for banks in the rest of the world, while their effect is positive but more muted in Europe and roughly flat in the Americas. Retail exposures have a significant positive impact in Europe, a smaller positive impact in the rest of the world and a negligible impact in the Americas, while real estate exposures show a positive impact in Europe, a large and negative impact in the Americas and a negligible impact in the rest of the world.

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] 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 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. The dots represent weighted averages.

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.

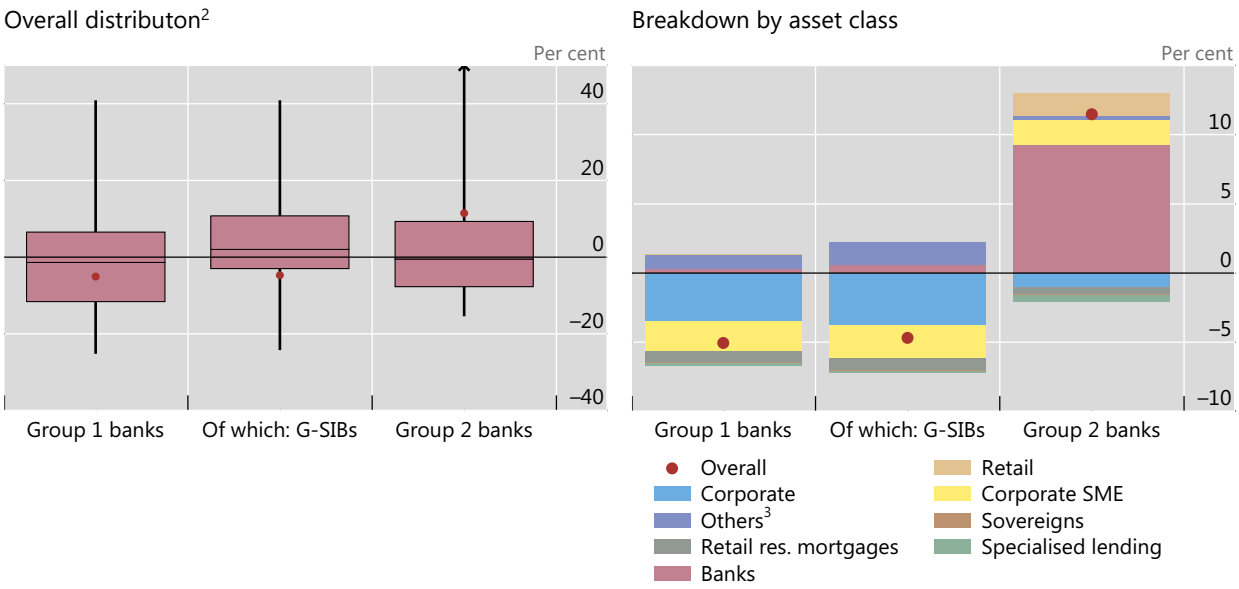
The left-hand panel of Graph 47 shows the overall distribution of the impact. In aggregate, the revisions to the IRB approach appear to result in a decrease in overall Tier 1 MRC for Group 1 banks (-5.1%) and G-SIBs (-4.7%), and an increase for Group 2 banks (+11.5%). The change in MRC for the banks between the 25th and 75th percentiles of the distribution ranges from -11.6% to +6.6% for Group 1 banks, and from -3.0% to +10.8% for G-SIBs. The range for Group 2 banks goes from -7.7% to +9.3%, but some Group 2 banks have a more extreme increase in MRC. Median values, which are less sensitive to extreme values and are not weighted, show a different sign for the impact compared to the weighted average values for G-SIBs (+2.0%) and for Group 2 banks (-0.5%).

The right-hand panel of Graph 47 breaks down the impact by asset class. Exposures to corporates and to corporate SMEs are the main contributors to the overall decrease in MRC for Group 1 banks and G-SIBs. The MRC for exposures to retail residential mortgages and specialised lending also shows a decrease. At the aggregate level, the results may appear counterintuitive, given that the revised framework applies more stringent standards to these asset classes (under the advanced IRB). However, these are likely to be driven by 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 banks contribute most to the overall increase in MRC for Group 2 banks (while they represent a modest increase for Group 1 banks and G-SIBs), followed by corporate SME and retail exposures. Finally, "other" exposures, which include equity exposures and equity investments in funds, make up the majority of the positive change in MRC for Group 1 banks and G-SIBs. The increase is mainly driven by equity exposures, whose RWA under the revised framework are calculated using the standardised approach instead of the IRB approaches.

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. [2] 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 vertical lines 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. The dots represent weighted averages. [3] "Others" include equity exposures, equity investments in funds and other assets.

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

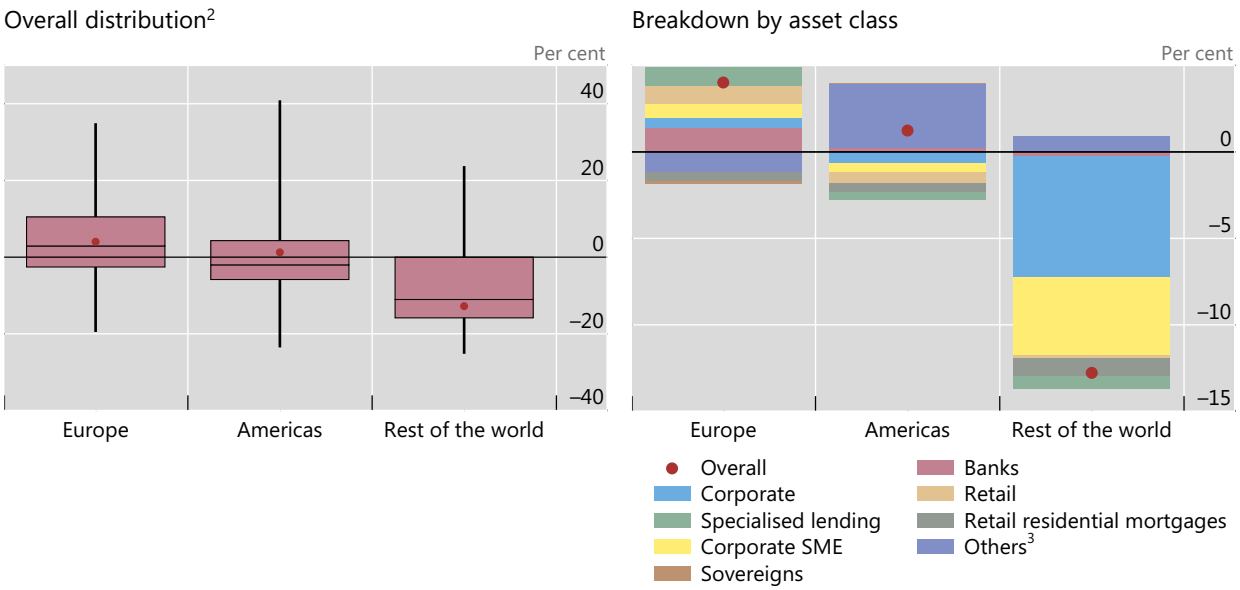
Graph 48 replicates the analysis of Graph 47 but breaks down the results by geographical region considering only Group 1 banks. Overall, the revisions to the IRB approach lead to an average increase in overall Tier 1 MRC for Group 1 banks in Europe (+4.0%) and the Americas (+1.2%) and a significant decrease for banks in the rest of the world (-12.8%). The impact is heterogeneous across banks: the change in MRC for the banks between the 25th and 75th percentile of the distribution ranges from -2.6% to +10.5% for Europe, from -5.8% to +4.3% for the Americas, and from -15.8% to 0.0% for the rest of the world.

For banks in Europe, exposures to banks, specialised lending, retail, corporate and corporate SME are the main contributors to the overall increase in MRC. For banks in the Americas, the increase in MRC is almost entirely driven by the increase for "others", which include equity exposures and equity investments in funds, while the other 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 and corporate SMEs.

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. [2] 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 vertical lines show the range of the entire sample. The dots represent weighted averages. [3] "Others" include equity exposures, equity investments in funds and other assets.

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.[24] Graph 49 shows probability of default (PD) and the share of defaulted exposures for different asset classes for a consistent sample 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.

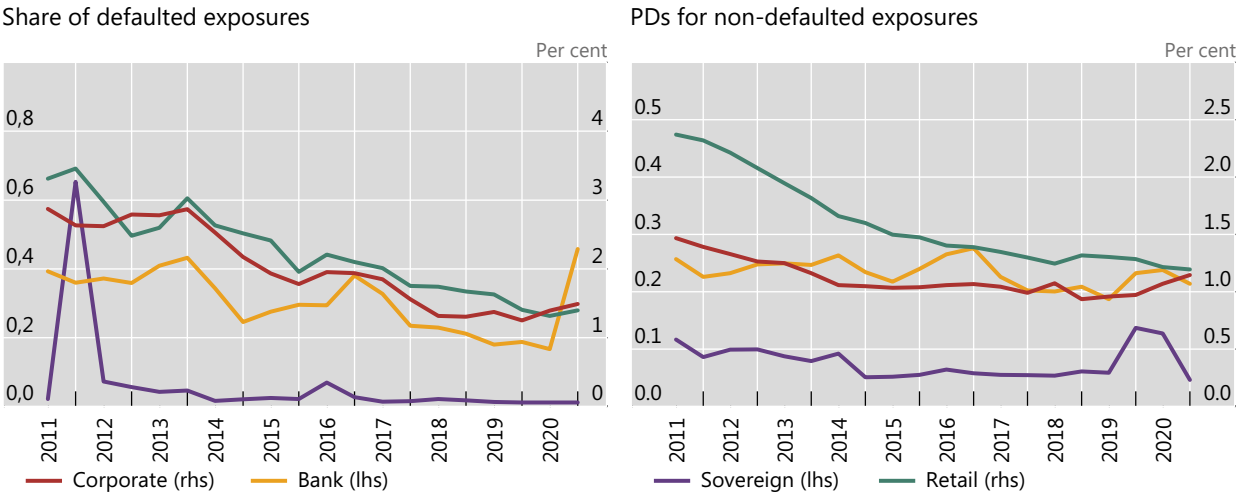
The left-hand panel of Graph 49 shows a general downward trend in the share of defaulted exposures, with the exception of a temporary increase for sovereign between 2011 and 2012 due to the sovereign debt crisis, and slight increase in the share of corporate, retail and bank defaulted exposures in the last year.[25] 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 corporate exposures and a slight decrease for bank exposures in the last year, whereas the PD for sovereign exposures returned to its lowest value after a spike at the end of 2019.

[24] 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.

[25] The marked increase for bank exposures is due to a significant increase for one large bank.

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

Consistent sample of Group 1 banks — Graph 49

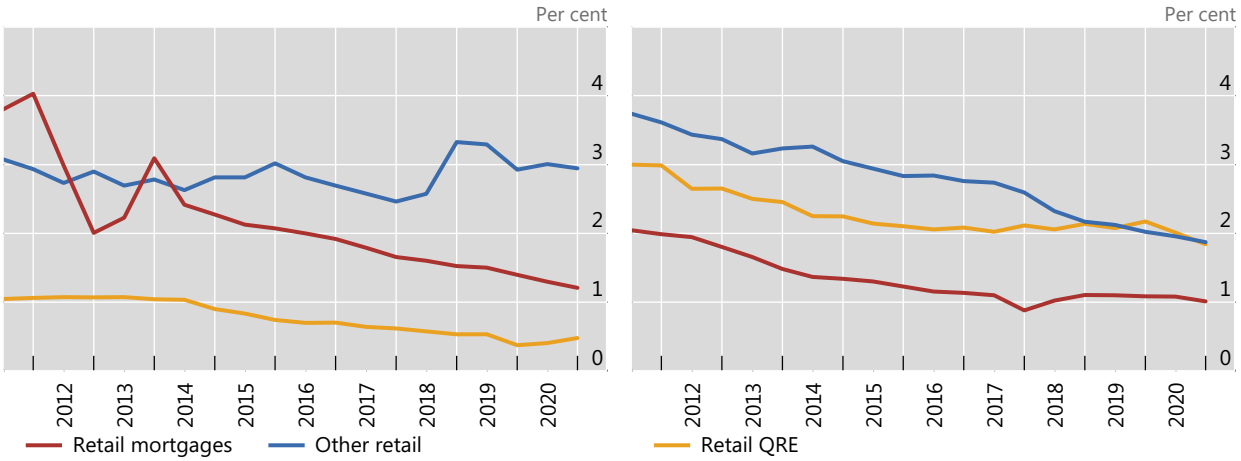


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

With respect to the retail asset classes (Graph 50), the negative trend in PDs described above seems to be driven by other retail exposures. While retail residential mortgages and qualifying revolving retail exposures showed a downward trend between H2 2011 and H1 2014, the curves seem to flatten out somewhat in recent years.

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

Consistent sample of Group 1 banks — Graph 50

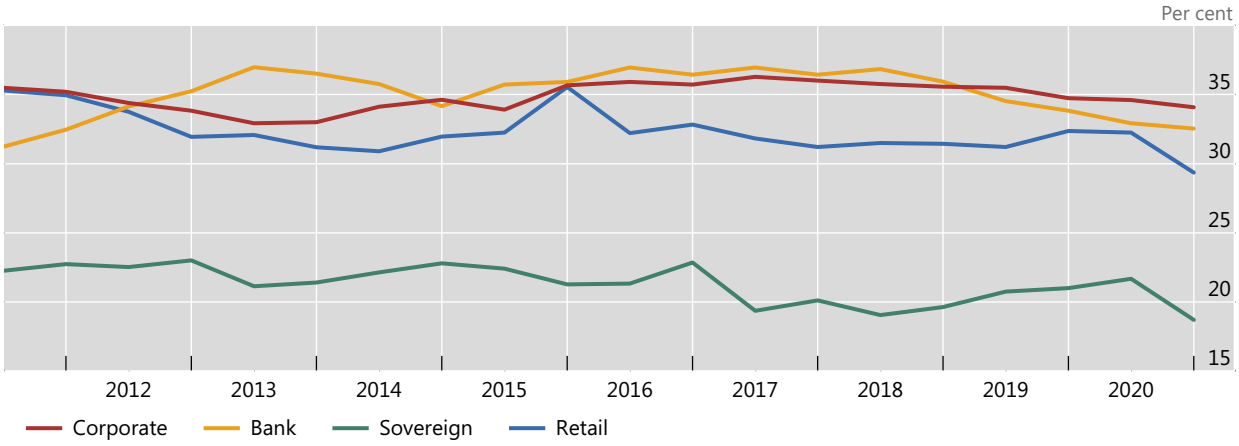


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Loss-given-default (LGD) estimates, which are supposed to be reflective of economic downturn conditions, are expected to be somewhat more stable. Graph 51 and Graph 52 indeed seem to suggest this is the case, even though LGDs for retail and sovereign exposures show a decrease in the last period.

LGDs for non-defaulted exposures by asset class

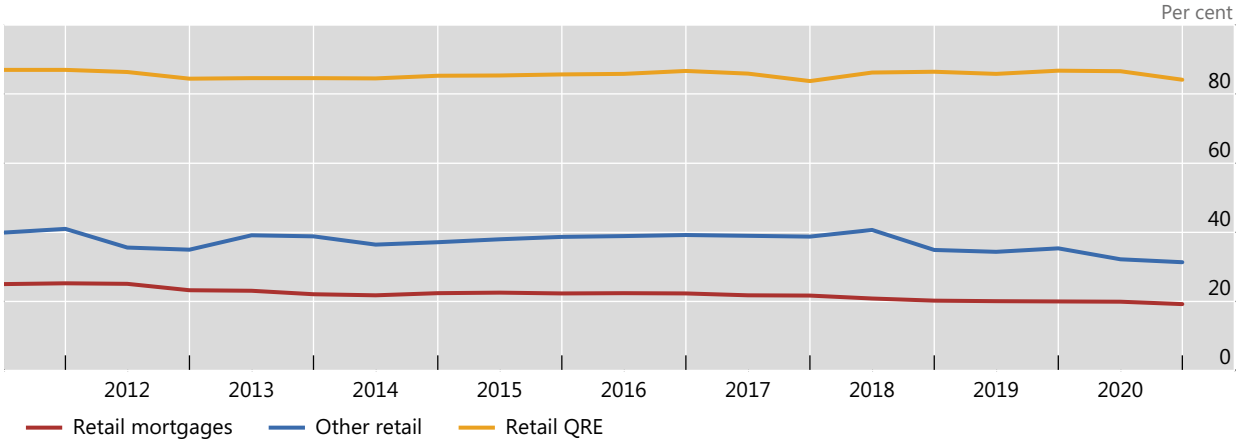
Consistent sample of Group 1 banks — Graph 51



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

Consistent sample of Group 1 banks — 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

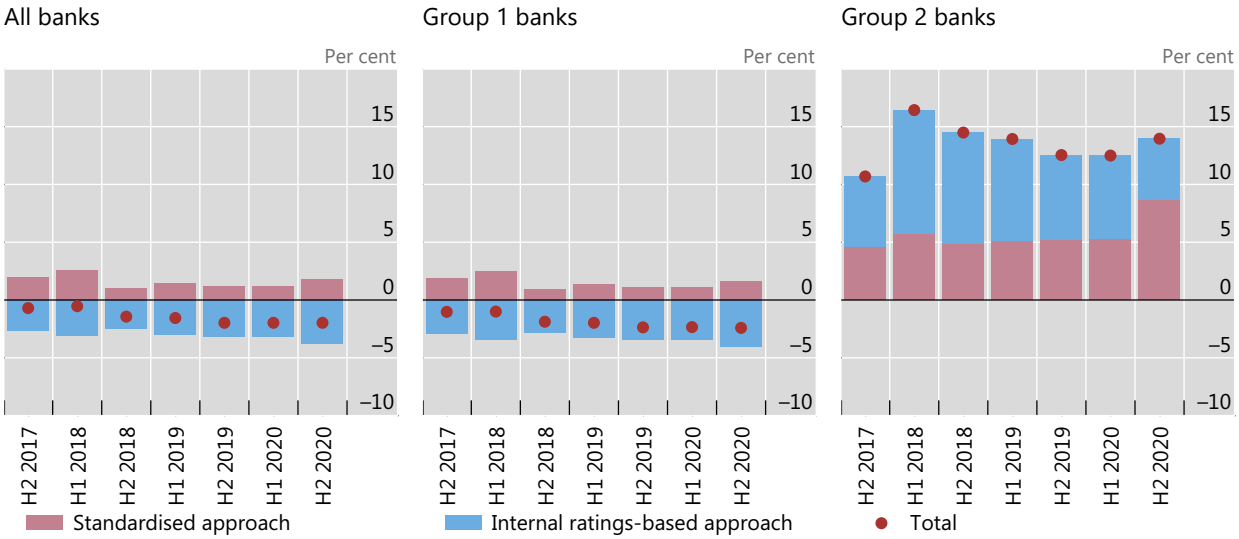
This report presents the sixth iteration of the Basel III monitoring exercise that reflects the finalised Basel III framework. As such, the report now includes time series analysis starting from the December 2017 reporting period up until the current reporting period. Graph 53 and Graph 54 below show the estimated changes in Tier 1 MRC by credit risk approach across this period, for a consistent sample 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. In the last reporting period, the estimated impact seems to have increased slightly overall. Looking at the regional breakdown, it seems that the negative trend observed until the previous reporting period is due to banks in Europe revising downward their impact assessment of the credit risk framework's revision, and banks in the rest of the world showing decreases in both the standardised and IRB approaches. Moreover, the significance of the rest of the world increased over time due to their rising share in global credit risk RWA. The increase

observed in the last period is due to an increase in the estimated impact of a small number of large European banks.

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

Consistent sample of banks — Graph 53

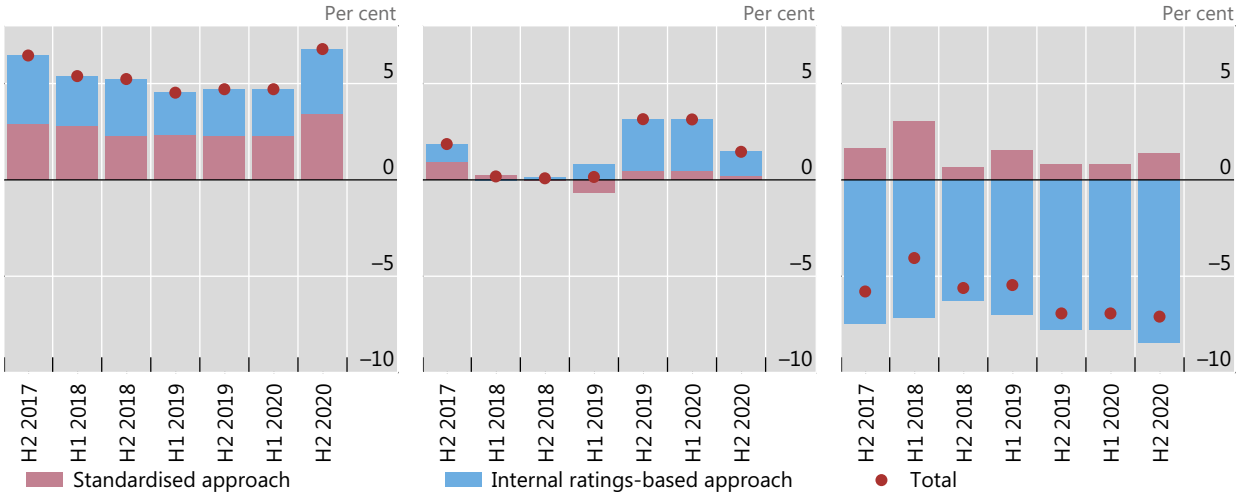


Since the Committee did not collect these data through its Basel III monitoring exercise for the end-June 2020 reporting date, results for H1 2020 show the same values as for H2 2019.

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

Consistent sample of banks — 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.

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's 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 practises (eg stricter supervision on asset classification under the standardised approach or more stringent model validations under the IRB approach).

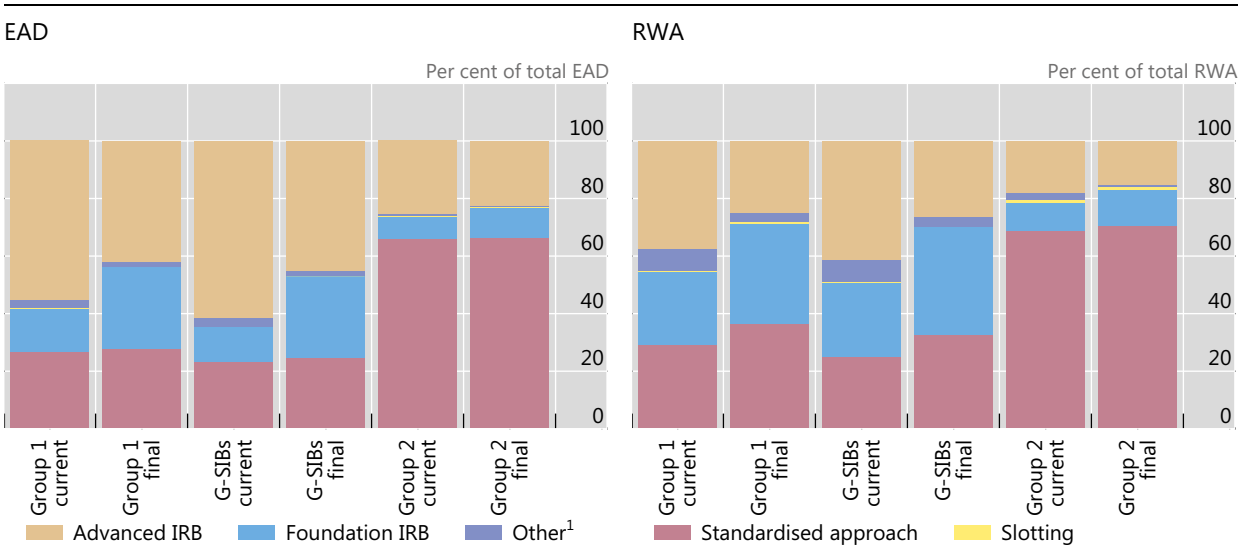
4.2.6 Distribution of exposure at default and risk-weighted assets across approaches

The left panel of Graph 55 shows the distribution 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 55.3% to 41.7% under the revised framework, while exposures under the foundation IRB approach increase from 15.3% to 28.5% of total exposure value. Exposures under the standardised approach increase from 26.5% to 27.8%, mainly driven by the migration of equity exposures (included in the "Other" category). 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 panel of Graph 55 replicates the exercise for the distribution of RWA. For Group 1 banks, RWA under the advanced IRB approach decrease from 37.3% to 24.9%, RWA under the foundation IRB approach increase from 25.6% to 34.8% and RWA under the standardised approach increase from 29.0% to 36.6% of total RWA. For Group 2 banks RWA under the advanced IRB approach decrease from 17.9% to 15.1%, RWA under the foundation IRB approach increase from 9.5% to 12.4% and RWA under the standardised approach show a minor increase from 68.9% to 70.5%.

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

Graph 55



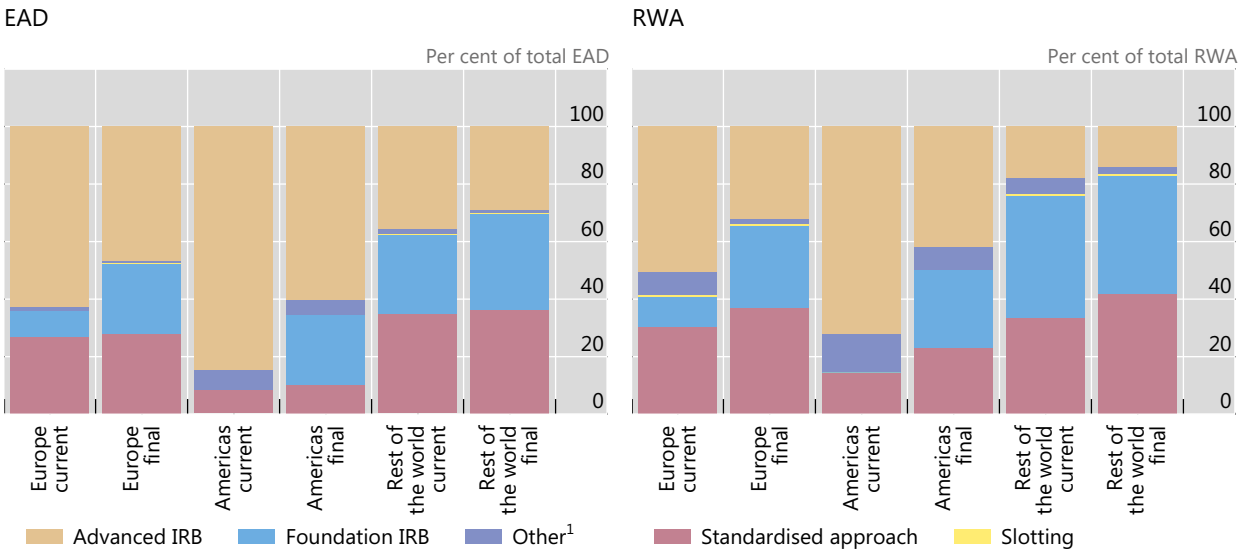
[1] "Other" includes equity exposures, equity investments in funds, failed trades and non-DVP transactions and other assets under the IRB approach for credit risk.

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,[26] 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.[27] 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 to 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;

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

[27] 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.

- 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 of 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);[28]
- 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.[29]

The internationally-agreed date of implementation of the Basel III securitisation framework is 1 January 2018. According to the *Eighteenth progress report on adoption of the Basel regulatory framework*,[30] in May 2020, 21 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. There are six member jurisdictions where the Basel III securitisation framework was not in force in July 2021 (China, India, Mexico, South Africa, Turkey and the United States). 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 98 banks submitted data of sufficient quality for securitisation, including 74 Group 1 banks and 24 Group 2 banks. The Group 1 sample represents 99.3% of total securitisation exposures of all banks. Total securitisation exposures and RWA across Group 1 banks are €1.37 trillion and €346.4 billion respectively, compared with €10.2 billion and €3.4 billion for Group 2 banks.

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

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

[30] Basel Committee on Banking Supervision, *Eighteenth progress report on adoption of the Basel regulatory framework*, July 2020, www.bis.org/bcbs/publ/d506.htm.

Data description

Table 8

	Group 1 banks	Group 2 banks	All banks
Number of banks	74	24	98
Exposure (EUR bn)	1,373.3	10.2	1,383.5
Exposure (% of total)	99.3	0.7	100.0
RWA (EUR bn)	346.4	3.4	349.8
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.

Bank role exposure amounts and RWAs[1]

In billions of euros

Table 9

	Originator	Investor	Sponsor	Total
Exposure amounts	363.6	763.4	267.8	1,394.9
RWA	91.2	198.0	54.6	343.8

[1] The sample consists of 100 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.[31] 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.

[31] 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.

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	48	17	9	6	7	11

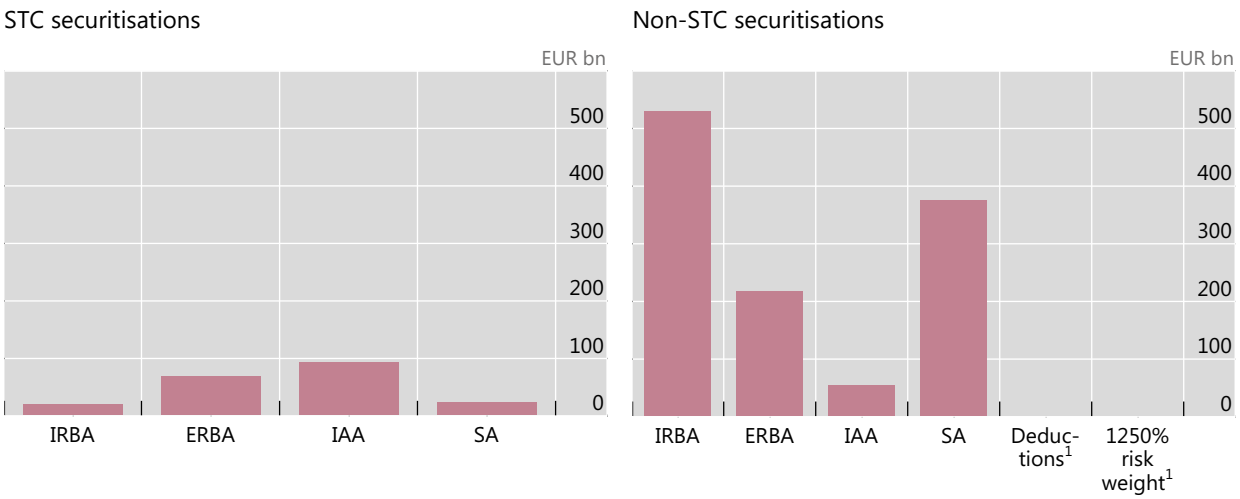
Source: Basel Committee on Banking Supervision.

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.

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, Graph 58 compares the average risk weightings applicable to exposures under the previous and the Basel III securitisation frameworks, again only for non-STC data.

Total amounts and change of securitisations exposures and RWAs under the current national rules and the final standards[1]

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	198.7	198.6	–0.1	50.5	70.9	40.5
Non-STC securitisations: SEC-ERBA	0.4	0.4	0.0	0.3	0.4	33.4
Non-STC securitisations: SEC-IAA	0.0	0.0		0.0	0.0	
Non-STC securitisations: SEC-SA	250.0	250.2	0.1	82.6	95.5	15.6
Of which: resecuritisation	1.9	2.0	6.9	4.8	2.6	–45.9
Non-STC securitisations: total	449.2	449.3	0.0	133.3	166.8	25.1
Others (1250% RW)	0.3	0.3	0.0	4.2	4.0	–5.0
Total[2]	450.0	450.1	0.0	137.9	175.0	26.9

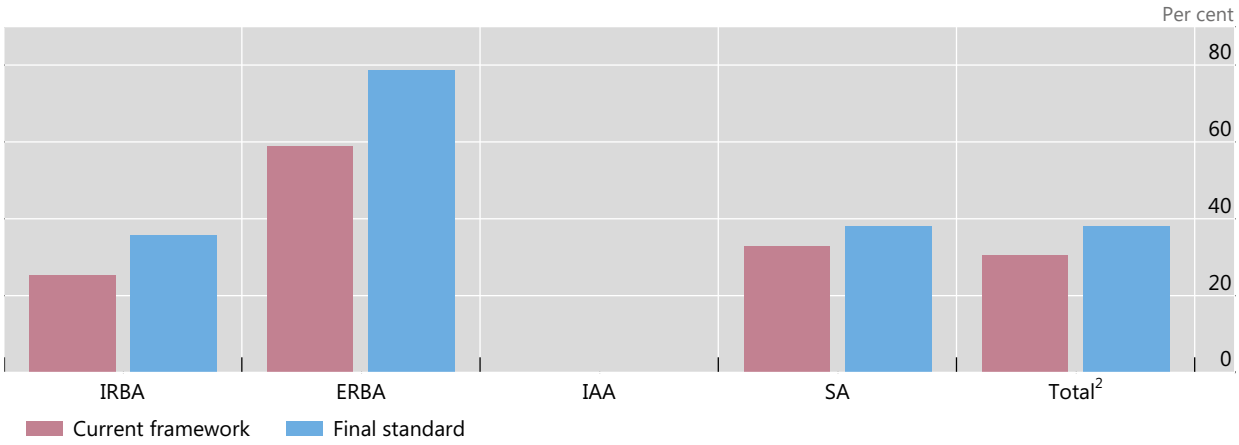
[1] The sample consists of 16 banks. [2] Also reflecting STC securitisations.

Source: Basel Committee on Banking Supervision.

Average risk weight by approach

Non-STC securitisations, all banks[1]

Graph 58



[1] The sample consists of banks from jurisdictions that have not yet implemented the Basel III securitisation framework. [2] Total includes securitisations subject to a 1250% risk weight.

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

Graph 59 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 data consists of all banks with sufficiently good data, regardless of actual implementation status of the Basel III securitisation rules.

Average risk weight by approach, final standards[1]

All banks Graph 59

[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

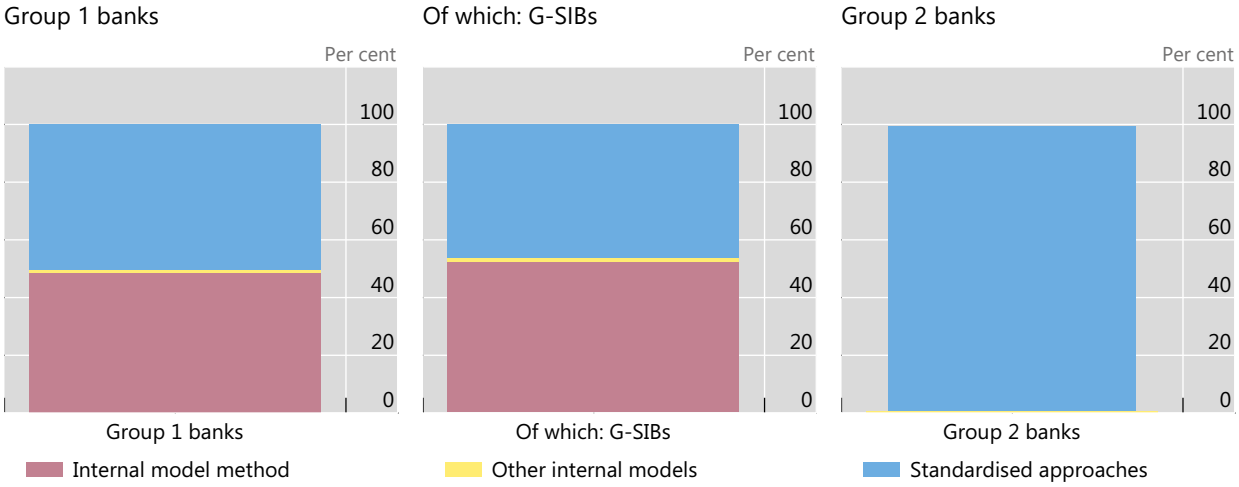
4.3.1 Counterparty credit risk

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 60 shows the relative composition of counterparty credit risk capital requirements by exposure calculation approach per bank group at end-December 2020. A significant number of banks in the sample uses standardised approaches (SA) to calculate CCR exposures. Amongst those, the current exposure method (CEM) is the most widely used, although an increase of banks that already apply the SA-CCR as current approach is observed. A large number of Group 1 banks also uses internal model approaches, mainly the internal model method (IMM), to calculate CCR exposures for derivatives and securities financing transactions (SFTs). Group 2 banks in the sample do not apply the IMM. As of end-December 2020, for the 74 Group 1 banks in the sample (of which 24 are using the IMM), CCR IMM capital requirements contribute 48.5% to total CCR capital requirements. CCR capital requirements calculated using standardised approaches contribute 50.4% for these banks. For G-SIBs, 52.5% 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 (1.0% for Group 1 banks, 0.7% for Group 2 banks).

Contribution to current CCR capital requirements by approach to EAD calculation Graph 60



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. First, 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 107 banks, including 74 Group 1 banks, of which 24 G-SIBs, and 33 Group 2 banks, are included in the analyses regarding the revised minimum capital requirements for counterparty credit risk for the end-December 2020 reporting date.

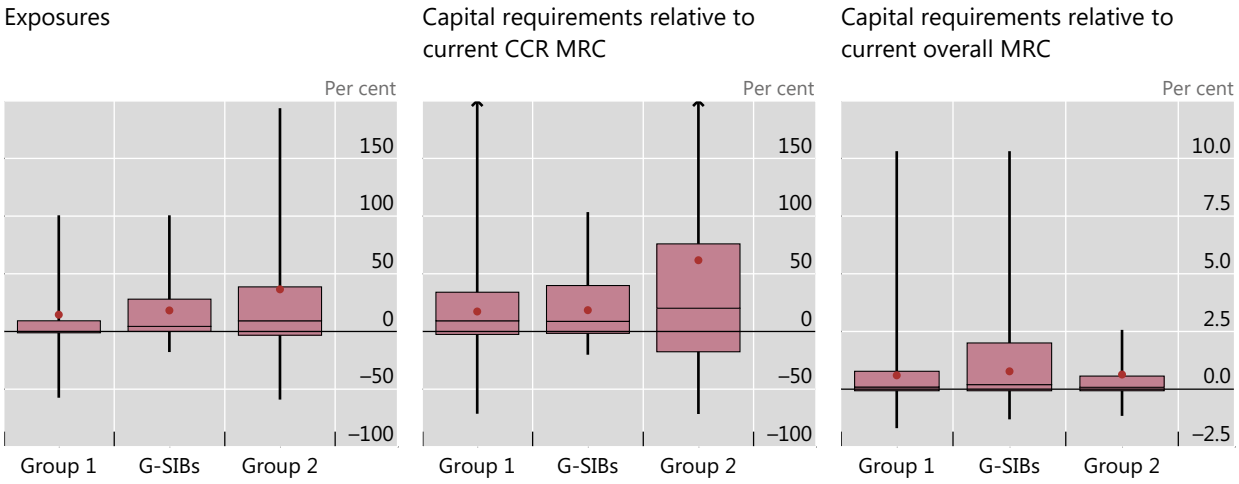
The centre panel of Graph 61 shows the impact on CCR capital requirements from the introduction of the revised CCR framework compared to the current CCR MRC. Capital requirements for Group 1 banks and G-SIBs exhibit an average increase of 17.3% and 18.6%, respectively. For Group 2 banks, the average increase is significantly more pronounced (61.7%). There is higher variability across Group 1 and Group 2 banks than there is for G-SIBs.

The right-hand panel of Graph 61 displays the impact of the CCR revisions on current overall MRC. Group 1 and Group 2 banks show a similar impact of +0.6% on average (G-SIBs: +0.8%). For more than 75% of Group 1 and Group 2 banks, the observed impact is below 1% of overall MRC, while 25% of the G-SIBs report an increase of more than 2% of total MRC due to changes of the CCR MRC.

The left-hand panel of Graph 61 shows the impact on CCR exposures of the revised CCR framework relative to the current framework. CCR exposures increase on average by 14.5% for Group 1 banks in the sample. The average impact is higher for the subsample of G-SIBs (18.3%) and for Group 2 banks (36.7%). Group 2 banks show a significantly higher variation of impacts on exposures than Group 1 banks.

Impact of revised CCR standards relative to current rules

All banks Graph 61



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

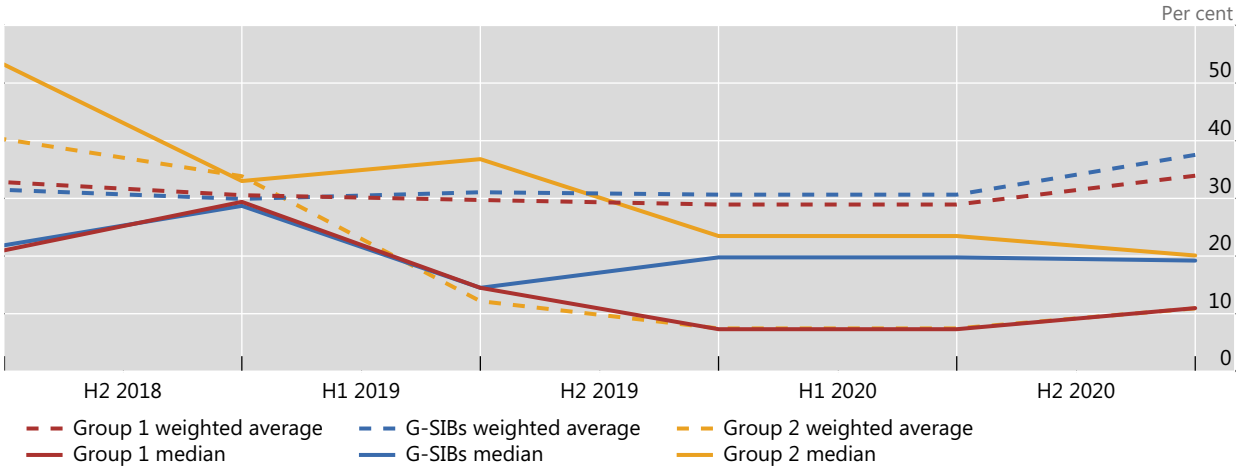
One of the factors that drives the changes between the current standardised approaches and SA-CCR include the treatment of margin collateral under the current rules (ie CEM or SM). In case banks currently do not recognise the margin collateral, while they do take it into account under the SA-CCR, SA-CCR 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 SFTs exposures (and hence capital requirements) increase significantly.

Graph 62 shows the average and median impacts of the revised CCR capital requirements relative to the current ones for a time-consistent sample of 30 Group 1 banks (of which 10 G-SIBs) and 13 Group 2 banks. The average impact for Group 1 banks and G-SIBs is less volatile across time than the one for Group 2 banks ranging between 28.9% (end-December 2019) and 34.0% (end-December 2020). Nevertheless, the impact of the changes to the framework is on average higher for Group 1 banks and G-SIBs as compared to Group 2 banks.

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

Consistent sample of banks

Graph 62



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 106 banks, including 80 Group 1 banks, of which 27 G-SIBs, and 26 Group 2 banks that provided consistent data at the end-December 2020 reporting date.

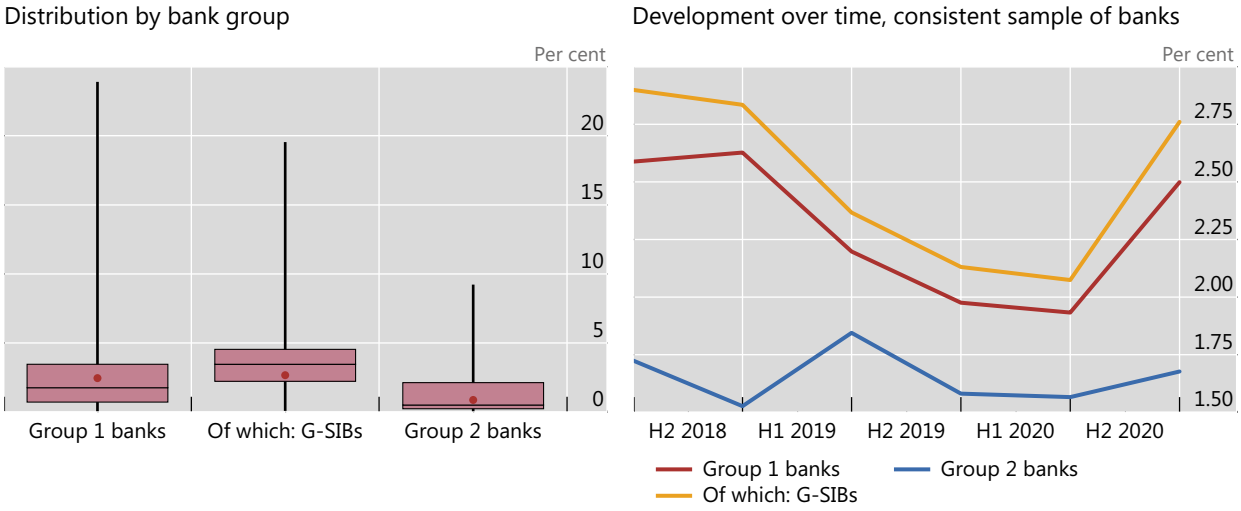
The left-hand side of Graph 63 shows that the average share of CVA capital requirements in total MRC is higher for Group 1 banks than for Group 2 banks, but even for G-SIBs the current share of CVA capital requirements is less than 4.5% for 75% of banks.

The right-hand side of Graph 63 displays for a sample of 31 Group 1 banks (thereof 14 G-SIBs) and 14 Group 2 banks that is consistent over time the average share of current CVA capital requirements relative to the total MRC across time. G-SIBs generally report the highest average share; the average share for Group 1 banks is only slightly lower. Variations across the different exercises are slightly less significant for G-SIBs than for Group 1 banks. Group 2 banks show lesser variation over time. For Group 1 banks and G-SIBs a general trend to a lower share of CVA capital requirements relative to total MRC is observed for the period from end-December 2018 to end-December 2019. While a reduction in absolute CVA capital requirements was observed for the end-June 2019 data an increase of the absolute CVA capital requirements for the end-December 2019 exercise was compensated by a simultaneous increase in total MRC leading to a reduction in the relative share of CVA capital requirements in total MRC. The increase in absolute CVA capital requirements drives the increase of the relative share of CVA capital requirements in the total MRC for the end-December 2020 data, bringing it back to levels observed for end-December 2018.

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

All banks

Graph 63



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[32].

The sample includes 19 banks that currently apply the advanced method for CVA (A-CVA), of which 18 indicate to use the standardised approach for CVA (SA-CVA) under the revised framework and one using the reduced BA-CVA. The other 87 banks that currently apply only the standard method for CVA (S-CVA) include 15 banks that indicate to apply the SA-CVA and 62 banks that indicate to move to the reduced basic approach for CVA (reduced BA-CVA) under the revised minimum capital requirements for CVA. Overall, only 10 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 64 shows that the impact when moving to the revised CVA framework in relation to current CVA MRC differs substantially between Group 1 and Group 2 banks. The average impact for Group 1 banks is -16.8%, while the average increase for Group 2 banks is 48.4%. The average impact for G-SIBs (-19.5%) is in line with the impact for Group 1 banks. The variability in results is significant. Some banks report decreasing capital requirements when moving to the revised CVA framework with CVA capital requirements decreasing by as much as 84.6% whereas other banks report significant increases in the CVA capital requirements relative to the current standards, up to about six times the current capital requirements. Very high increases appear more frequent for S-CVA banks that move to 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 to the current standardised approach. Capital requirements under the reduced BA-CVA are 18.1% higher than capital requirements under the current S-CVA for the median bank.

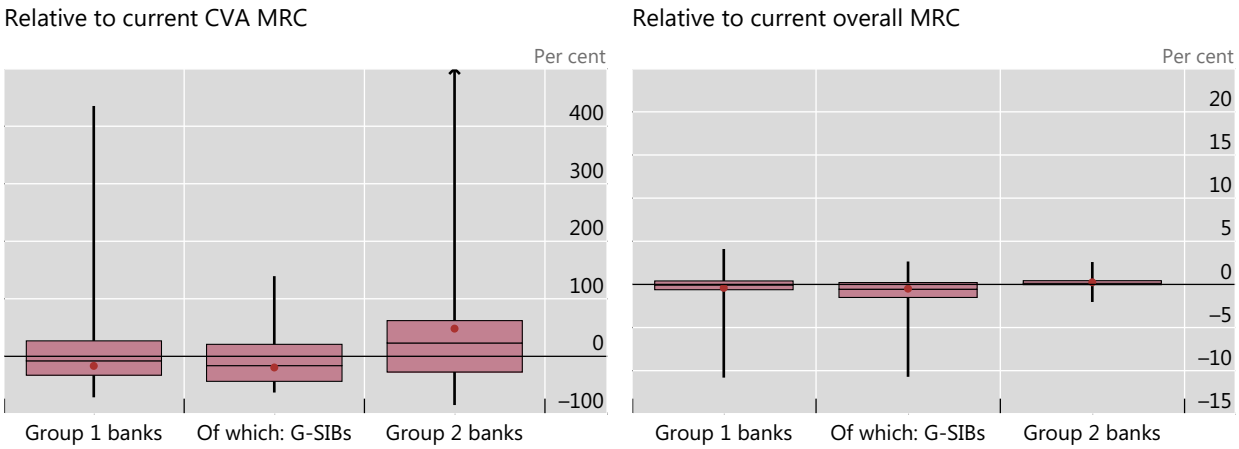
The right-hand side panel of Graph 64 provides the impact of the revised CVA capital requirements relative to current overall MRC. Given the small share of CVA capital requirements in overall MRC for most banks, the average impact of the CVA revisions on overall MRC is approximately 0% for

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

both Group 1 and Group 2 banks. Overall, the impact ranges between -10.8% and +4.1% for all banks in the sample.

Impact of revised CVA capital requirements compared to current rules

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.

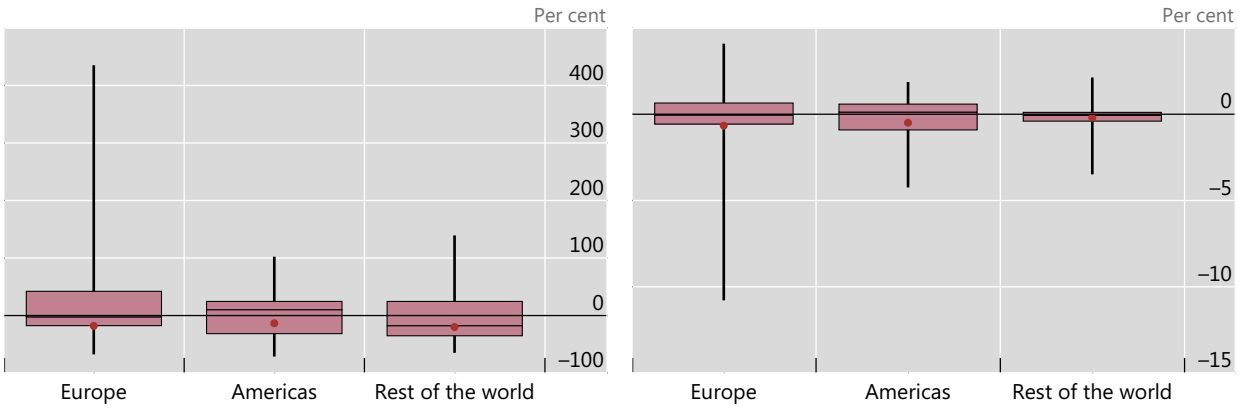
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 65 shows that results differ across regions. The average impacts of -18.2% and -19.8% in Europe and the rest of the world, respectively, are slightly lower than for the Americas (-13.3%). The variability of results also differs across individual countries. In some countries, all banks show comparable impacts, and in others, the impact ranges from large reductions to very large increases in CVA capital requirements from the introduction of the revised minimum capital requirements for CVA risk.

Impact of revised CVA capital requirements compared to current rules, by region

Group 1 banks

Graph 65



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.

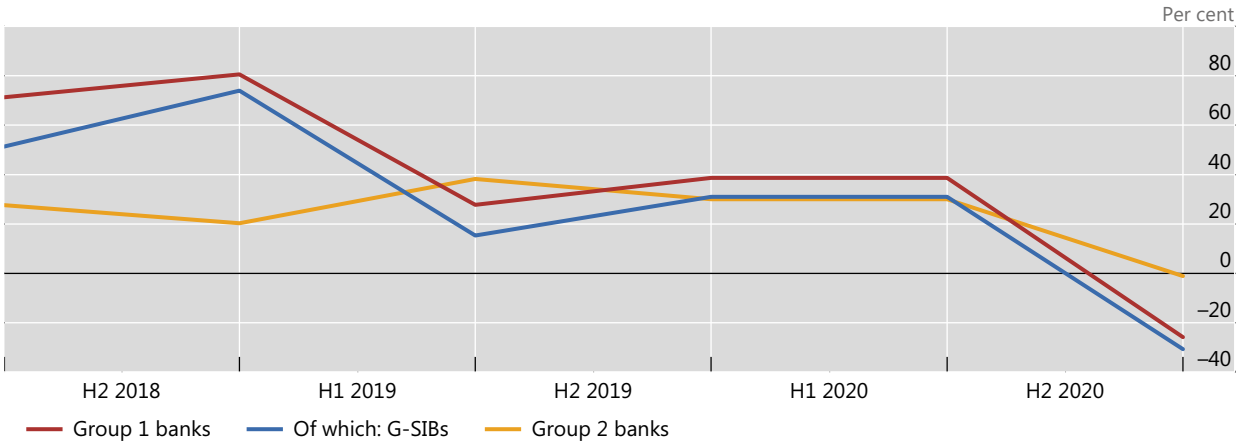
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 66 compares the average impact on CVA capital requirements under the revised framework to the current rules across time for a consistent sample of 30 Group 1 banks (thereof 13 G-SIBs) and 11 Group 2 banks. The observed impacts for Group 1 banks reduce from 71.3% in the end-June

2018 exercise to 38.6% in the end-December 2019 exercise. For the end-December 2020 data, an absolute decrease of 25.9% can be observed also due to the effects of the revision to the revised CVA framework. The impacts for Group 2 banks range from 38.3% in the end-June 2019 exercise to -1.1% in the end-December 2020 exercise.

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

Consistent sample of banks — Graph 66



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

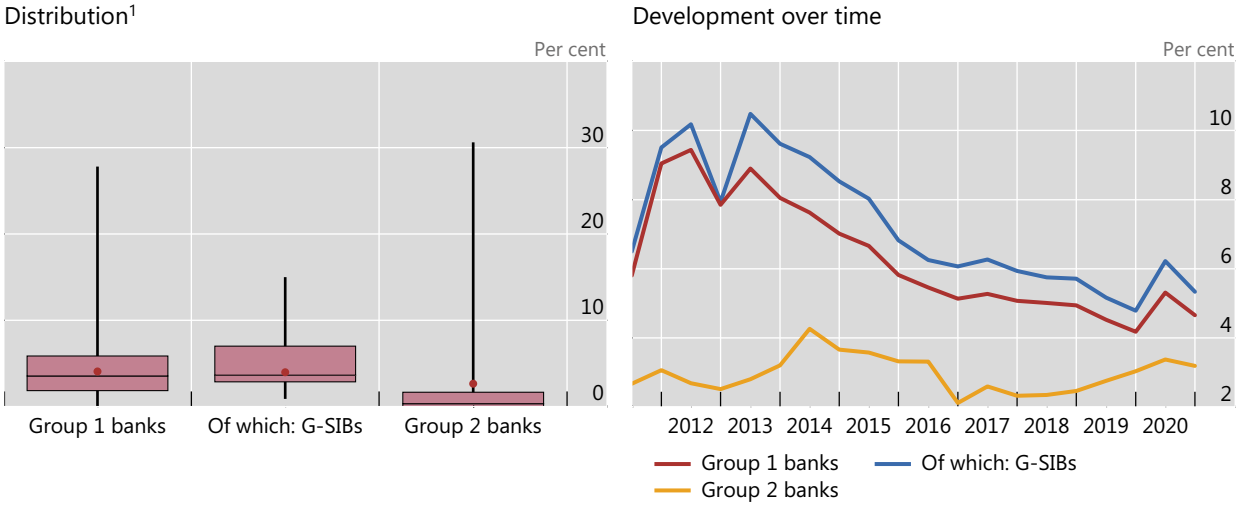
The left panel of Graph 67 shows the distribution of the share of minimum market risk capital requirements in total MRC under the current rules, ie jurisdiction-specific Basel 2.5. On weighted average basis, the share of market risk MRC is 4.1% of total MRC for Group 1 banks and 2.7% of total MRC for Group 2 banks. However, there is significant dispersion in impacts from zero to 27.8% across participating Group 1 banks and from zero to 30.6% across participating Group 2 banks.

As seen in the trends starting in 2011, shown in the right panel, market risk's contribution to the sample banks' consolidated capital requirements had declined significantly for all bank groups since peaking between 2012 and 2014 before increasing in 2020 when Covid-19 hit. After the initial spike in the first half of 2020 from the historic low levels at year-end 2019, market risk's contribution gave back over half of the Covid-19-related increase by the end of 2020. This contribution will likely revert to a lower level in coming collections as the Covid-19-driven volatility recedes from banks' look back periods.

Prior to Covid-19, the drop is most pronounced for G-SIBs, which had seen their relative capital requirements attributed to market risk decline by more than half since the peak. As of December 2020, the average share for Group 1 banks and G-SIBs was around one third lower compared with that seen at end-June 2011 even after the Covid-19-related spike. 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 less conservative capital requirements. Group 2 banks' average share of market risk MRC as of end-December 2020, 3.2%, is slightly higher than at the beginning of the time series after experiencing a peak of 4.3% in 2014, a subsequent fall through 2016 and a gradual increase since peaking in June of 2020.

Share of market risk MRC in total MRC under the current rules

Graph 67



[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 vertical lines generally show the range of the entire sample. The dots represent weighted averages.

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

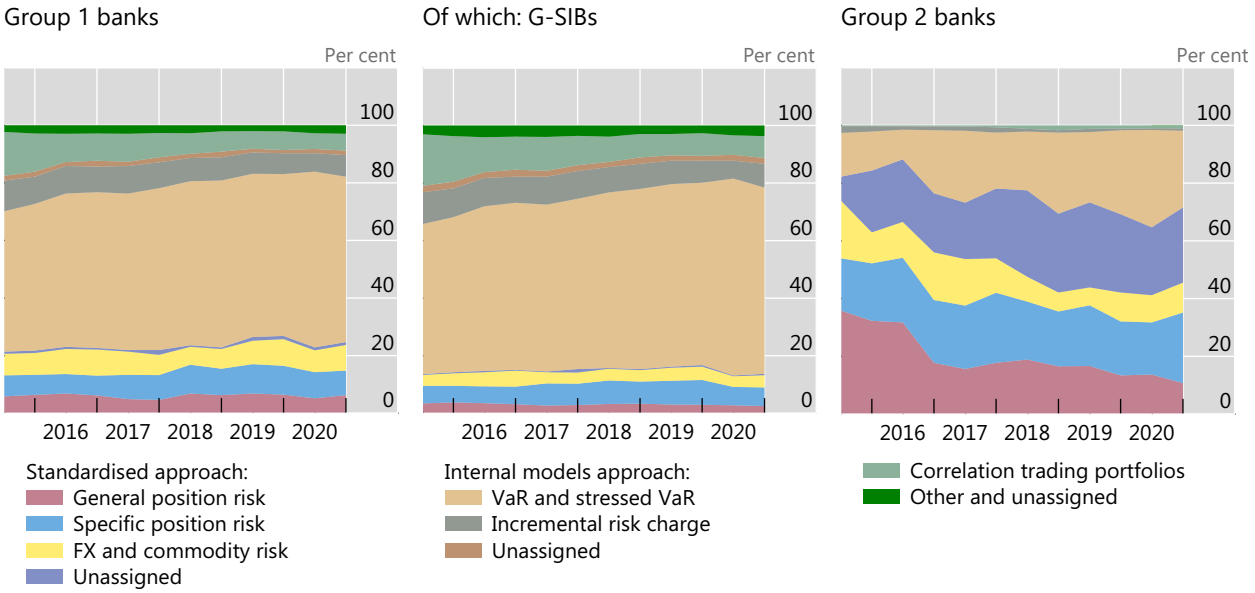
Graph 68 below shows time series decompositions of reported market risk MRC by sub-components since end-June 2015. For Group 1 banks and the G-SIBs among them, the internal models approach contributed 75.3% and 86.3% of overall market risk MRC respectively as of the fourth quarter of 2020. Covid-19 volatility led IMA's contribution to increase by 4.0 percentage points for Group 1 banks and by 3.6 percentage points for G-SIBs from December 2019 to June 2020. By the end of the year, Group 1 banks saw nearly half of this increased contribution from IMA reversed.

Since 2015, the share of overall market risk MRC composed of value-at-risk (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. However, in the second half of 2019 the contribution from CTPs slightly increased for G-SIBs and Group 1 banks by 0.7 and 0.3 percentage points, respectively, although both groups saw a lower contribution from CTPs than pre-Covid-19 levels at the end of 2019.

For Group 2 banks, the internal models approach is much less relevant, composing roughly 28% of market risk MRC although the contribution dropped by 6.9 percentage points in the second half of 2020 from the heightened levels of June 2020, reflective of the initial impact of the pandemic. The contribution from CTPs of 1.1% is relatively negligible for Group 2 banks although their share has increased by over fourfold since the time series began in 2015.

Components of MRC for market risk under the current rules

Consistent sample of banks, in per cent — Graph 68



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

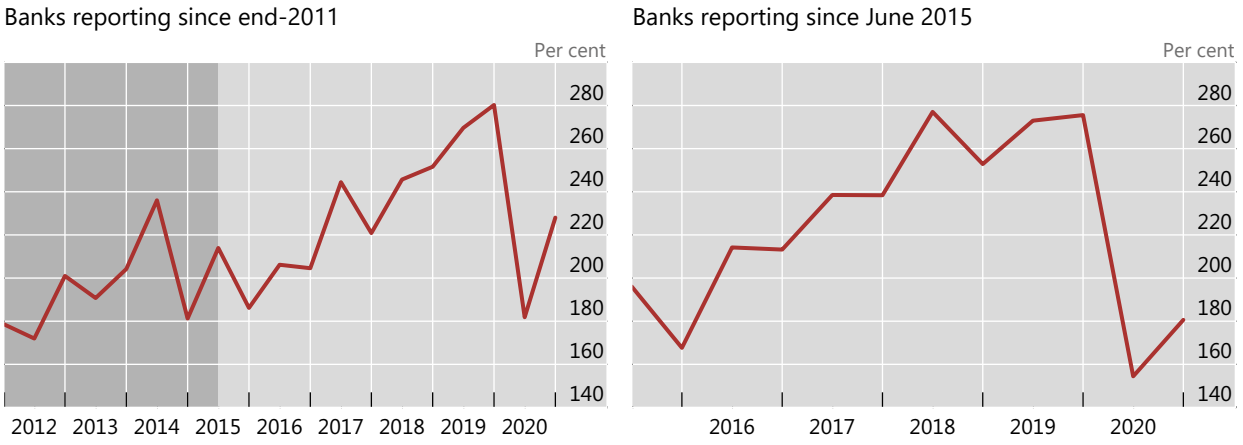
Graph 69 below shows the relation of the 10-day 99th percentile stressed value-at-risk (SVaR) to the current VaR under current market risk rules using two consistent samples of Group 1 banks. The left panel shows the time series since end-2011 for 22 banks. Under this longer-run consistent sample, the ratio of stressed VaR to VaR has fluctuated around 200% with a local peak at 236.1% in H1 2014 and a time series high at end-December 2019 of 280.3%. It should be noted that the pandemic-related volatility experienced in markets in the first quarter of 2020 led the SVaR/VaR ratio to decline significantly across the banks from the 266.8% level for the 57 banks that provided data for end-2019 to 185.6% for the 62 banks in the end-2020 sample.

The right panel of Graph 69 shows the same ratio for a shorter-run consistent sample including banks that have provided data since 2015. For this larger sample of overall 47 banks, the ratio has generally increased, reaching its peak at end-June 2018 at 277.0% before dropping by nearly half below 160% as of June 2020 and rebounding slightly to around 180% at year-end.

In both time series, the increasing trend prior to Covid-19 can be attributed at least partially to the lower volatility environment that has been observed in the markets over the several years preceding the Covid-19 pandemic, which reduces VaR figures. Banks' VaR models are based on a fixed backwards-looking period that rolls forward over time. Stressed VaR, however, is based on the banks' most stressful period. 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 Covid-19 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. Assuming volatility such as this does not return in the near term, we would expect the ratio to continue the upwards trend seen between June and December 2020.

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

Consistent sample of Group 1 banks — Graph 69



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

This exercise as of end-December 2020 included the third data collection in which banks' capital impact estimates were based on the final market risk framework published in January 2019[33] (referred to as the January 2019 standard) which replaced an earlier version of the standard published in 2016. Compared to the 2016 framework, the 2019 standard clarified the scope of exposures that are subject to market risk capital requirements, refined certain elements of the standardised approach, including risk weight adjustments and improved the processes to assess modellability, including capital consequences for falling short of them.

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 to the banking book portfolios, which are mostly held-to-maturity or revolving. In addition, the Basel III monitoring data for market risk under the revised market risk standard is less robust as the impact estimates will continue to require significant manual intervention for a large number of trading positions at each bank until banks develop systems reflecting their local implementations. Although prior collections included banks' estimates of the capital impact of the 2019 standard, the fact that the banks had additional time to refine their calculations might have generally improved the accuracy of their estimates.

The impact estimates below only show impacts fixing banks' portfolios and the set of modelled desks. They do not reflect potential changes in the scope of model-approved trading desks upon implementation of the final standard. For the purpose of the analysis, participating banks were instructed to calculate the internal models approach capital requirements for trading desks or portfolios currently subject to the internal models approach. In addition, the presented impacts do not reflect the consequences of trading desks potentially failing backtesting or P&L attribution tests. The impact numbers also do not reflect banks potentially changing their portfolios in response to the new rules, which likely overstates the impact since banks may reduce their allocations to positions with high capital requirements.

A total of 98 Group 1 banks including all G-SIBs, and 17 Group 2 banks provided at least some market risk data as of the end-December 2020 reporting date. Of these 98 banks, 48 Group 1 banks,

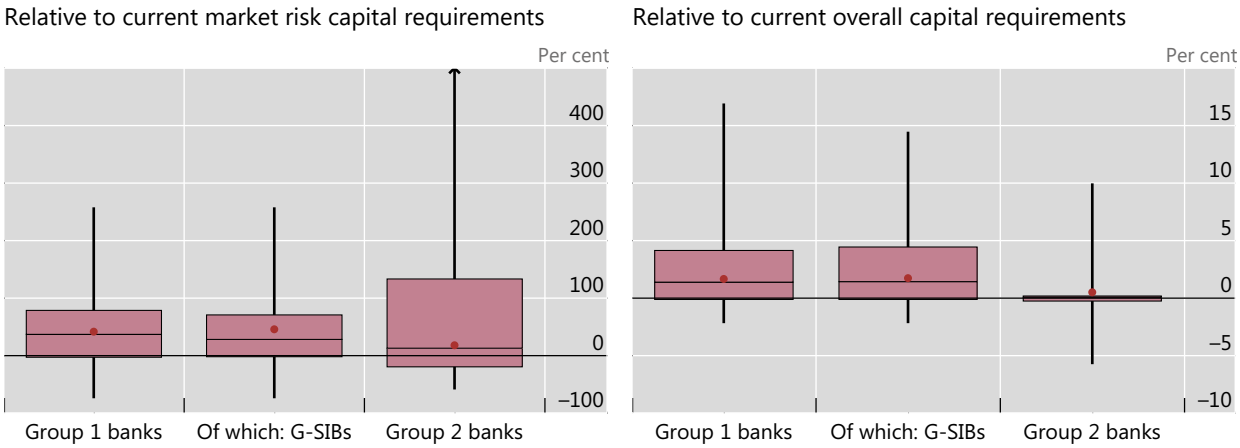
[33] Basel Committee on Banking Supervision, *Minimum capital requirements for market risk*, January 2019 (rev February 2019), www.bis.org/bcbs/publ/d457.htm.

including 21 G-SIBs and 10 Group 2 banks provided data that were sufficiently complete to estimate the overall impact of the revised market risk framework.

Graph 70 below shows the revised market risk standards' impact versus current market risk capital requirements (left panel) and current overall capital requirements (right panel). The weighted average prospective Basel III market risk capital requirements increase by 41.5% relative to current market risk capital requirements for Group 1 banks and by 17.9% for Group 2 banks. At the individual bank level, the impact exhibits wide variability ranging from a drop of 73.9% to an increase of over 6000%. However, as a portion of the banks' overall MRC rather than only market risk MRC, the revised standards result in a much more modest average increase of 1.7% for Group 1 banks and 0.5% for Group 2 banks. At the individual bank level, the impact ranges from a drop of 2.2% to an increase of 16.9% for Group 1 banks. For Group 2 banks, the impact varies from a drop of 5.7% to an increase of 10.0%.

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

Graph 70



[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. The dots represent weighted averages.

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

Graph 71 decomposes the total market risk capital requirements under the current rules and under the 2019 standard. The breakdown is shown by SA or IMA approach and further broken down into the sub-components of each for both the current and revised standard.

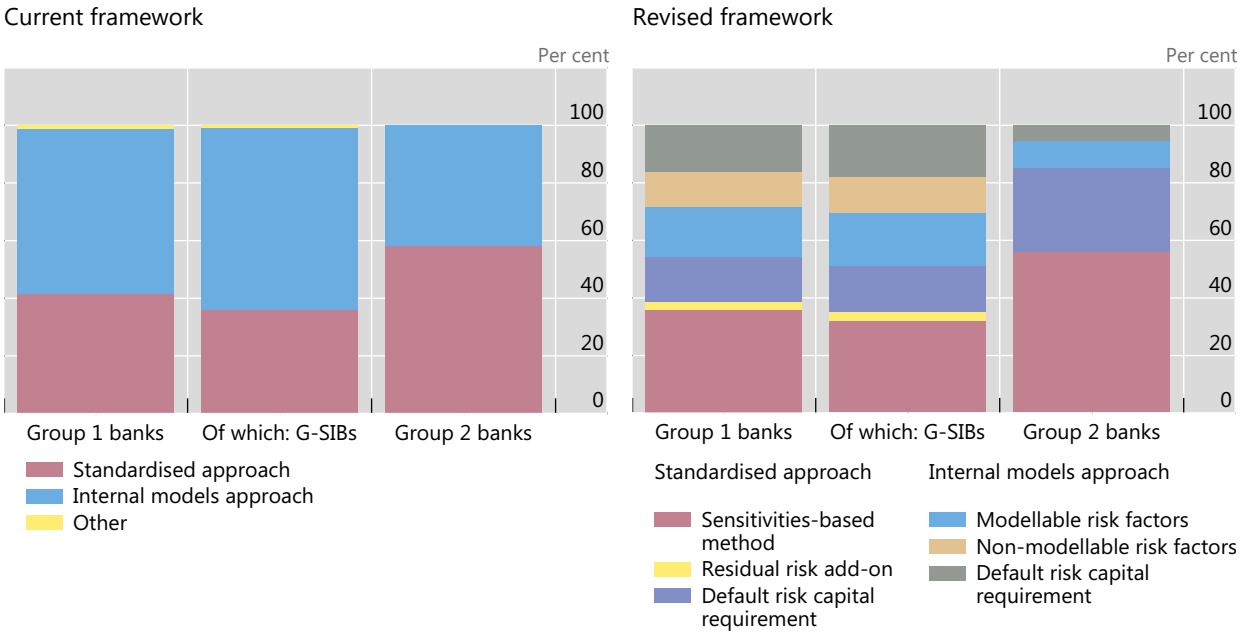
Group 1 banks expect their share of standardised approach capital requirements to increase from 41.5% to 54.4%. For Group 2 banks, the share of their standardised approach capital requirements is expected to increase from 58.1% to 85.4%.

For positions subject to the revised standardised approach, for Group 1 banks, 66.3% of the standardised approach capital requirement is expected to be attributed to the sensitivities-based method (SbM). For Group 2 banks, the share of SbM is 65.7%. The default risk capital (DRC) requirement contributes 29.0% and 34.3% 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 (eg gap risk, correlation risk and behavioural risk), contributes 4.6% to the standardised approach capital requirement for Group 1 banks and 0.8% for Group 2 banks.

With respect to revised IMA, the capital requirement for modellable risk factors would contribute 37.5% to the total internally-modelled capital requirements (modellable, non-modellable risk factors and DRC) for Group 1 banks and 62.4% for Group 2 banks. The corresponding share of capital requirements from non-modellable risk factors is 27.5% and zero, respectively. Finally, the DRC for internal models is expected to contribute 35.1% for Group 1 banks and 37.6% for Group 2 banks.

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

Graph 71



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

4.4.3 Revised model validation tests

The revised market risk standard introduces additional trading desk-level model validation tests for the use of the IMA on an ongoing basis – VaR backtesting and profit and loss attribution (PLA) tests. If a trading desk's model performs poorly on these tests, then the trading desk either is subject to a capital surcharge or must calculate capital requirements under the standardised approach.

Data on risk measures and profit and losses (P&L) have been collected. Given that many banks have not yet built the trading desk-level infrastructure to produce some of the requisite time series data to perform these new tests, especially the risk-theoretical profit and loss, it is too early to draw meaningful conclusions based on the data collected for this exercise. Overall, 15 banks in eight countries were able to provide sufficient data to perform VaR backtesting versus 20 in the end-2019 data collection. Banks provided enough data for 474 desks for all tests to be performed, a significant improvement in the banks' capabilities versus the 311 desks in the end-2019 data collection. Of these desks, 43 were able to pass all tests in the green zone and a further 24 desks passed in the amber zone for a total pass rate of 14.2% which indicates a significantly weaker performance than the 21.2% pass rate as of the end of 2019 or the 17.8% of desks that passed in the end-2019 collection. This result can likely be attributed to the significant increase in volatility that desks experienced in early 2020 as the pandemic wreaked havoc on financial markets.

4.5 Operational risk

4.5.1 Current operational risk rules

As depicted in Graph 72 below, MRC for operational risk of Group 1 banks increased until end-2016, levelled-off between 2016 and 2019, and has slightly declined since then. The share of operational risk MRC as a percentage of total MRC is also declining; it is currently 12.3% for Group 1 banks and 14.2% for G-SIBs.

The evolution of losses over the past 10 years is depicted in Graph 73. MRC for operational risk first increased with increasing losses, yet as losses have started to decline it has stabilised in recent years. In total, €466.8 billion of gross and €418.9 billion of net operational risk losses have been reported over the past 10 years. Operational risk gross losses were €57.8 billion in 2011 and peaked in 2014 at €69.1 billion. Since then, gross losses have decreased significantly to approximately €33 billion in 2020, the lowest value of the past 10 years. Despite the Covid-19 pandemic, this trend continued in 2020.

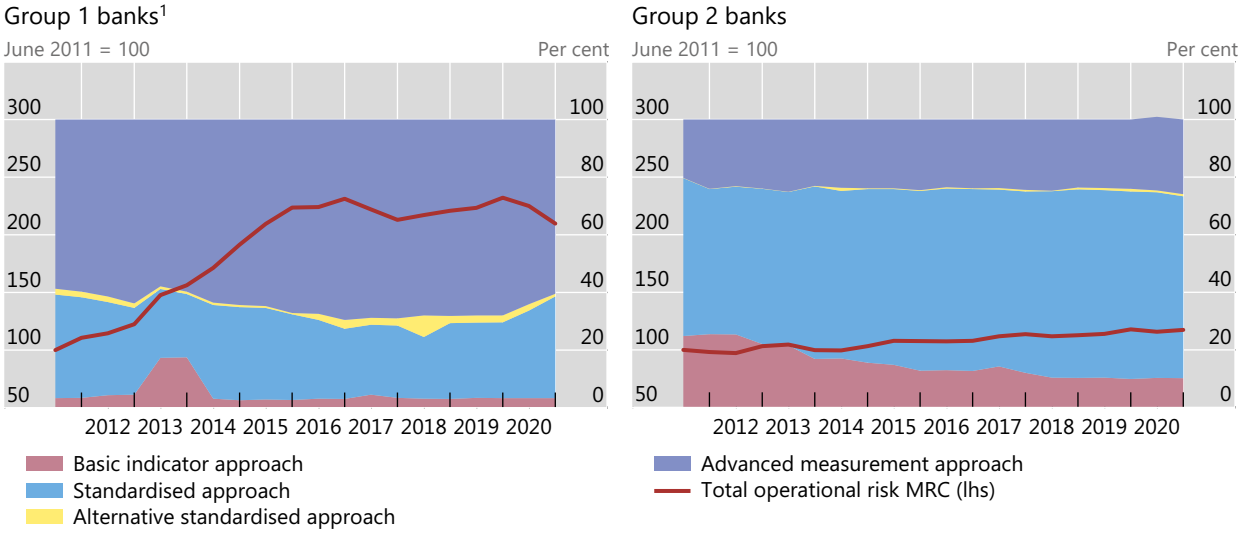
The time-lagged impact of the financial crisis on banks' profits, notably due to long-standing lawsuits, appears to be nearly completed. Nevertheless, banks still face risk due to the digitalisation that amplifies IT risk and the persisting Covid-19 pandemic.

For Group 1 banks and G-SIBs, most of which use the Advanced Measurement Approaches (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 the share of MRC for operational risk under the AMA increasing from 58.7% in 2011 to 69.5% in 2017. Recent decreased losses resulted in a lower share of MRC for operational risk under the AMA of currently 60.4%.

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,[34] 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 10.9%.

Total MRC for operational risk and share of approaches

Consistent sample of banks — Graph 72



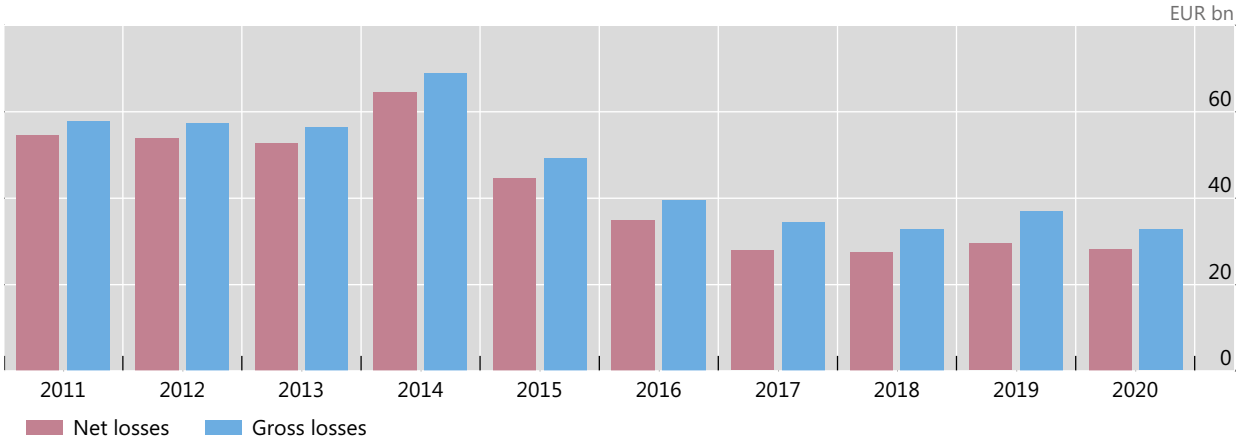
[1] Some banks started reporting operational risk RWAs under the Basic Indicator Approach in 2013 and eventually migrated to the Standardised Approach in 2014.

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

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

Loss evolution over the past 10 years

All banks, exchange rates as of the current reporting date — Graph 73

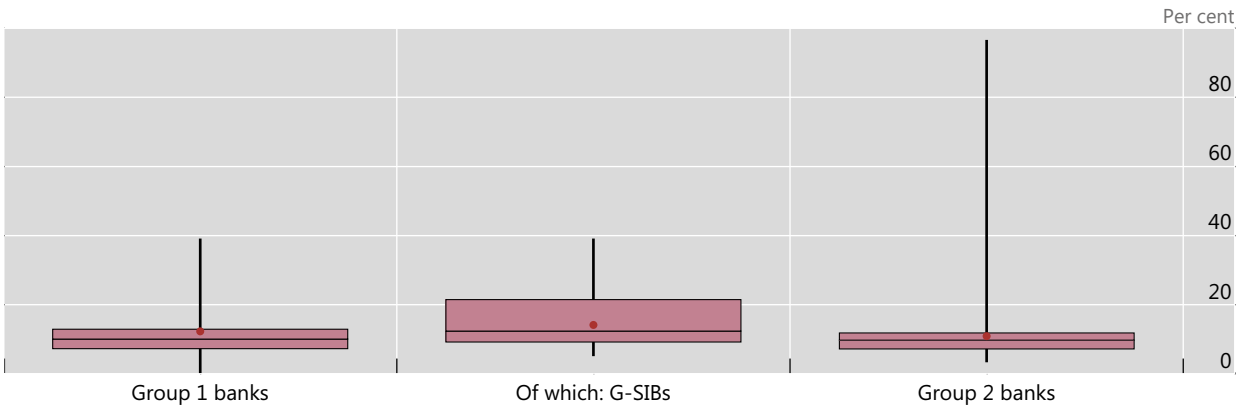


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

The dominance of indicator-based properties found in the standardised approaches for operational risk reflects the size of a bank rather than its risk exposure, explaining the lower variance of MRC for most Group 2 banks (see Graph 74). For Group 2 banks, the difference between the 25th and 75th quantile of the share of MRC for operational risk in total MRC is 4.7 percentage points. Although the difference of 5.7 percentage points for Group 1 banks is similar, the difference for G-SIBs (12.3 percentage points) is significantly higher. 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 74



[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 vertical lines generally show the range of the entire sample. The dots represent weighted averages.

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[35] 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 takes into account 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.[36]

According to Table 12, the final operational risk framework generates an aggregate small decrease of operational risk MRC of approximately -1.0% for all Group 1 banks and a -3.3% decrease for G-SIBs, and an increase of 7.5% for the Group 2 banks in the sample. While Europe faces a significant increase of almost 40%, the Americas (-10.9%) and the rest of the world (-19.0%) 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), the impact for Group 1 banks would decrease to -7.5% and -13.9% 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 of the past 10 years, the impact would be 3.3% and 0.4% 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 and the Americas – 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 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 73), 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 -6.9% (-13.7% for G-SIBs), similar to the result of ILM=1. In the case that average losses of the past three years remain, the MRC would decrease by -9.3% (-16.1% 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.

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 to 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.

[35] 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).

[36] 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.

Changes in MRC for operational risk[1]

In per cent

Table 12

	With chosen approach	ILM=1	20k 10Y	100k 10Y	20k 5Y	100k 5Y	20k 3Y	100k 3Y
Group 1 banks	–1.0	–7.5	3.3	1.4	–6.9	–9.2	–9.3	–11.5
Of which: Americas	–10.9	–36.7	–10.9	–12.4	–28.3	–30.3	–29.0	–31.0
Of which: Europe	38.8	14.3	54.8	51.1	40.5	36.5	29.9	26.2
Of which: Rest of the world	–19.0	15.9	–18.1	–19.2	–15.1	–16.3	–13.1	–14.5
Of which: G-SIBs	–3.3	–13.9	0.4	–1.1	–13.7	–15.6	–16.1	–17.9
Group 2 banks	7.5	5.8	7.9	2.3	6.2	–1.2	8.3	0.3

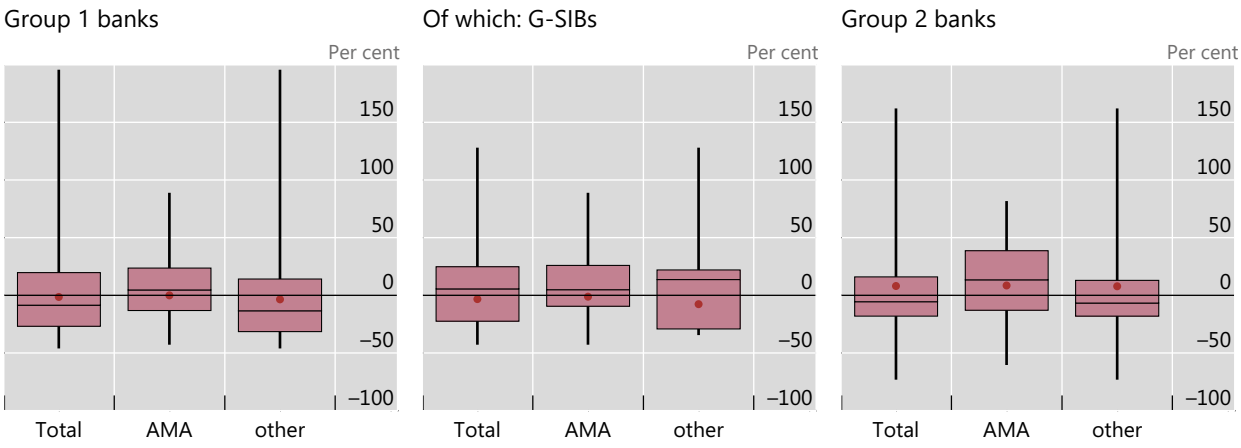
[1] Figures may not show supervisor-imposed Pillar 2 capital add-ons. Therefore, increases in MRC may be overstated and reductions may be understated.

Source: Basel Committee on Banking Supervision.

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



[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 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. The dots represent weighted averages. 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

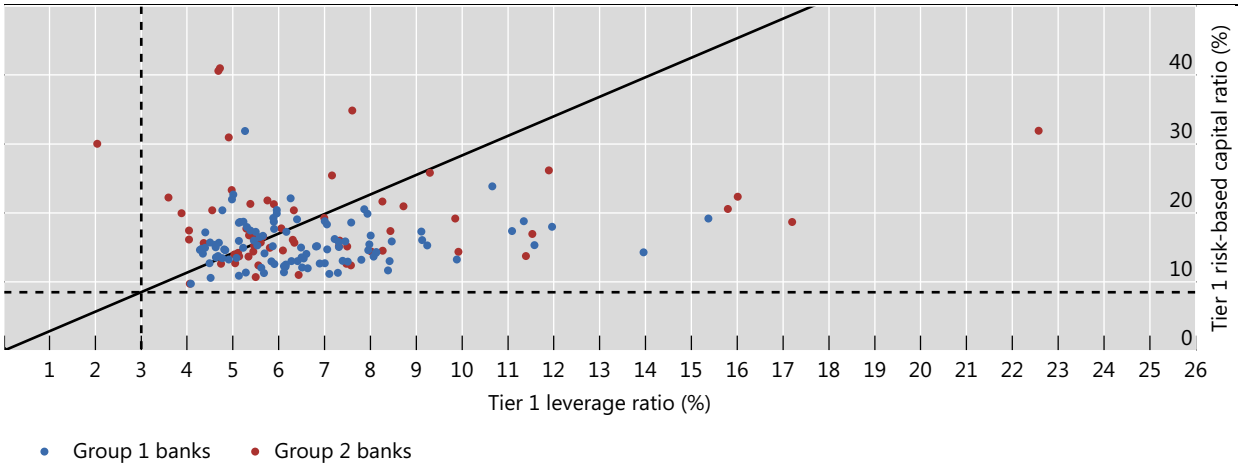
Graph 76 below shows the interaction between the fully phased-in Basel III Tier 1 leverage ratios (horizontal axis) and the fully phased-in Basel III Tier 1 risk-weighted capital ratios (vertical axis). Ratios of Group 1 banks are marked with red dots and those of Group 2 banks with blue dots. The dashed horizontal line represents a Tier 1 target risk-based capital ratio of 8.5%,[37] 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).[38] 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, one Group 2 bank does not meet the minimum fully phased-in Basel III Tier 1 leverage ratio of 3% (plotted left of the vertical dashed line). This graph also shows that the fully phased-in Basel III Tier 1 leverage ratio is constraining for 58 banks out of 163, including 35 Group 1 and 23 Group 2 banks (plotted above the diagonal line).

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

Consistent sample of banks, in per cent — Graph 76



Source: Basel Committee on Banking Supervision.

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

[38] Note that the effect of the G-SIB surcharge is not taken into account 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.

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 only results in a shortfall for very few 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, compared to the actual situation where those additional requirements would be considered. In the actual situation, fewer banks are constrained by the leverage ratio.

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").[39] While some results in this section have changed considerably compared to the previous report, these differences are to a significant extent driven by sample changes and changes in the impact of the current floor for some banks in the rest of the world region.

Since this section by looking at final Basel III takes a long run perspective, consistently with Section 2.2 temporary COVID-related exemptions to the leverage ratio have been re-included in the leverage ratio exposure measure. This results in a significantly larger share of banks bound by the leverage ratio. For a detailed analysis on the effect of the temporary leverage ratio exemptions we refer to the special feature.

With the exception of Group 2 banks that only use the standardised approach, the leverage ratio is the binding constraint for the majority of banks under the current framework, though it is exactly at par with risk-based capital measure for Group 1 banks.

Similarly, with the exception of Group 2 banks the share of banks bound by the leverage ratio goes down under the final Basel III framework. This reduction is most pronounced for Group 2 banks that use the IRB approach, where the share of banks bound by the leverage ratio reduces from 65.4% under the current to 38.5% under the final framework.

Under the current initial Basel III framework, 44.6% of 92 Group 1 banks are constrained by both the Basel III leverage ratio and the risk-based requirements while 10.9% are constrained by current output floors such as the Basel I-based floor. With the introduction of the somewhat stricter and more consistent output floor under the final framework, 25.0% of Group 1 banks will be constrained by the floor while 35.9% will be constrained by the Basel III leverage ratio. The share of Group 1 banks constrained by risk-based capital requirements before application of the respective output floor will decrease from 44.6% to 39.1%.

Looking at the complete sample of 30 G-SIBs, the Basel III leverage ratio is currently constraining for exactly half while the current output floors constrain a larger share of banks (20.0%) as compared to Group 1 as a whole. The remaining nine G-SIBs are constrained by the risk-based measure before

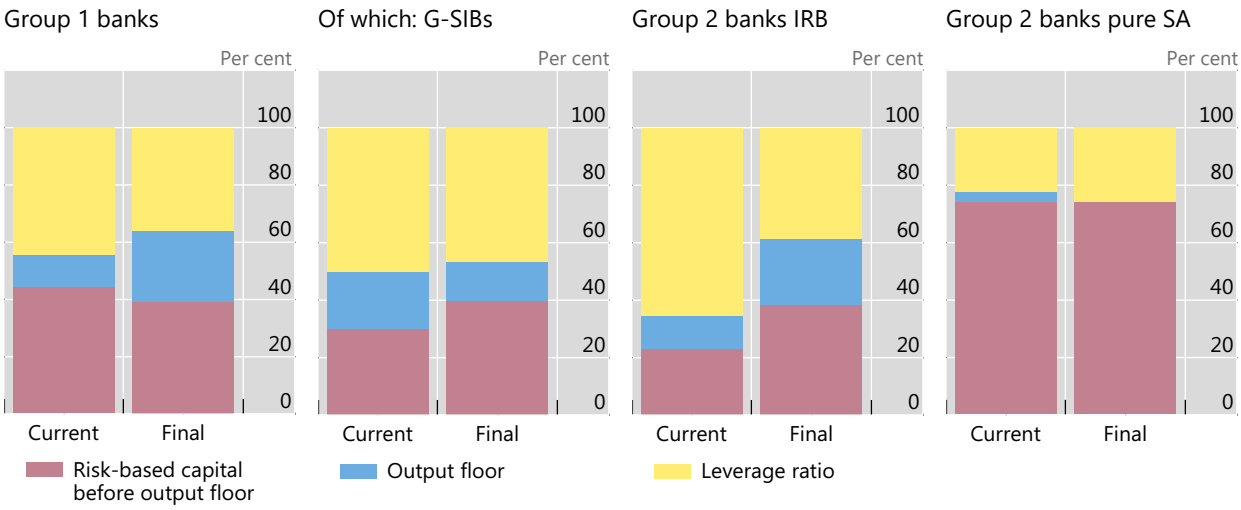
[39] Graph 77 does not distinguish between IRB and "pure SA" Group 1 banks as out of the 92 Group 1 banks in the sample only 13 are "pure SA" banks.

application of the output floors. Under the final framework, only 4 G-SIBs will be constrained by the output floor while the Basel III leverage ratio will be constraining for 14 G-SIBs. The remaining 12 G-SIBs will be constrained by the risk-based capital requirements before application of the output floor.

Of the 26 Group 2 IRB banks in the sample, 65.4% are currently constrained by the Basel III leverage ratio while only 11.5% are constrained by current output floors. The share of Group 2 IRB banks constrained by risk-based capital requirements before application of the output floors under the current initial Basel III regime is 2.1%. Under the fully phased-in final Basel III regime, the share of Group 2 IRB banks constrained by the risk-based capital requirements before application of the output floor notably increases to 38.5% and is similar to the share of Group 1 banks constrained by the same requirement. The Basel III leverage ratio will be constraining on 38.5% of Group 2 IRB banks while the share of Group 2 IRB banks constrained by the output floor will significantly increase to 23.1% in comparison to the current output floors.

For the 27 Group 2 banks only using the standardised approach for credit risk, risk-based capital requirements before application of the respective output floors are currently constraining for 74.1% of the banks; this share remains stable under the fully phased-in final Basel III framework. The current initial Basel III leverage ratio is constraining for 22.2% of these banks; this share will increase to 25.9% under the final Basel III standards. The current output floors are constraining for merely 3.7% of the banks in the sample, while for none of the banks in the sample the output floor under the final Basel III framework is constraining. This reflects the fact that the share of RWA from market or operational risk models is low for banks using the standardised approach for credit risk.

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 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. The leverage ratio is the most constraining measure at 81.8%. This seems at least partially driven by the methodological choice of re-including the temporary exemptions in the leverage ratio exposure measure. Under the fully phased-in final Basel III framework, the output floor becomes more constraining (30.3%) than the risked-based capital requirements (21.2%) while the leverage ratio remains the most constraining but to a smaller extent (48.5%).

The development is somewhat different in the Americas, with a full reduction of the impact of the output floor with implementation of the fully phased-in final Basel III framework. Indeed, the share of banks constrained by the output floor decreases from 33.3% of the sample to 0%. Comparatively, risk-based capital requirements become more stringent, with an increase of banks constrained by this measure

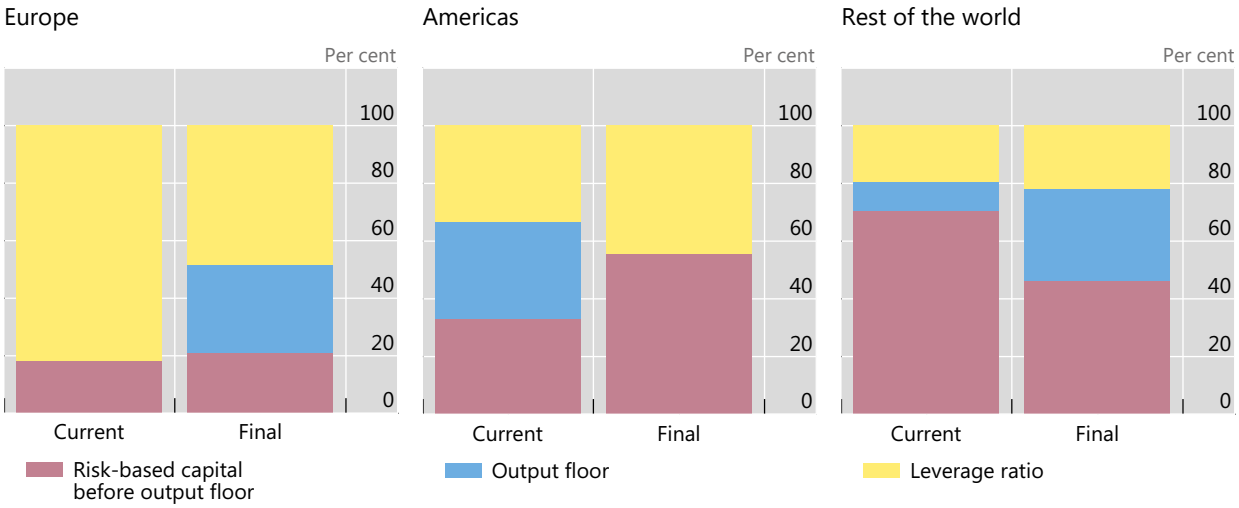
from 33.3% for current framework to 55.6% for the final framework. The leverage ratio shows an increase from 33.3% to 44.4%.

For the rest of the world, the output floor constraint is the measure that experiences the most important change in terms of constraints between both frameworks. The share of banks constrained by the output floor increases from 9.8% to 31.7%. Risk-based capital is the measure that becomes less stringent with 46.3% of banks constrained under the final Basel III framework whereas under the current initial Basel III framework the share of banks constrained is 70.7%.

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[40]

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 (HQLAs) 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 minimum requirement increased to 100% as of January 2019, which marks the end of the phase-in of the LCR minimum requirement.

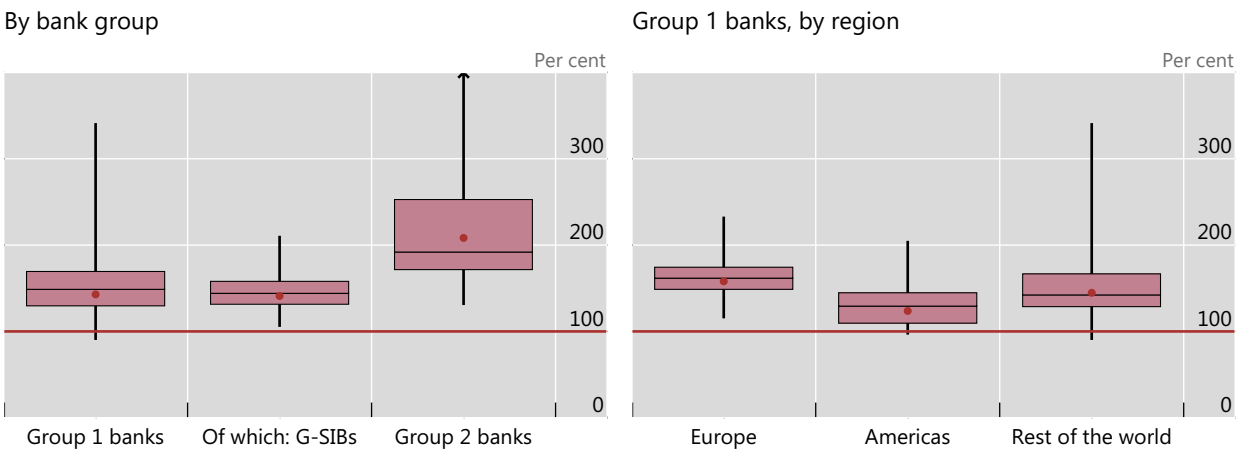
Data provided by 177 banks (111 Group 1 banks and 65 Group 2 banks) was of sufficient quality and coverage to be incorporated in the LCR analysis in this report. As of the reporting date, banks within

[40] Data for the end-June 2020 reporting date, for which no separate report was produced, is shown in Section 6.3 and in the LCR dashboard on the Committee's website. The dashboard also provides more detailed insights into the components of the LCR and the NSFR.

the LCR sample had total assets of approximately €78.5 trillion. Based on an inconsistent sample of banks, the weighted average LCR for the Group 1 banks reporting data for the December 2020 reporting date increased by 5.2 percentage points from end-December 2019 to 142.8%. The weighted average LCR for Group 2 banks increased by 22.3 percentage points from 186.0% at end-December 2019 to 208.3% at the end of December 2020.

While the weighted average LCR significantly increased for Group 1 banks, at end-December 2020 seven Group 1 banks in two regions reported an LCR below the minimum requirement of 100%. This is a significant increase compared to end-December 2019, where only one Group 1 bank did not meet the minimum, and it is driven by banks using LCR reserves during the Covid-19 pandemic. All Group 2 banks report an LCR well above the minimum requirement of 100%.

Liquidity Coverage Ratio[1] Graph 79



[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 liquidity coverage ratios outside the range shown in the graph. 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 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 high quality liquid assets and net cash outflows) which amounts to €19.6 billion.

6.2 Net Stable Funding Ratio

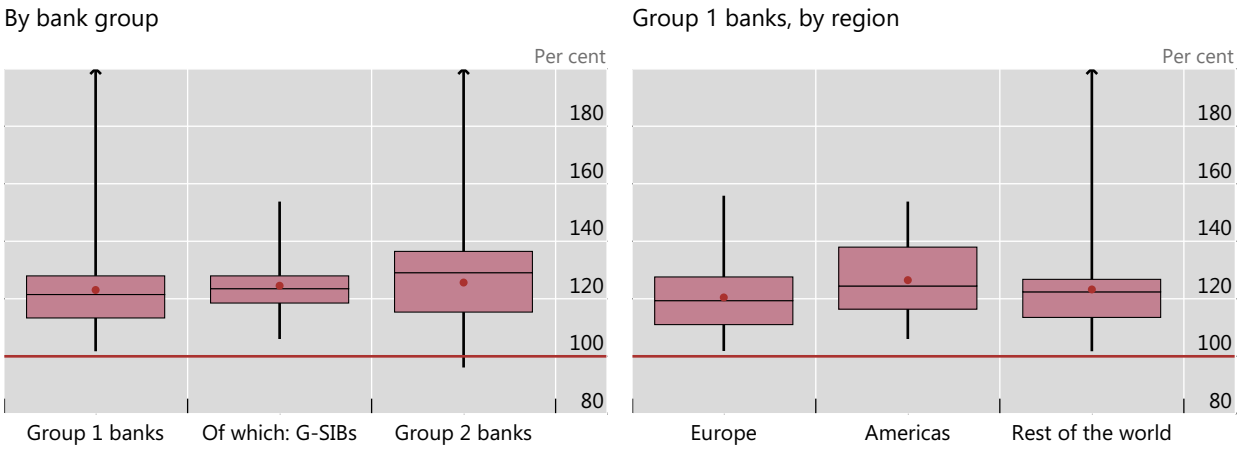
The second liquidity standard introduced by the Basel III reforms is the Net Stable Funding Ratio (NSFR), a longer-term structural ratio designed to reduce funding risk over a longer time horizon by requiring banks to fund their activities with sufficiently stable sources of funding in order to mitigate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

For the NSFR, data provided by 168 banks (107 Group 1 and 61 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 €76.3 trillion.

The weighted average NSFR was 123.0% for Group 1 banks and 125.7% for Group 2 banks at end-December 2020 compared with 117.2% and 122.1%, respectively, at end-December 2019. Overall, all Group 1 banks and all but two Group 2 banks (ie 96.7%) reported an NSFR that met or exceeded 100%. This compares to 96.0% of Group 1 banks and 97.0% of Group 2 banks that reported a ratio that met or

exceeded 100% as of end-December 2019. Both Group 2 banks with ratios below 100% at end-December 2020 report a ratio at or above 90% as of the same date.

Net stable funding ratio[1] Graph 80



[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 net stable funding ratios outside the range shown in the graph. The dots represent weighted averages. NSFRs above 200% are not shown in the graph. 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 no Group 1 bank reports an NSFR below 100%, there is no shortfall this reporting period, while there was a shortfall of €36.0 billion at end-December 2019. For the 61 Group 2 banks in the sample, there is a shortfall of €2.8 billion at end-December 2020 compared with €8.0 billion at end-December 2019. This number is reflective only of the aggregate shortfall for banks that are below the 100% NSFR requirement and does not reflect any surplus stable funding at banks above the 100% requirement.[41] It also does not take into account sample changes from the December 2019 to the December 2020 reporting date. 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 consistent sample of banks across reporting periods since end-December 2012.[42] Given the different samples of banks, results for the end-December 2019 and end-December 2020 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 generally show ratios in recent periods that have increased from ratios reported in earlier periods. The weighted average LCR for these banks was 144.6% at end-December 2020, compared to 137.2% at end-December 2019. Indeed, while the LCR has been roughly stable since end-December 2016, a distinct uptick is noticeable during the pandemic. While the average LCR for Group 1 banks shows an increase, it

[41] 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.

[42] 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.

is also remarkable that in both end-June and end-December 2020 an aggregate LCR shortfall is reported, for the first time since end-December 2016.

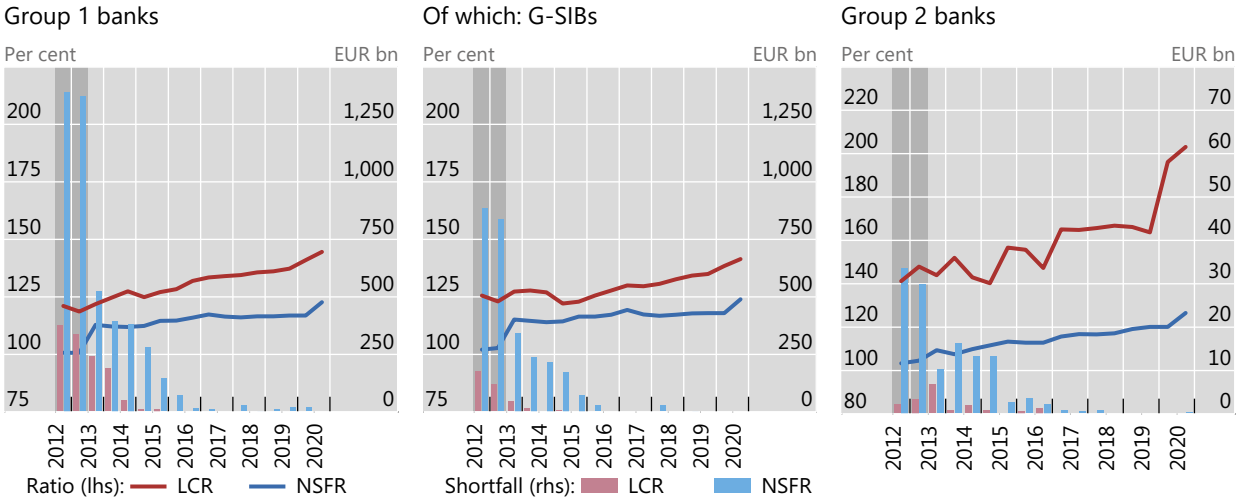
A similar evolution is noticeable for Group 2 banks. The reported LCR data for each of the reporting periods since end-December 2012 show generally stable ratios since 2017. However, a very pronounced spike is noticeable during the pandemic, with the weighted average LCR of these banks growing from 163.7% at end-December 2019 to 203.1% at the end-December 2020 reporting date.

The graph also displays NSFRs since end-December 2012.[43] The weighted average NSFR for Group 1 banks was 122.7% at end-December 2020 and 116.9% at end-December 2019. The weighted average NSFR for Group 2 banks was 126.6% at end-December 2020 and 120.2% at end-December 2019.

The aggregate shortfall for Group 1 banks that do not meet the 100% NSFR 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 first time since the start of this series, there was no aggregate shortfall with regard to the 100% NSFR minimum requirement for Group 1 banks and a shortfall of €0.4 billion for Group 2 banks at end-December 2020. This compares to shortfalls of €20.5 billion for Group 1 banks and €0.0 billion for Group 2 banks at end-December 2019.

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

Consistent sample of banks, 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 consistent sample of Group 1 banks across reporting periods since end-December 2012. The weighted average LCR at end-December 2020 for Europe and the rest of the world was in excess of 140%, while the average LCR of the Americas is around 125%. 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-

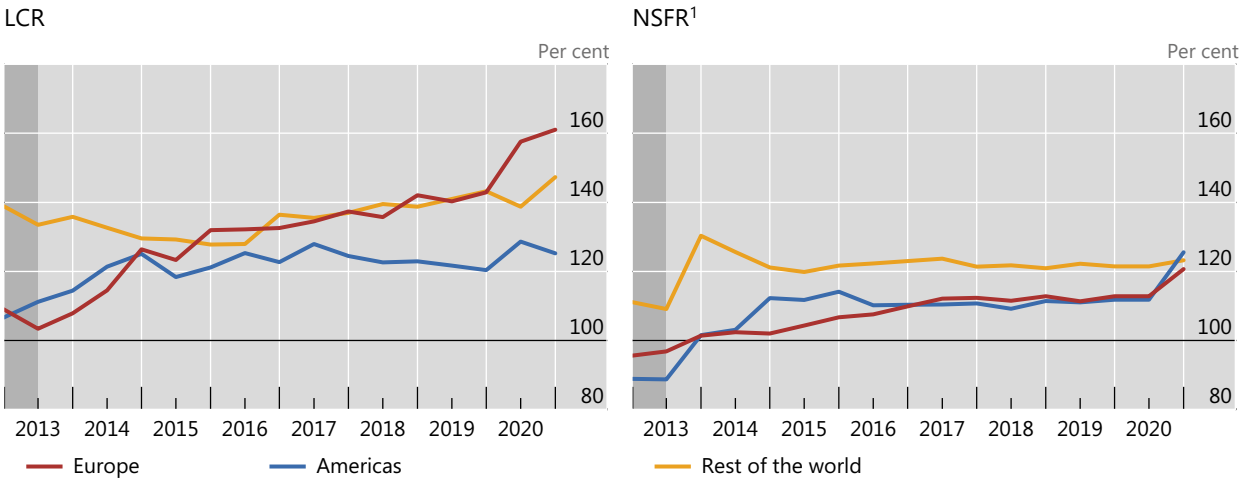
[43] Graph 81 depicts the NSFR as calculated under different versions of the NSFR framework (released in December 2010, January 2014 and October 2014, respectively). Calculations performed according to the final standard approved by the Committee in October 2014 start with the end-December 2014 reporting 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.

2012 average ratios saw important increases in particular between end-2012 and June 2014, and again since the start of the pandemic.

The weighted average NSFR at end-December 2020 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 2016, the average NSFRs of banks in Europe and the Americas have significantly increased over the past year from 112.8% and 111.8% at end-December 2019 to respectively 120.7% and 125.5% at end-December 2020. This is bringing both regions to a level in line with the rest of the world, which on average reports an NSFR of 123.2%.

LCR and NSFR by region

Consistent sample of Group 1 banks — Graph 82



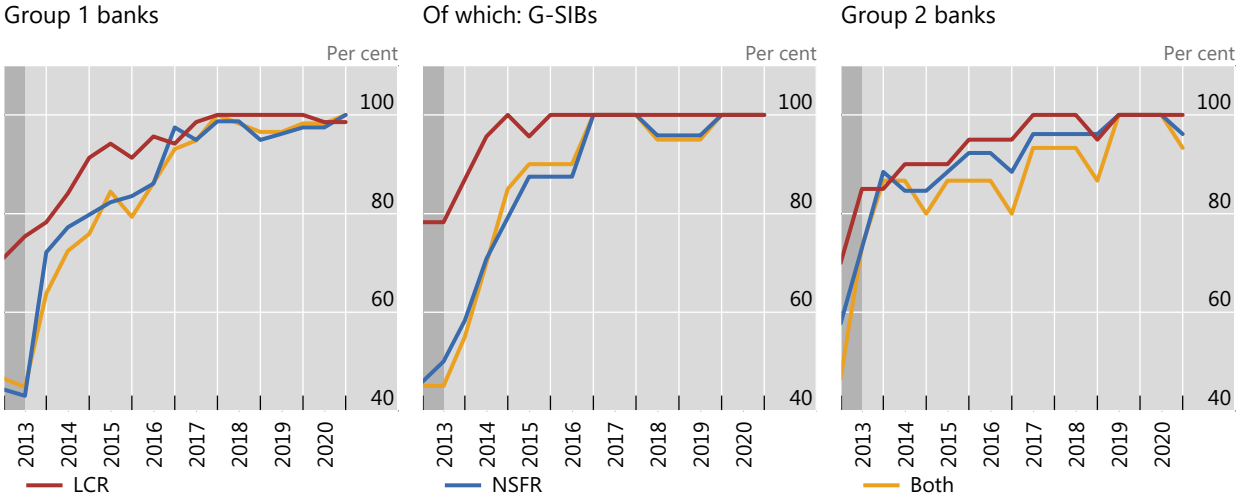
[1] As described in the text, the NSFR time series depicts data reflecting NSFR standards released in December 2010, January 2014 and October 2014. Since the Committee did not collect NSFR data through its Basel III monitoring exercise for the end-June 2020 reporting date, the relevant data points show 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. 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 consistent sample, that meet the 100% minimum LCR and NSFR requirements. The share of Group 1 banks meeting both requirements has increased from 67.2% at end-December 2012 to 100% at end-December 2020, while the share of Group 2 banks meeting both requirements increased from 60.0% to 93.3% during the same period.

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

Consistent sample of banks — Graph 83



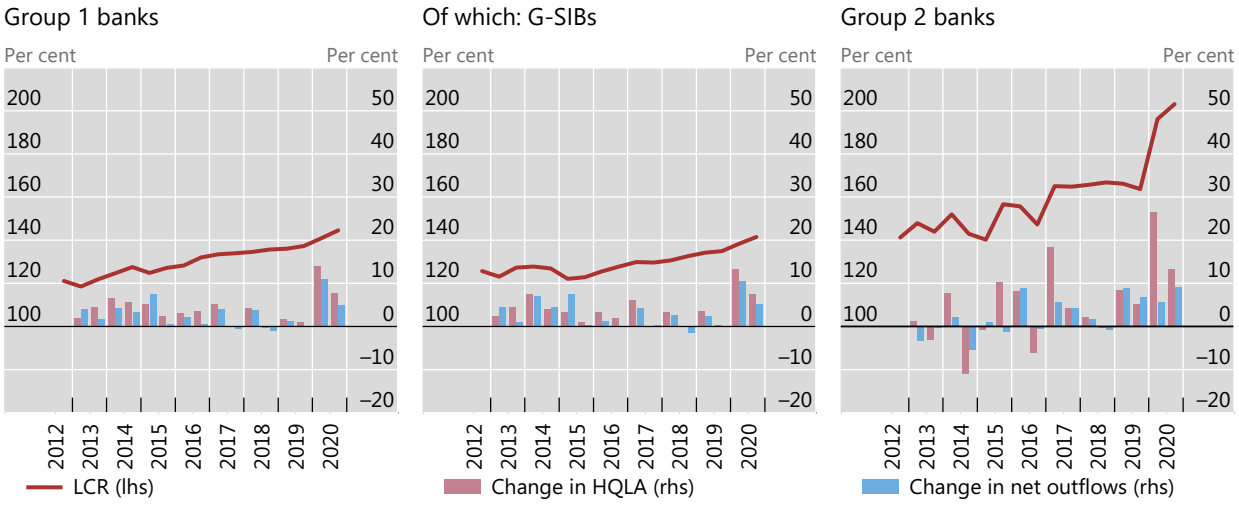
[1] As described in the text, the NSFR time series depicts data reflecting NSFR standards released in December 2010, January 2014 and October 2014. Since the Committee did not collect NSFR data through its Basel III monitoring exercise for the end-June 2020 reporting date, the relevant data points show the same values as for end-December 2019. 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 consistent sample 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 increase in the weighted average LCR for Group 1 banks is mainly driven by continuous increases in HQLA and often partially offset by increases in net outflows. For Group 2 banks, the changes in the weighted average LCR (increases as well as decreases compared with the relevant previous period) can also mainly be explained by higher volatility in HQLA, partially offset by changes in net outflows. Remarkable during the last two reporting periods is that while HQLA increased significantly (driven by central bank reserves), there is also a significant increase in net outflows – though smaller than the increase in HQLA resulting in an increasing LCR.

LCR and change in HQLA and net outflows

Consistent sample of banks, exchange rates as of the current reporting date — Graph 84

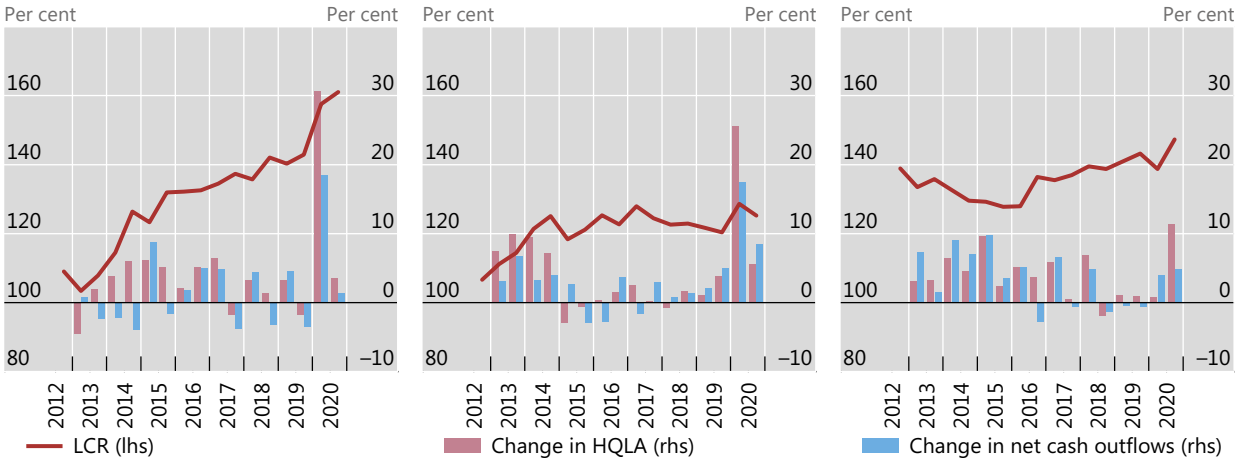


Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

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, banks in Europe have been the main driver of the aggregate weighted average LCR increase. For banks in the Americas, the increase in HQLA is similar to banks in Europe in the past two reporting periods. However, contrary to the European region, for the end-December 2020 reporting period net outflows showed an even larger increase resulting in an aggregate LCR decrease. For the rest of the world, net outflows increased in a similar way during the past two periods, yet HQLA only shows a significant increase during the second half of 2020.

LCR and change in HQLA and net outflows, by region

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 85



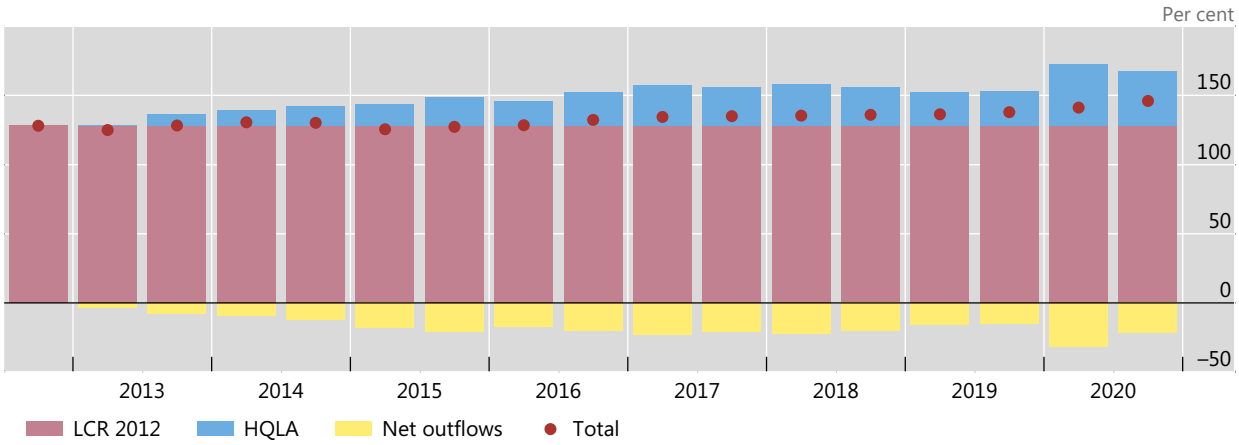
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The LCR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

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 to the net outflows, which has resulted in an overall improvement in the LCR over time.

Evolution of the LCR and its drivers

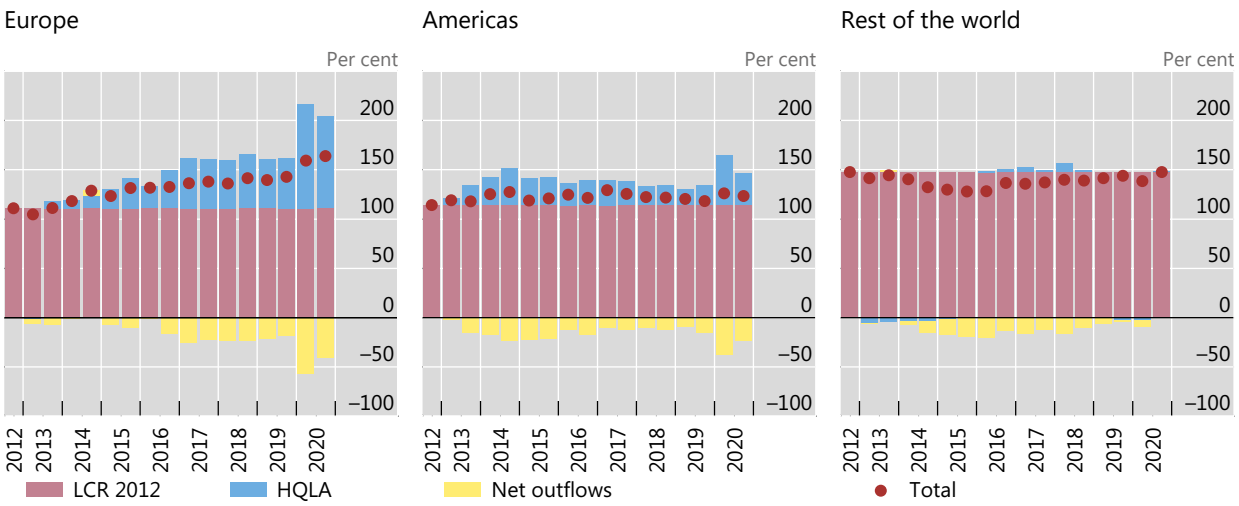
Consistent sample of Group 1 banks — Graph 86



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

Consistent sample of Group 1 banks — Graph 87



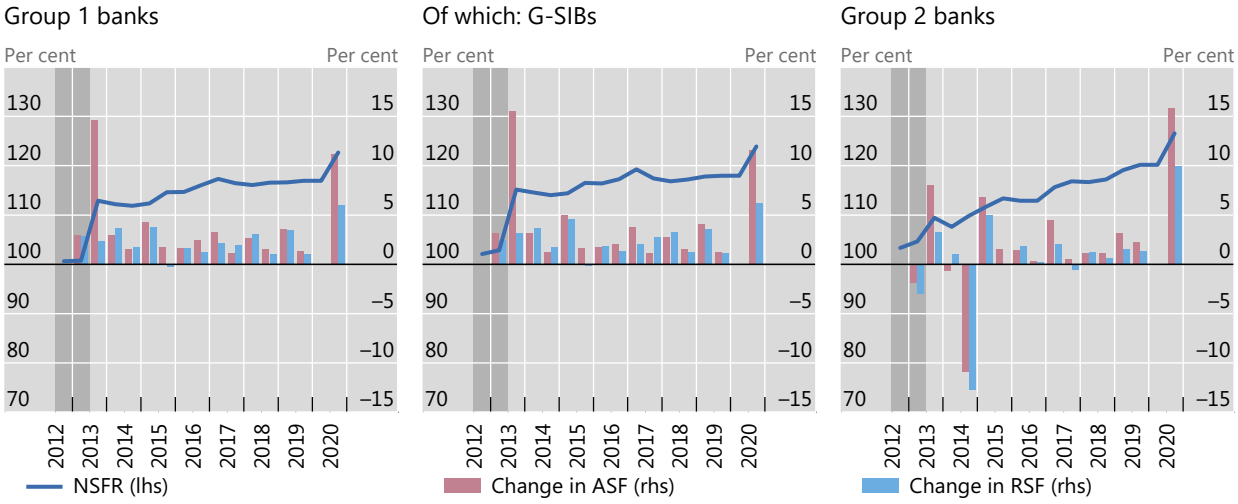
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The LCR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Graph 88 depicts the change in ASF and RSF over time. For all bank groups, there were significant positive changes in ASF of more than 7.5 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 has generally stabilised for Group 1 banks to within 5% over a six-month period. The end-December 2020 reporting period shows an 11.2% increase in ASF and a 6.2% increase in RSF with the former being driven by an increase in central bank reserves and to a lesser extent an increase in capital. While the aggregate average NSFR is at an all-time high, it should be taken into account that the last change has actually taken place over a year, rather than the usual six-month period (see Section 1.3.4), leading to an optically more

pronounced spike. Group 2 banks used to be more volatile, with changes in ASF ranging from -7.0% to 7.6%, but also stabilised since end-2015. Also for Group 2 banks, the end-December 2020 reporting period shows significant variation with a 15.8% increase in ASF and a 10.0% increase in RSF.

NSFR and change in ASF and RSF[1]

Consistent sample of banks, exchange rates as of the current reporting date — Graph 88



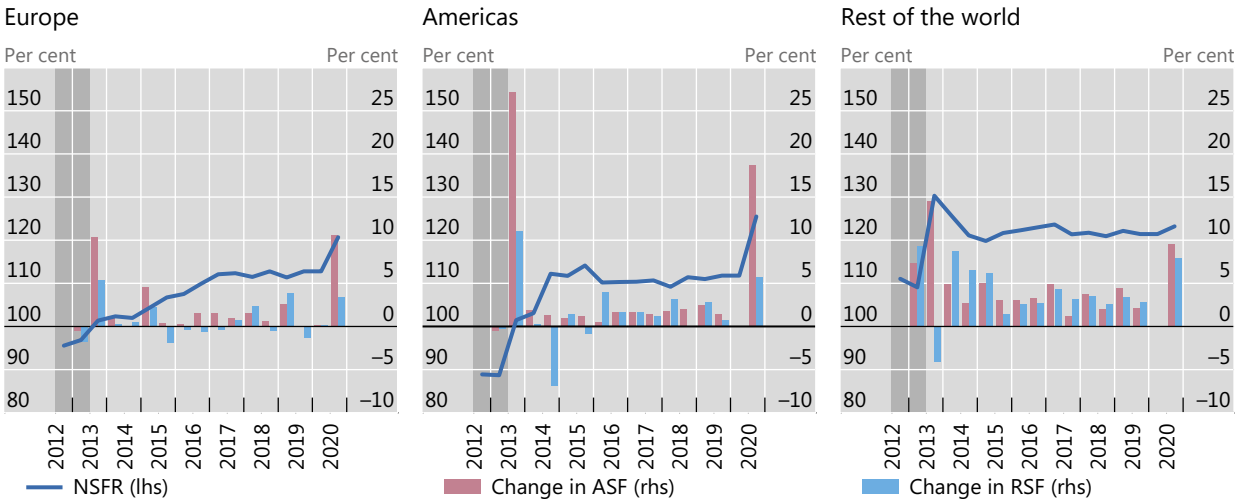
[1] As described in the text, the NSFR analysis is based on NSFR standard released in December 2010, January 2014 and October 2014. Since the Committee did not collect NSFR data through its Basel III monitoring exercise for the end-June 2020 reporting date, the relevant data points show the same values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

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

Graph 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] by region

Consistent sample of Group 1 banks, exchange rates as of the current reporting date — Graph 89



[1] As described in the text, the NSFR analysis is based on NSFR standard 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.

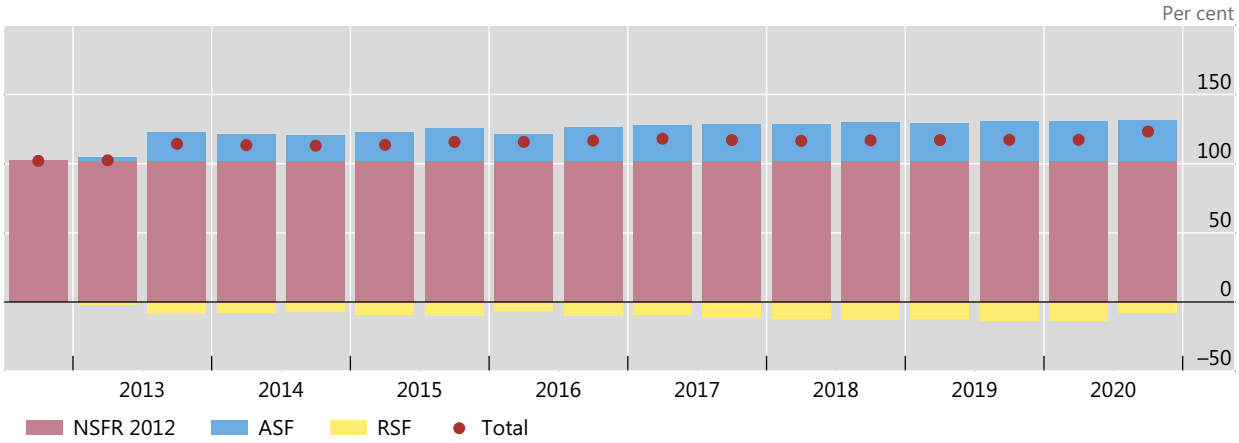
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size. The NSFR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Graph 90 shows the evolution of the NSFR and its drivers.[44] 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 to RSF, which has resulted in an overall improvement in the NSFR over time. Graph 91 shows the same evolution for the three regions.

[44] 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 to the previous period. The same remark goes for the discrepancy between Graph 89 and Graph 91.

Evolution of NSFR and its drivers[1]

Consistent sample of Group 1 banks — Graph 90

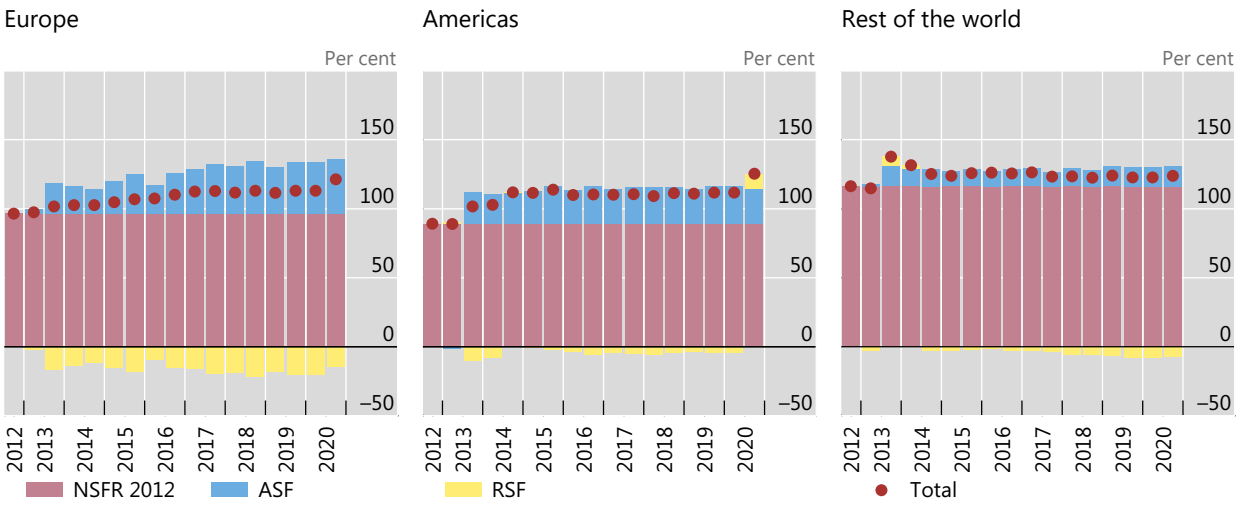


[1] As described in the text, the NSFR analysis is based on NSFR standard released in December 2010, January 2014 and October 2014. Since the Committee did not collect NSFR data through its Basel III monitoring exercise for the end-June 2020 reporting date, the relevant data points show the same values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

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

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

Consistent sample of Group 1 banks — Graph 91



[1] As described in the text, the NSFR analysis is based on NSFR standard 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. The NSFR dashboard on the Committee's website provides the same regional breakdown for G-SIBs.

Renzo Corrias

Secretariat of the Basel Committee on Banking Supervision

Exclusions from the leverage ratio exposure measure due to Covid-19

1. Introduction

The Basel framework allows a jurisdiction, at its discretion, to temporarily exclude central bank reserves from the leverage ratio exposure measure (LREM) to facilitate the implementation of monetary policies in exceptional macroeconomic circumstances.[1] As part of their response to the Covid-19 pandemic, several jurisdictions exercised this discretion to exclude central bank reserves from the LREM. Some jurisdictions also temporarily exempted government bonds, or loans granted as part of government support programmes, from the LREM.

As these exclusions are meant to be temporary in nature, the LREM used for the analysis in Section 2 (with the exception of Section 2.3) and Section 5 of this report assumes that the exclusions expire by the time the final rules are implemented, ie for the purpose of the analysis presented in those sections, the excluded amounts are added back to the LREM. This special feature provides further analysis on the magnitude and impact of these exclusions on the leverage ratio of the banks in the sample.

2. Adoption and magnitude of the exclusions across jurisdictions

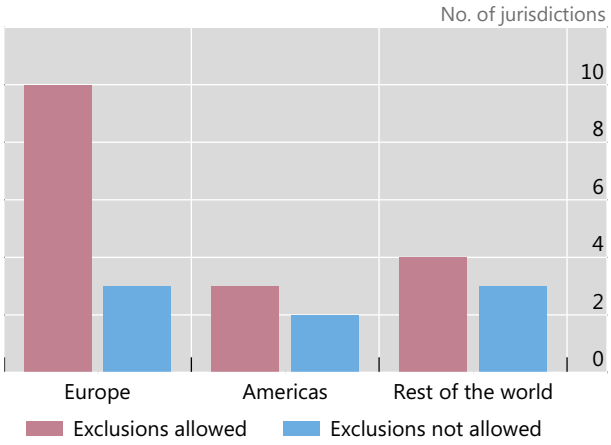
The left-hand panel of Graph 1 shows the number of jurisdictions that permit banks to apply exclusions from the LREM as of end-December 2020. This is the case for the large majority of the jurisdictions (17 out of 25) included in the sample. Using the same criteria for separating jurisdictions into two groups, the right-hand panel of Graph 1 shows the proportion of the leverage ratio exposure measure of the banks belonging to each group. At the global level, jurisdictions with exemptions account for 65.6% of total LREM. They account for almost the full LREM in Europe (85.0%) and the Americas (99.2%), but only 28.2% in the rest of the world.

[1] Section LEV30.4 of the Basel framework.

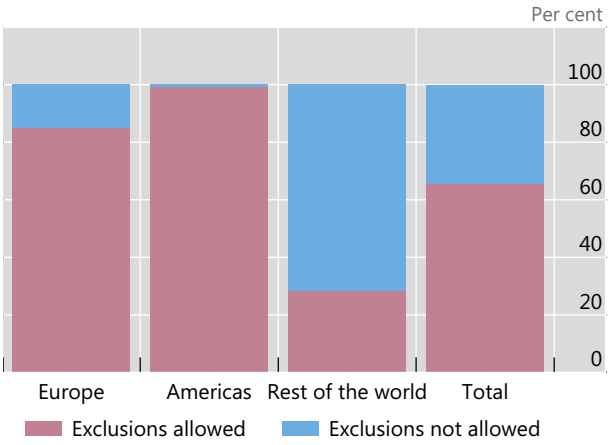
Jurisdictions which permit banks to apply exclusions from the leverage ratio exposure measure

Graph 1

Number of jurisdictions



Proportion of leverage ratio exposure measure



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

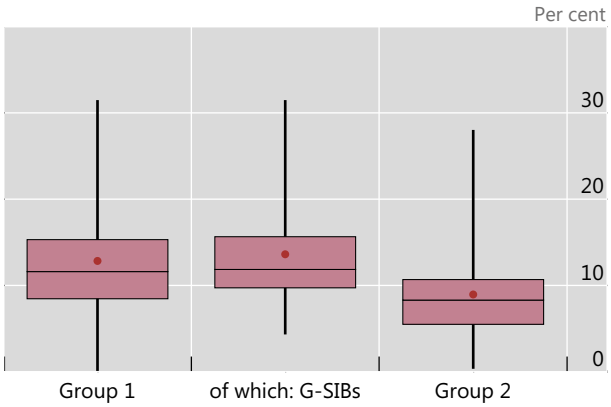
Graph 2 shows the distribution of the proportion of the excluded amounts to the total LREM for the banks that have applied exclusions. For Group 1 banks, the exclusions amount on average to 12.8% of total LREM, ranging from 8.5% to 15.3% for banks between the 25th and 75th percentile of the distribution. The average amount is lower for Group 2 banks (9.0%), which also show a slightly more concentrated distribution. In both groups, there are banks with a proportion of excluded amounts of around 30% of total LREM (left-hand panel). Looking across regions for Group 1 banks, the proportion of the excluded amount is on average the lowest for banks in Europe at 10.1% (which also have the most concentrated distribution), it is higher for banks in the Americas at 13.6%, and is the highest in the rest of the world at 18.0% (right-hand panel).

Proportion of excluded amounts to total LREM[1]

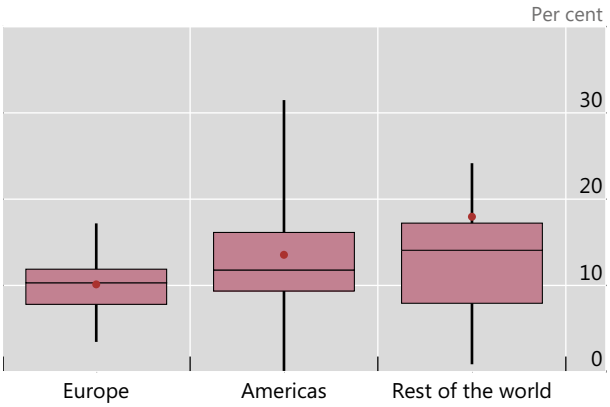
Overall distribution for the banks that have applied exclusions

Graph 2

All banks



Group 1 banks, by region



[1] Calculated as the ratio of the excluded amount to the total LREM (before any exclusion is applied). 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 vertical lines show the range of the entire sample. The dots represent weighted averages.

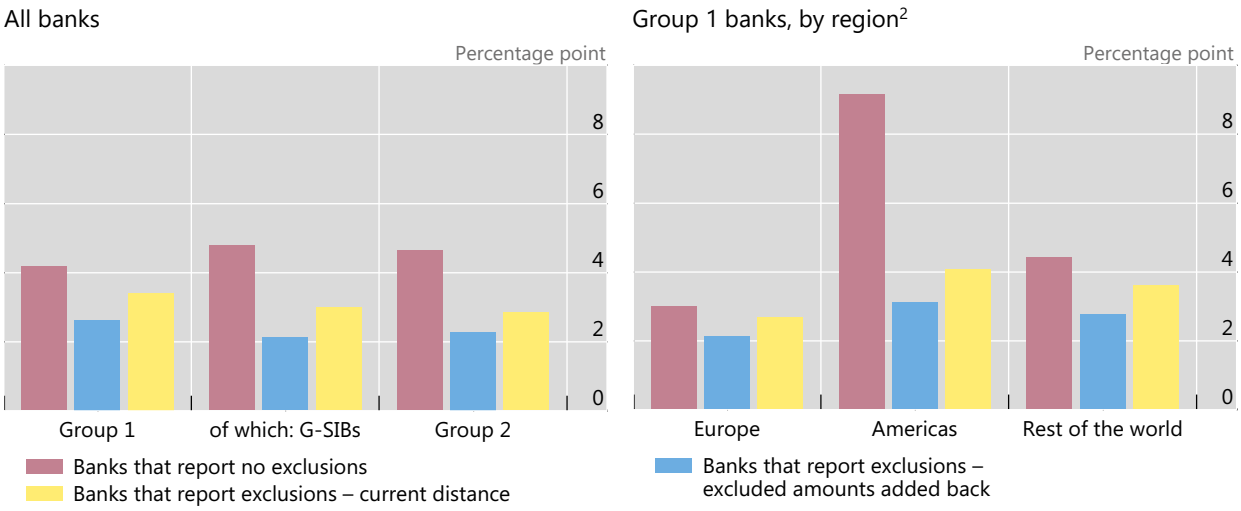
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

3. Impact on the leverage ratio

Graph 3 shows the distance between the banks' leverage ratio and their current Basel leverage ratio requirement (defined as the percentage point amount above the 3% requirement), differentiating between banks which have applied exclusions from the LREM and banks which have not. Before the application of the exclusions, there is on average a clear difference between the two groups. For Group 1 banks, the distance from the leverage ratio requirement is on average 1.5 percentage points higher for banks that do not apply exclusions (left-hand panel). The difference is even greater for G-SIBs (2.7 percentage points) and Group 2 banks (2.4 percentage points). The application of the exclusions from the LREM increases the distance from the leverage ratio requirement by 0.8 percentage points for Group 1 banks, 0.9 percentage points for G-SIBs and 0.6 percentage points for Group 2 banks. Statistical analysis confirms that the difference in the distance from the leverage ratio requirement is statistically significant between the two groups, even when considering leverage ratio amounts as of end-2019.

Looking across regions, we observe a similar pattern, with a difference between the two groups of banks of 0.9 percentage points for banks in Europe and 1.6 percentage points for banks in the rest of the world, while the difference is starker for banks in the Americas at 6.0 percentage points (which is however driven by a small number of banks in the sample of banks that report no exclusions and have a very high leverage ratio). The application of exclusions increases the distance from the leverage ratio requirement by 0.6 percentage points for banks in Europe, 1.0 percentage point for banks in the Americas, and 0.8 percentage points for banks in the rest of the world.

Distance from leverage ratio requirement[1] Graph 3



[1] Defined as current leverage ratio minus minimum leverage ratio requirement (3%). [2] The result for the Americas for banks that report no exclusions is driven by a small number of banks with a very high leverage ratio.

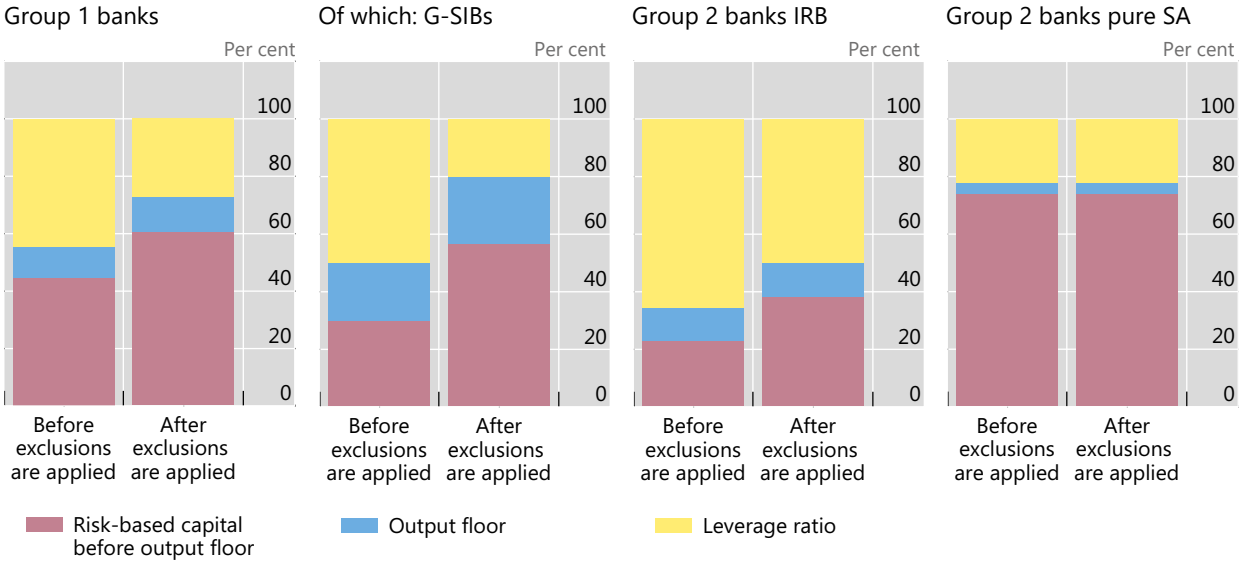
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

4. Impact on the proportion of banks constrained by the leverage ratio

This section replicates the analysis of Section 5.2 in this report on the interaction between Tier 1 risk-based, output floor and Basel III leverage ratio capital requirements, which aims to shed light on which capital requirement component of the framework is constraining for the banks in the sample. The constraining requirement here refers to the requirement that imposes the largest amount of Tier 1 MRC among the three requirements mentioned above. In contrast with the analysis in Section 5.2, Graph 4 below compares

which of the three parts is constraining before and after the exemptions to the LREM are applied, for the sample of banks that have applied exemptions as of end-2020. Figures are based on the current Basel III framework. The exclusions appear to have a strong impact on the percentage of banks constrained by the leverage ratio. If the excluded amounts were to be added to the LREM, the percentage of banks constrained by the leverage ratio would increase from 27.2% to 44.6% for Group 1 banks, bringing the leverage ratio on par with the risk-based capital requirement before the output floor. A similar, more marked result is observed for G-SIBs. For Group 2 banks that use the IRB approach, the proportion of banks constrained by the leverage ratio would increase from 50.0% to 65.4%, while there would be no impact for Group 2 banks that exclusively use the standardised approach.

Percentage of banks constrained by different parts of the current framework[1] Graph 4



[1] Output floor refers to current output floors such as the Basel I floor.

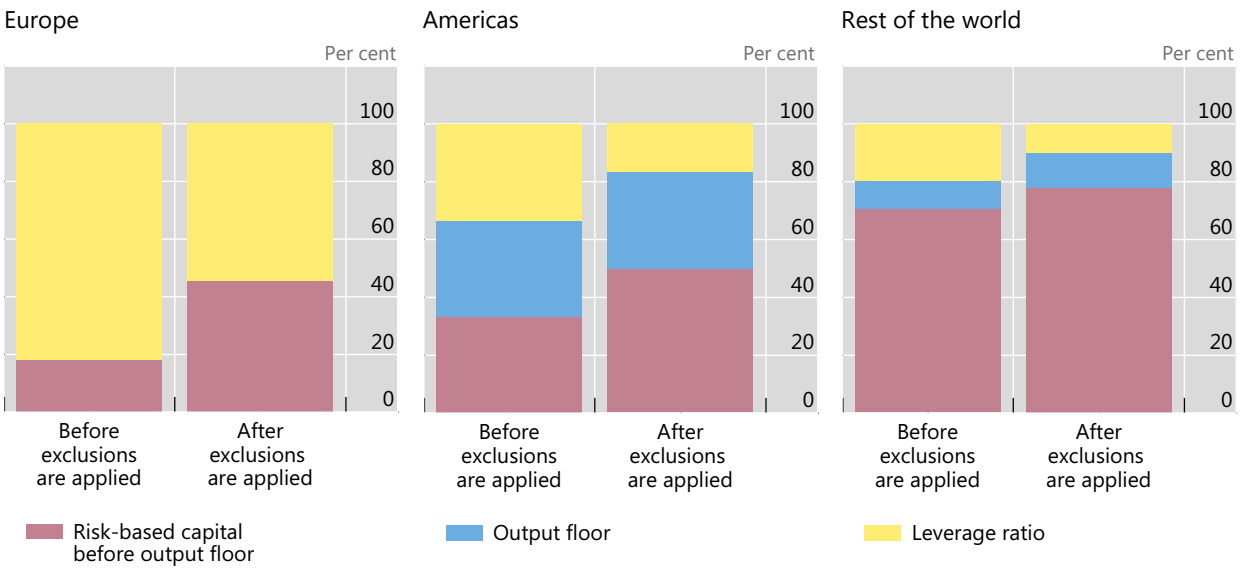
Source: Basel Committee on Banking Supervision. See the Excel data file for underlying data and sample size.

Graph 5 replicates the analysis above, but for Group 1 banks only, split by region. In Europe, under the current Basel III framework, the leverage ratio is the most constraining measure at 54.5%, with the remaining 45.5% of banks constrained by the risk-based capital requirement (no bank is constrained by the transitional Basel I-based floor). If the excluded amounts were to be added to the LREM, the percentage of banks bound by the leverage ratio would increase to 81.8%. The increase is more muted in the Americas (from 16.7% to 33.3%) and the rest of the world (from 9.8% to 19.5%), where a much smaller proportion of banks is currently bound by the leverage ratio requirement.

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

Group 1 banks

Graph 5



[1] Output floor refers to current output floors such as the Basel I floor.

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

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	2	2	2	2	2	2
Australia (RW)	4	4	0	4	4	2	1	1	0	1	1	1
Belgium (EU)	2	2	2	2	2	2	3	3	3	3	2	2
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
Finland (EU)	1	1	1	1	1	1	0	0	0	0	0	0
France (EU)	5	5	5	5	5	5	2	2	2	2	2	2
Germany (EU)	6	6	6	6	6	4	21	21	21	21	21	0
India (RW)	9	9	9	9	9	1	0	0	0	0	0	0
Indonesia (RW)	0	0	0	0	0	0	2	2	0	2	2	2
Italy (EU)	2	2	2	2	2	2	10	10	10	10	8	8
Japan (RW)	16	16	16	16	16	15	3	3	3	3	3	3
Korea (RW)	8	8	8	8	8	8	0	0	0	0	0	0
Luxembourg (EU)	0	0	0	0	0	0	2	2	2	2	2	2
Mexico (AM)	1	1	1	1	1	1	5	5	5	5	5	3
Netherlands (EU)	4	4	4	4	4	3	3	3	3	3	3	0
Russia (EU)	1	1	1	1	1	1	0	0	0	0	0	0
Saudi Arabia (RW)	3	3	2	3	3	0	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	5	5	5	5	3	3
Sweden (EU)	3	3	3	3	3	1	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	3	4	3	3	3	3	2	2
United States (AM)	13	11	13	13	11	8	0	0	0	0	0	0
Total	111	109	105	111	107	76	67	67	64	67	61	31
Of which: G-SIBs	30	30	30	30	29	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	101	4,651	31,028	72,357	71,728
Of which: Europe	19	1,072	7,393	16,228	16,149
Of which: Americas	34	1,379	8,319	25,780	24,717
Of which: Rest of the world	48	2,200	15,316	30,349	30,862
Of which: G-SIBs	30	3,226	21,798	51,021	50,192
Group 2 banks	58	164	972	2,886	2,834

[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
Belgium (EU)	2	2
Brazil (AM)	2	0
Canada (AM)	6	0
China (RW)	6	0
Finland (EU)	1	0
France (EU)	5	2
Germany (EU)	6	20
India (RW)	4	0
Italy (EU)	2	7
Japan (RW)	12	3
Korea (RW)	8	0
Luxembourg (EU)	0	2
Mexico (AM)	1	5
Netherlands (EU)	4	3
Russia (EU)	1	0
Saudi Arabia (RW)	1	0
Singapore (RW)	3	0
South Africa (RW)	4	2
Spain (EU)	2	3
Sweden (EU)	3	3
Switzerland (EU)	2	0
Turkey (EU)	1	0
United Kingdom (EU)	4	2
United States (AM)	9	0
Total	89	54

[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	
September 2012	*Results of the Basel III monitoring exercise as of 31 December 2011*, www.bis.org/publ/bcbs231.htm	
March 2013	*Results of the Basel III monitoring exercise as of 30 June 2012*, www.bis.org/publ/bcbs243.htm	
September 2013	*Basel III monitoring report,* www.bis.org/publ/bcbs262.htm	
March 2014	*Basel III monitoring report,* www.bis.org/publ/bcbs278.htm	
September 2014	*Basel III monitoring report,* www.bis.org/publ/bcbs289.htm	
	Main findings of the trading book hypothetical portfolio exercise	Diana Iercosan, Derek Nesbitt and Arnaud Sandrin
March 2015	*Basel III monitoring report,* www.bis.org/bcbs/publ/d312.htm	
	Analysis of the QIS for the fundamental review of the trading book	
September 2015	*Basel III monitoring report,* www.bis.org/bcbs/publ/d334.htm	
March 2016	*Basel III monitoring report,* www.bis.org/bcbs/publ/d354.htm	
	Comprehensive QIS on interest rate risk in the banking book	Ethan Goh, Kamil Pliszka and Davy Reinard
September 2016	*Basel III monitoring report,* www.bis.org/bcbs/publ/d378.htm	
	Results of the quantitative impact study on the large exposures review clause	Marie-Céline Bard, Ken Taniguchi and Lynnette Withfield
February 2017	*Basel III monitoring report*, www.bis.org/bcbs/publ/d397.htm	
	Impact of the revised minimum capital requirements for market risk	Scott Nagel
	Results of the survey on the interaction of regulatory instruments	Diana Hancock and Doriana Ruffino
September 2017	*Basel III monitoring report*, www.bis.org/bcbs/publ/d416.htm	
	Impact of the revised minimum capital requirements for market risk	Scott Nagel
	Impact of the revised securitisation framework	Bernardo D'Alessandro, Thomas Morck and Emanuela Piani
December 2017	*Basel III monitoring report – Results of the cumulative quantitative impact study*, www.bis.org/bcbs/publ/d426.htm	
March 2018	*Basel III monitoring report*, www.bis.org/bcbs/publ/d433.htm	
	Impact of the revised securitisation framework	Bernardo D'Alessandro, Thomas Morck and Emanuela Piani
October 2018	*Basel III monitoring report*, www.bis.org/bcbs/publ/d449.htm	
March 2019	*Basel III monitoring report,* www.bis.org/bcbs/publ/d461.htm.	

September 2019	*Basel III monitoring report*, www.bis.org/bcbs/publ/d477.htm.	
	Counterparty credit risk and credit valuation adjustment risk	Alexandra Gebauer, Evariste Beigneux and Giulio Malberti
April 2020	*Basel III monitoring report*, www.bis.org/bcbs/publ/d500.htm.	
	Counterparty credit risk and credit valuation adjustment risk	Thomas Blumentritt
December 2020	*Basel III monitoring report*, www.bis.org/bcbs/publ/d512.htm.	
	Counterparty credit risk and credit valuation adjustment risk	Thomas Blumentritt and Alexandra Gebauer