REPORT ON STANDARDISED APPROACHES UNDER COUNTERPARTY CREDIT RISK

UNDER ARTICLE 514 OF THE CRR

EBA/REP/2023/14 30 MAY 2023

EBA EUROPEAN BANKING AUTHORITY

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Abbreviations

BI	Business indicator
CCP	Central counterparty
CCR	Counterparty credit risk
CRR	Capital requirements regulation
CVA	Credit valuation adjustment
EBA	European Banking Authority
EEA	European Economic Area
EV	Exposure value
EU	European Union
IMM	Internal Model Method
ISF	Infrastructure supporting factor
MtM	Mark-to-Market Method
MRC	Minimum required capital
OEM	Original Exposure Method
OF	Output floor
RWA	Risk-weighted assets
SA-CCR	Standardised Approach for Counterparty
SM	Standardised Method
SME	Small medium enterprise

1. Executive summary

The present report has been produced according to Article 514(1) of the CRR, which requests the EBA to report to the European Commission on the impact and relative calibration of the three new standardised approaches to calculate the exposure values (EV) of derivative transactions under the counterparty credit risk (CCR) framework, introduced by Regulation (EU) 2019/876 (CRR2). The CRR2 implemented the Standardised Approach to Counterparty Credit Risk (SA-CCR) into EU legislation, replacing both the Mark-to-Mark Method[1] (MtM) and the Standardised Method (SM) for calculating the exposure value of derivatives transactions. In addition, the CRR2 introduced a simplified version of SA-CCR (simplified SA-CCR) and revised the 'old' Original Exposure Method (OEM) for institutions with smaller derivative business.

In its proposal for a Regulation amending the CRR (CRR3), the European Commission introduced an output floor (OF) to the risk-based capital requirements. In Article 465(4) of the proposal, transitional arrangements are envisaged: for CCR, until 31 December 2029, institutions with Internal Model Method (IMM) permission, shall replace alpha by 1 in the SA-CCR calculation of the exposure value for their derivative contracts. Article 465(4) also includes the option for the Commission, after taking into account this EBA report, to permanently modify the value of alpha under SA-CCR used in the calculation of the exposure values of derivatives under the IMM for the OF. Therefore, the present report includes an analysis of the impact of setting alpha equal to 1 under SA-CCR for the purposes of the OF on a permanent basis.

SA-CCR, simplified SA-CCR and OEM are not used exclusively in the calculation of EV for CCR, but they are also used in other parts of the prudential framework, e.g. for CVA risk, in the leverage ratio calculation and in the large exposures regime. However, the quantification of those 'indirect' impacts is considered beyond the mandate and hence not included in the report.

The analysis in the present report is based on both supervisory reporting data (COREP) and QIS data, with 31 December 2021 as reference date. QIS data have been collected via a dedicated template covering the impact and relative calibration of the standardised approaches for counterparty credit risk ('EU CCR'), reported by institutions on a voluntary and best-effort basis. The report uses four main samples which differ significantly in terms of size and composition: COREP sample (1306 institutions – used to analyse the EU landscape regarding CCR), QIS impact sample (65 institutions), QIS calibration sample (40 institutions) and QIS cumulative sample (160 institutions – used for the OF analysis). To avoid double-counting, only credit institutions at the highest level of EU/EEA are included in the samples.

CCR represents on average a small share (3.0% in terms of EV and 3.4% in terms of RWA) of the total credit risk and it is very concentrated in a small number of large banks (22 institutions use IMM and account for 46.5% of total EU CCR exposures). SA-CCR is used by 534 institutions and

[1] Referred to in the Basel standards as the Current Exposure Method (CEM).

covers 52.2% of the CCR exposures in EU. Simplified SA-CCR is used by very few banks (52) and covers a tiny amount of EU CCR exposures (0.2%). OEM is the most widespread method (734 institutions), but it accounts for only 1% of EU CCR exposures.

Impact and relative calibration of the SA-CCR

The introduction of SA-CCR led to an average reduction in EV of -7.3%, which is lower than expected, while the median bank experienced an increase of 25%. The difference between the median and average values can be explained by looking at how the impact is distributed across banks. In fact, the impact is quite different across banks, depending on the size and composition of their derivative portfolios. Larger banks, accounting for a large share of total reported EV, mainly experienced negative impacts, while banks with smaller derivative business, accounting for a small share of the total reported EV, displayed large positive impacts. In addition, these banks have also lower CCR to CR EV ratios and hence the overall impact on their total EV is expected to be rather limited. In many cases and for well collateralised netting sets, the introduction of SA-CCR has led to a decrease in calculated EV: -17% when Variation Margin (VM) is posted and -40.9% when also Initial Margin (IM) is posted. This is in line with the objectives of the SA-CCR framework including the objective to differentiate between margined and unmargined transactions. In terms of CCR RWA, an increase is observed both on average (10.5%) and for the median bank (46.6%).

In terms of calibration, when compared to the IMM, SA-CCR produces EV figures that are on average 60% higher (40% higher for the median bank). These numbers are fully in line with the calibration made by BCBS[2] when developing the SA-CCR methodology. Looking at the treatment of collateralisation, and while recognizing SA-CCR is more risk-sensitive to margined transactions than the previous framework, SA-CCR figures are 30% higher than IMM ones for uncollateralised business, 70% higher when VM is posted and 180% higher when IM is posted. It should be considered, however, that IM recognition under SA-CCR, in particular in the multiplier formula, is by design conservative, as it accounts for some hypotheses[3] made when designing the SA-CCR framework, such as Gaussian distribution of returns. It has been shown[4] that, when more realistic distributions exhibiting skewness and kurtosis are assumed (e.g. Student t), the SA-CCR formula for the multiplier proves to be a reasonable approximation. However, it could still be of interest to further investigate whether any improvement in IM recognition is possible, which should lead to increased risk sensitivity and at the same time maintain the prudent calibration of the framework.

The data presented in this report does not identify any significant misalignment of approaches nor does it point to strong evidence that the SA-CCR should be recalibrated at this juncture, at least from a risk-based point of view.

[2] BCBS, Consultative Document – The non-internal model method for capitalizing counterparty credit risk exposures. (2013 rev. 2013) https://www.bis.org/publ/bcbs254.pdf.

[3] BCBS, WP 26 – Foundations of the standardised approach for measuring counterparty credit risk exposures. (2014 rev. 2017) https://www.bis.org/publ/bcbs_wp26.pdf.

[4] Roberson, M. An Empirical Analysis of Initial Margin and the SA-CCR (2018) https://www.cftc.gov/sites/default/files/2018-07/SA-CCRPaper0718.pdf.

Impact and relative calibration of the simplified SA-CCR and OEM

Simplified SA-CCR is used by a very limited number of banks with small derivative business. The average impact from its introduction is an increase of 38% in calculated EV and of 19.4% in CCR RWA. Simplified SA-CCR figures are on average 60% higher that the SA-CCR ones (40% for the median bank).

The 'new' OEM is used by a significant number of small banks, for very small and non-significant amounts of derivative exposures. Its introduction generated an average increase of 32.9% in EV and 11.8% in CCR RWA (which is 42.3% and 0% for the median bank, respectively). As expected, the OEM is the most conservative approach, generating exposure figures that are on average 110% higher than the simplified SA-CCR ones (30% for the median bank). As already suggested in the EBA Report on SA-CCR and FRTB implementation, it is important to maintain OEM conservativeness, in order to account for its simplicity.

Impact of setting alpha equal to 1 under SA-CCR for the OF

The full implementation of the final Basel III standards is expected to increase T1 MRC by 15.0% relative to the current EU capital requirements. The OF is one of the main drivers of the impact contributing with an increase of 6.3% in T1 MRC. This report shows that setting alpha equal to 1 on a permanent basis for the purposes of the OF reduces the impact only marginally by 0.2%. Similar figures are found when EU specificities are taken into consideration in the implementation of the final Basel III standards (T1 MRC overall increases by 10.7%, OF contribution is 6.8% and setting alpha equal to 1 reduces the impact by 0.2%).

The data presented in this report shows that setting alpha equal to 1 under SA-CCR for the OF would produce very limited effects in the application of the OF for EU institutions included in the scope of this report. In addition, a change to the calibration of the alpha factor for the OF could also be harmful from a risk perspective as it undermines a critical element of the SA-CCR. This suggests a careful assessment of the merits of such deviation from the Basel standards.

2. General remarks

2.1 Background and mandate

1. In March 2014, the Basel Committee on Banking Supervision (BCBS) published a final standard on the standardised approach for measuring counterparty credit risk exposures associated with OTC derivatives, exchange-traded derivatives, and long settlement transactions. The new standardised approach (SA-CCR) replaced the existing non-modelled approaches in the Basel capital adequacy framework, the Current Exposure Method (CEM) and the Standardised Method (SM). The introduction of SA-CCR did not affect a bank's option to use the Internal Model Method (IMM) as an alternative method for calculating counterparty credit risk exposures, subject to supervisory approval.[5]

2. The revised Capital Requirements Regulation (CRR2), published in the Official Journal in June 2019, revised the three standardised approaches available to institutions until then for calculating the EV of derivative transactions under the CCR framework: the Mark-to-Market Method (MtM), the Standardised Method (SM) and the 'old' OEM. In particular, the co-legislators considered that those standardised approaches 1) did not recognise appropriately the risk-reducing nature of collateral in the exposures, 2) were outdated in terms of calibration of their parameters, which did not reflect the high level of volatility observed during the financial crisis, and 3) did not recognise appropriately netting benefits. Therefore, in line with the BCBS international standards, the SM and the MtM were replaced by the SA-CCR. By introducing the SA-CCR, which is by construction more risk sensitive than the old approaches, the co-legislators aimed at better reflecting the risks related to institutions' derivative transactions. At the same time, considering that the SA-CCR might prove to be too complex and burdensome compared to the old approaches, a simplified version of the SA-CCR was also introduced. Finally, a revised version of the 'old' OEM was maintained as a simplified alternative for institutions with limited derivative exposures and for which both the SA-CCR and the simplified SA-CCR could be too complex to implement. Subject to supervisory approval, the IMM also remains an option for determining the exposure value of derivative transactions.

3. Article 514 of the CRR2 mandates the EBA to develop a report addressed to the Commission on the impact and the relative calibration of the standardised approaches to calculate exposure values of derivative transactions, namely the SA-CCR, simplified SA-CCR and OEM. On the basis of this report, the Commission shall, where appropriate, submit a legislative proposal to amend the SA-CCR, simplified SA-CCR and OEM[6].

[5] In this report, the terms 'bank' and 'credit institution' are used interchangeably.

[6] The Council proposal of CRR3 of 31 October 2022 proposes an amendment to Article 514(2) of the CRR, according to which the Commission shall, where appropriate, submit a legislative proposal not only on the basis of this report, but

4. In its proposal for a Regulation amending the CRR (CRR3)[7], the European Commission introduced an output floor (OF) to the risk-based capital requirements, to reduce the excessive variability of institutions' own funds requirements calculated using internal models. The OF sets a lower limit to the capital requirements that are produced by institutions' internal models, at 72.5% of the own funds requirements that would apply on the basis of standardised approaches for all risk types. In the proposal, however, transitional arrangements are envisaged. For CRR, until 31 December 2029, institutions with IMM permission which are requested to use SA-CCR for calculating their standardised total risk exposure amount, shall replace alpha by 1 in the calculation of the exposure value for their derivative contracts. According to the proposed text, the Commission may also adopt a delegated act to permanently modify the value of alpha, where appropriate and having taken into account the present EBA report[8]. Therefore, the present report includes an analysis of the impact of setting alpha equal to 1 under SA-CCR for the purposes of the OF on a permanent basis.

2.2 Data and sample

2.2.1 Data

5. The analysis in this report is based on two data sources:

- Supervisory reporting data, namely COREP, as of 31 December 2021[9], which are available for all EU/EEA credit institutions[10];
- QIS data as of 31 December 2021, which are collected on a mandatory basis for a representative set of EU/EEA credit institutions[11].

6. To gather the necessary information for addressing the mandate under Article 514 of the CRR2, the regular QIS templates were supplemented with a dedicated template covering the impact and relative calibration of the standardised approaches for counterparty credit risk ('EU CRR')[12]. This additional template was collected on a voluntary and best-effort basis, with the purpose of reducing the burden for participating institutions[13].

2.2.2 Sample

also taking due account of the implementation in third countries of the internationally agreed standards developed by the BCBS.

[7] Commission proposal of CRR3 of 27 October 2021

[8] This option, included under the second subparagraph of Article 465(4) of the Commission proposal, has been removed from the Council proposal of CRR3.

[9] Except for the time series analysis in Figure 1, which uses COREP data from 30 June 2021 to 31 September 2022.

[10] This covers a total of 4133 credit institutions reporting at individual and/or consolidated level.

[11] See EBA/DC/2021/373 (consolidated version) for the sample selection criteria.

[12] For more information on the templates see EU specific Basel III monitoring template and EU specific Basel III monitoring instructions.

[13] A total of 99 credit institutions submitted - at least some part of – the 'EU CCR' template at individual and/or consolidated level.

7. The report uses four main samples (Table 1) which differ significantly in terms of size and composition:

- **COREP sample**: The sample consists of 1306 credit institutions from 27 EU/EEA countries. It covers credit institutions submitting COREP data as of 31 December 2021, which reported positive counterparty credit risk exposure values for derivative exposures. To avoid double-counting, only credit institutions reporting data at the highest level of EU/EEA are included in the sample. The COREP sample is used to analyse the current situation presented in Chapter 3.

- **QIS impact sample**: The sample consists of 65 credit institutions from 22 EU/EEA countries, representing around 34.6% of the total EU/EEA counterparty credit risk derivative exposures[14]. It covers credit institutions submitting QIS data as of 31 December 2021, which reported data of sufficient quality in Panel B of the 'EU CCR' template[15]. Subsidiaries with an EU parent are excluded from the sample to avoid double-counting. The QIS impact sample is used to assess the impact of the standardised approaches presented in Chapter 4[16].

- **QIS calibration sample**: The sample consists of 40 credit institutions from 15 EU/EEA countries, representing around 47.2% of the total EU/EEA counterparty credit risk derivative exposures. It covers credit institutions submitting QIS data as of 31 December 2021, which reported data of sufficient quality in either Panel C1, C2 or C3 of the 'EU CCR' template[17]. Subsidiaries with an EU parent are excluded from the sample to avoid double-counting. The QIS calibration sample is used to gauge the relative calibration of the standardised approaches presented in Chapter 5[18].

- **QIS cumulative sample**: The sample consists of 160 credit institutions from 30 EU/EEA countries. It covers credit institutions submitting QIS data as of 31 December 2021 for at least one of the credit risk components (IRB or SA), the operational risk and the leverage ratio (LR). The cumulative sample is used to carry out the output floor analysis presented in Chapter 6.

[14] The coverage is estimated as the share of counterparty credit risk derivative exposures of the QIS sample over the counterparty credit risk derivative exposures of the COREP sample.

[15] Data are considered of sufficient quality only if exposure values and risk weighted amounts under both the current and previous framework are consistently reported.

[16] Out of the 99 credit institutions that submitted the 'EU CCR' template, 3 banks are excluded because they are subsidiaries with an EU parent, 29 banks are excluded because they did not reported EV and RWA for both current and previous framework and an additional 2 are excluded because of poor data quality.

[17] Data are considered of sufficient quality only if the same set of derivative transactions are consistently reported by applying two or more counterparty credit risk approaches to calculate the exposure value. For example, to be included in the relative calibration of SA-CCR to OEM, a credit institution has to consistently report the counterparty credit risk exposure values by applying both SA-CCR and OEM to determine these for at least part of its portfolio.

[18] Out of the 99 credit institutions that submitted the 'EU CCR' template, 3 banks are excluded because they are subsidiaries with an EU parent, 56 banks are excluded because they did not report data for at least one pair of approaches for part of their portfolio.

Table 1 Number of credit institutions in the COREP and QIS samples, by country

Country	COREP sample	QIS impact sample	QIS calibration sample	QIS cumulative sample
AT	191	4	2	10
BE	16	2	2	6
BG	2	0	0	3
CY	4	0	0	3
CZ	8	1	1	1
DE	685	7	8	38
DK	27	1	1	7
EE	1	0	0	2
ES	56	4	4	6
FI	10	2	2	3
FR	35	4	2	7
GR	7	3	1	4
HR	0	0	0	1
HU	5	0	0	2
IE	13	5	3	9
IS	3	2	0	3
IT	66	6	4	8
LI	0	0	0	3
LT	3	0	0	1
LU	34	4	0	4
LV	7	2	0	2
MT	7	1	0	4
NL	25	4	4	8
NO	0	1	0	4
PL	7	3	2	5
PT	13	2	0	5
RO	4	2	0	2
SE	72	3	3	6
SI	3	2	0	2
SK	2	0	1	1
Total	**1306**	**65**	**40**	**160**

8. In addition, for the time series analysis included in Chapter 3 (Figure 1), a ‘constant sample’ is used to allow for meaningful comparisons over time. This ‘constant sample’ includes a subset of 740 credit institutions from the COREP sample, which have consistently reported COREP data from 30 June 2021 to 31 September 2022.

9. It should be noted that several credit institutions in the QIS calibration sample did not report data for all possible combinations between standardised approaches to be able to estimate a relative calibration. For example, a credit institution with derivative exposures under SA-CCR

may have only provided data by applying the simplified SA-CCR to these exposures but not the OEM. As a result, these credit institutions are excluded from certain parts of the analysis in Chapter 5 due to insufficient data.

2.3 Methodology

2.3.1 Aggregation

10. Unless stated otherwise, all averages are weighted. For example, the average share of counterparty credit risk exposure values under SA-CCR relative to the total counterparty credit risk exposure values, is the sum of all credit institutions' counterparty credit risk exposure values under SA-CCR divided by the sum of all credit institutions' total counterparty credit risk exposure values.

2.3.2 Impact metrics

11. The impacts of the standardised approaches for counterparty credit risk are presented in terms of a) changes in the methods used by institutions to compute counterparty credit risk exposure values; b) changes in exposure values (EV); c) changes in risk-weighted assets (RWA).

12. Unless stated otherwise, the impacts compare the current counterparty credit risk framework under the CRR2 with the previous counterparty credit risk framework under CRR.

2.3.3 Relative calibration metrics

13. The relative calibration of the standardised approaches for counterparty credit risk is assessed in terms of the ratio of exposure values calculated under one counterparty credit risk approach over the exposure values calculated under another counterparty credit risk approach. For example, the SA-CCR-to-IMM ratio is calculated as the exposure values calculated by applying SA-CCR over the corresponding exposure values calculated by applying IMM, for those banks that reported both SA-CCR and IMM.

14. The portfolios included in the calculations depend on data quality and require that a credit institution reports consistently the exposure values for the same set of derivative transactions by applying both approaches in question. For example, the SA-CCR-to-simplified SA-CCR ratio may include derivative transactions that are currently under the IMM if the exposures values of these transactions are calculated by applying the SA-CCR and simplified SA-CCR approaches.

15. The calibration ratios are calculated at the overall portfolio level as well as the collateralization-, counterparty- and credit approach-level.

2.3.4 Output floor analysis

16. The current CRR3 proposal provides for a transitional arrangement, whereby credit institutions shall apply a lower value for alpha (equal to 1) in the calculation of exposure values for derivative

contracts when using SA-CCR for the purposes of the output floor until 31 December 2029. Article 465(4) of the Commission CRR3 proposal provides for the option to permanently modify the value of alpha under SA-CCR for the purposes of the output floor. The output floor analysis assesses the impact of this option based on the assumption that the value of alpha is maintained at 1 on a permanent basis after the expiration of the transitional period.

17. The methodology for this analysis follows the methodology used in the regular EBA Basel monitoring report and the ad-hoc analysis of EU specific adjustments. The impact is presented in terms of changes in Tier 1 minimum required capital (T1 MRC) under two implementation scenarios:

- **Basel III pure scenario:** assumes the full implementation of the December 2017 agreement and removing any major EU-specific treatments applicable in the current framework.

- **EU-specific scenario:** consider additional implementation features that are either part of the current CRD 4-CRR 2 framework or of the CRR 3 Commission Proposal. The main elements considered include: a) maintaining the SME supporting factor and the Infrastructure supporting factor (ISF) envisaged in the current CRD 4-CRR 2 framework under SA and IRB (also including it in non-modelling RWA for the purpose of the output floor calculation); b) maintaining the CVA exemptions envisaged in the current CRD 4-CRR 2 framework in the own fund requirements for CVA risks; and c) assuming that the EU will exercise the discretion included in the final Basel III framework to set the historical loss component equal to 1 on the own-funds requirements for operational risk for buckets 2 and 3 banks only.[19] For the full list of the features considered see the EU annex to the EBA Basel monitoring Report (data as of end-December 2021).

18. For more details on the methodology and scenarios see EBA/REP/2022/21 and its Annex.

2.4 Data quality

19. The QIS 'EU CRR' data have been submitted by credit institutions on a voluntary and best-effort basis. The EBA has carried out a series of checks to ensure data quality, completeness and consistency of the data. Nevertheless, only a subset of credit institutions submitted complete and good quality data for all parts of the analysis. As a result, several credit institutions are excluded from various analysis in Chapter 4 and 5, reducing significantly the sample used. The results should therefore be interpreted with caution.

2.5 Structure of the report

[19] Banks in bucket 2 are those with a Business indicator (BI) between EUR 1 and EUR 30 billion. Banks in bucket 2 are those with a BI equal to or higher than EUR 30 billion. See the final Basel III standards for more details on the definition of the BI.

20.This report is structured as follows:

- **Chapter 3** provides an overview of the current situation;
- **Chapter 4** assesses the impact of the current standardised approaches for counterparty credit risk in CRR2 relative to the previous methods available under CRR;
- **Chapter 5** focuses on the relative calibration of the standardised approaches for counterparty credit risk;
- **Chapter 6** discusses the impact of the CRR3 proposal to modify alpha under SA-CCR for the purposes of the output floor.

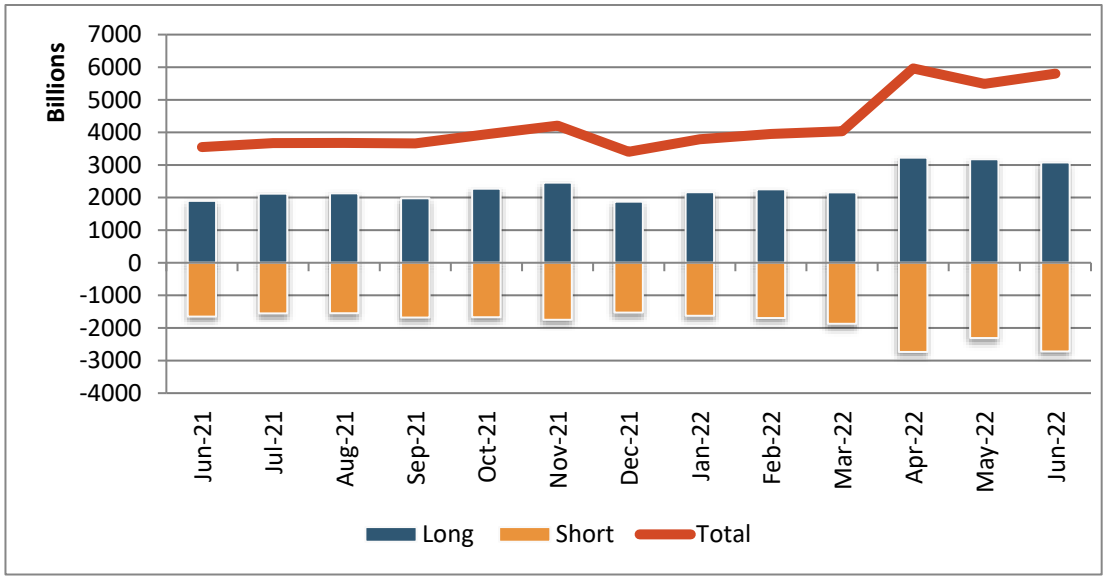
3. Current situation

3.1 Size and market structure of derivative business

21. Figure 1 shows the evolution of the size of the derivative business for EU/EEA credit institutions, where the size is calculated in accordance with Article 273a(3) of the CRR[20]. The derivative business was rather stable from June 2021 until March 2022 hovering around EUR 3.8 trillion, before soaring in the second quarter of 2022 to about EUR 5.8 trillion. The significant increase is widespread across credit institutions, with the median bank experiencing an increase close to 75% in the size of its derivative business between 2022 Q1 and 2022 Q2.

22. The observed increase in the size of derivative business coincided with a period of heighted volatility in the markets following the Russian invasion of Ukraine and increasing oil prices (Figure 2). In addition, the anticipation of tightening monetary policy and rising policy interest rates by central banks across the world may have affected the value of the existing derivatives business (through increasing short-term rates, e.g. Euribor 3m).

Figure 1: Size of the derivative business (EUR billions) over time

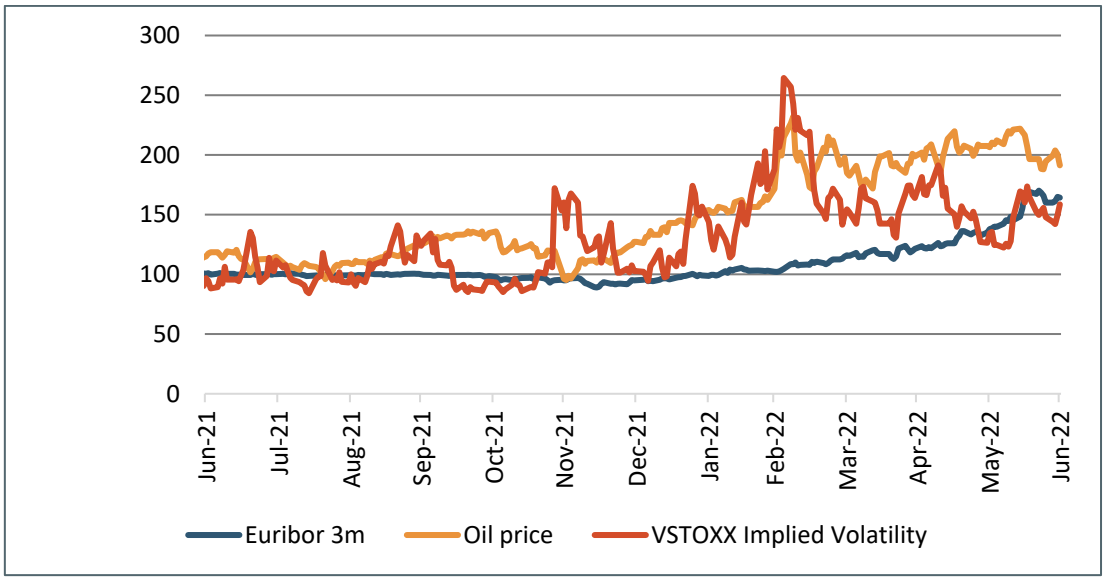


Source: Supervisory reporting data (December 2021) and EBA calculations.

Note: Based on a 'constant sample' of 740 credit institutions, which consistently reported data from 30 June 2021 to 31 September 2022.

[20] This cover derivatives for which counterparty credit risk is calculated with either IMM, SA-CCR, simplified SA-CCR or OEM.

Figure 2: Euribor 3m, Oil price, and VSTOXX volatility over time

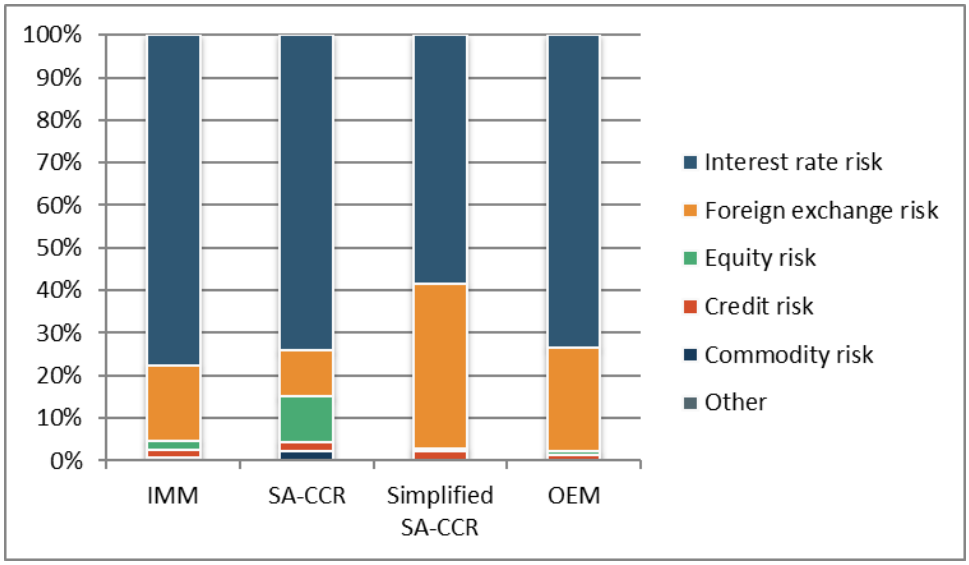


Source: Bloomberg and EBA calculations.

Note: Euribor 3m, Oil price and VSTOXX implied volatility are normalised to 100 at the beginning of the period.

23. Figure 3 breaks down the total notional amount of derivative transactions by risk category. Interest rate risk makes up most of the notional amount of derivative exposures across all standardised approaches (74.2% for SA-CCR, 58.4% for Simplified SA-CCR and 73.6% for OEM). Foreign exchange risk is the second largest contributor under Simplified SA-CCR (38.8%) and OEM (24.3%), while for SA-CCR both foreign exchange risk and equity risk have a similar contribution (10.8% and 10.6%, respectively). The remaining risk categories compose only a small share of the total notional amount of the derivative business under the standardised approaches. For the internal method, 77.7% of the notional amount is represented by derivative transactions allocated to interest rate risk and 17.8% to foreign exchange risk.

Figure 3: Breakdown of notional amount of derivative exposures under the standardised approaches by risk category



Source: Supervisory reporting data (December 2021) and EBA calculations.

3.2 Counterparty credit risk as a share of credit risk

24. For most credit institutions, counterparty credit risk constitutes only a small share of their credit risk EV and RWA (Table 2). On average, it accounts for 3.0% of the total credit risk EV and 3.4% of the total credit risk RWA. For 75% of the sample, the counterparty credit risk EV constitute less than 0.7% of the total credit risk EV and the counterparty credit risk RWA less than 0.2% of the total credit risk RWA.

25. However, for a small set of banks (18 banks accounting for 11.5% of the EEA/EU CCR exposure values), CCR EV is far from negligible, exceeding 10% of the total credit risk EV. The same holds true for CCR RWA, where for 40 banks (accounting for 22.2% of total EEA/EU CCR RWA) the share with respect to the total credit risk RWA is above 10%.

Table 2: Ratio of CCR EV to credit risk EV and ratio CCR RWA to credit risk RWA, distribution

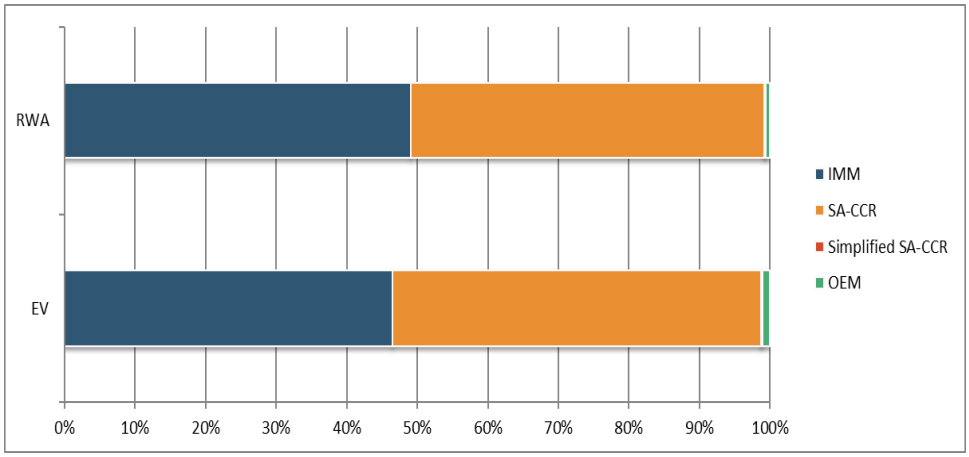
Statistic	EV	RWA
5th percentile	0.0%	0.0%
25th percentile	0.0%	0.0%
50th percentile	0.3%	0.0%
75th percentile	0.7%	0.2%
95th percentile	2.9%	5.3%
Weighted average	3.0%	3.4%

Source: Supervisory reporting data (December 2021) and EBA calculations.

3.3 Current counterparty credit risk approaches

26. Figure 4 provides a breakdown of the total reported CCR EV and RWA by each of the counterparty credit risk approach. The majority of EV are calculated using the standardised approaches. Among those, SA-CCR is the most widely used approach, accounting for 52.2%, while simplified SA-CCR and OEM represent only 0.2% and 1.0%, respectively. A large share of EV is also calculated by applying the IMM (46.5%). The same holds true when looking at the counterparty credit risk RWA, where 50.9% of the total counterparty credit risk RWA correspond to exposure values determined by the standardised approaches (of which 50.1% by SA-CCR, 0.2% by simplified SA-CCR and 0.6% by OEM) and 49.1% by the IMM.

Figure 4: Breakdown of counterparty credit risk EV and RWA by counterparty credit risk approach

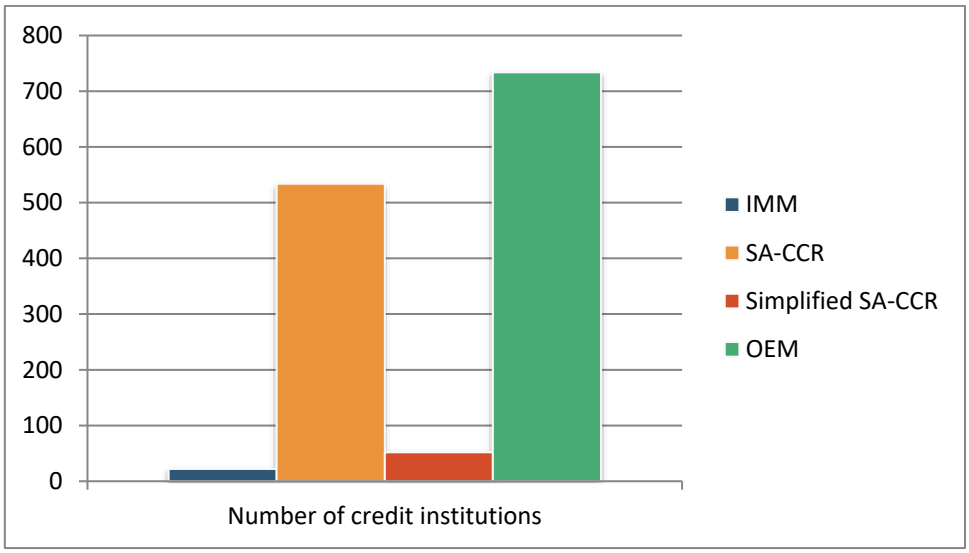


Source: Supervisory reporting data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

27. However, in terms of the number of credit institutions, OEM together with SA-CCR are the most widespread approaches used by 734 and 534 credit institutions, respectively. Simplified SA-CCR is used to a much lower extent (52 credit institutions), while IMM is only used by a few of the largest banks (22 credit institutions).

Figure 5: Number of credit institutions by use of counterparty credit risk approach



Source: Supervisory reporting data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach. Hence, the categories do not necessarily sum up to the total number of credit institutions in the sample.

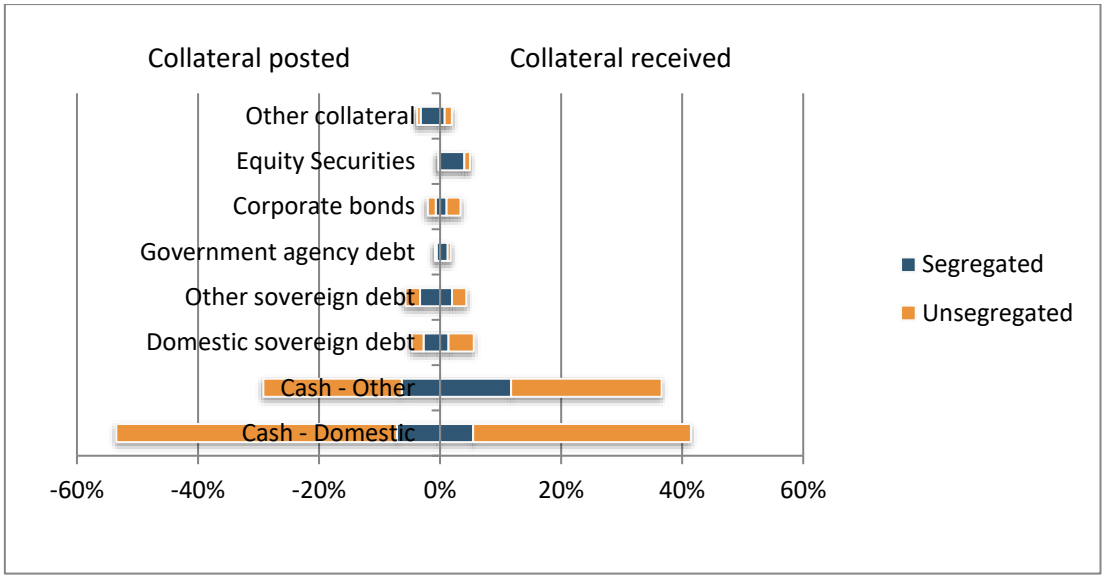
3.4 Composition of collateral posted/received

28. Figure 6, Figure 7 and Figure 8 provide an overview of the composition of collateral used in derivative transactions,[21] breaking down the fair values of collateral received or posted by: a) the types of collateral exchanged; b) the amount of collateral that is exchanged as variation (VM) or initial margin (IM); and c) whether the collateral is segregated[22] or unsegregated. The largest part (70.4% posted and 57.8% received) of the collateral considered in the analysis is exchanged as VM. VM is mainly unsegregated (88.6% of VM posted and 96.3% of VM received). On the contrary, IM is mainly segregated (54.9% posted and 60.6% received). Regarding the type of collateral, cash in domestic currency is the main type of collateral used (53.5% collateral posted and 41.6% received), followed by cash in other currencies (29.2% collateral posted and 36.6% received). For IM, other types of collateral are also commonly exchanged, in particular sovereign debt and equity securities.

[21] This covers collateral (posted or received) used in CCR exposures related to derivative transactions, whether or not the transactions are cleared through a CCP and whether or not collateral is posted to a CCP.

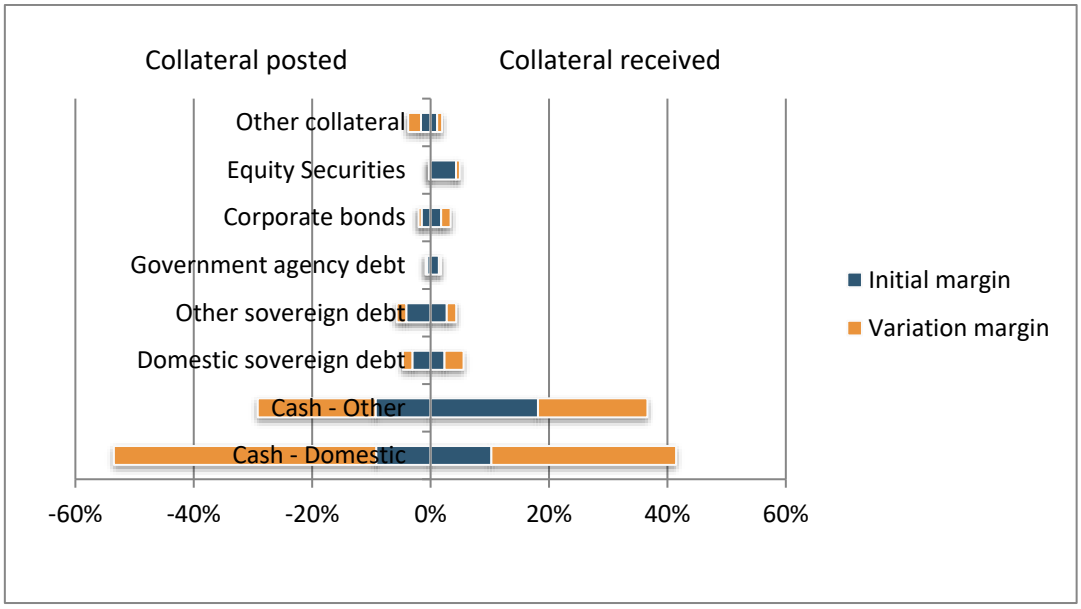
[22] Collateral that is held in a bankruptcy-remote manner as defined in Article 300(1) of the CRR.

Figure 6: Breakdown of collateral received/posted fair value by type of collateral and segregation (as a share of total collateral received/posted)



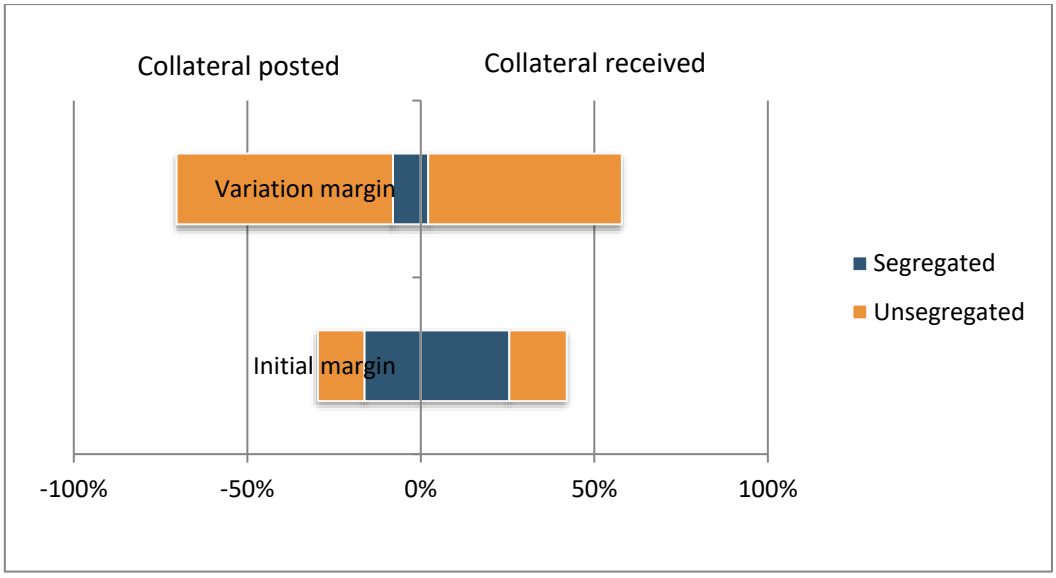
Source: Supervisory reporting data (December 2021) and EBA calculations.

Figure 7: Breakdown of collateral received/posted fair value by type of collateral and type of margin (as a share of total collateral received/posted)



Source: Supervisory reporting data (December 2021) and EBA calculations.

Figure 8: Breakdown of collateral received/posted fair value by type of margin and segregation (as a share of total collateral received/posted)



Source: Supervisory reporting data (December 2021) and EBA calculations.

4. Impact of standardised approaches

29. This chapter assesses the impact of the counterparty credit risk standardised approaches under CRR2 relative to all counterparty credit risk approaches under CRR.

30. According to the mandate in Article 514(1) of the CRR, the EBA shall report to the EC on the impact of the SA-CCR, simplified SA-CCR and OEM, similarly to what was done in 2016 in the response to the Commission Call for Advice on the SA-CCR implementation. At that time, the EBA was asked to report on the impact of introducing the SA-CCR in EU and reviewing the OEM.

31. In its Report from 2016 on SA-CCR and FRTB implementation[23], the EBA provided an overview of CCR RWA as a share of CR RWA and total RWA, analysed the approaches used for CCR purposes in the EU and assessed the impact of moving to the SA-CCR. Impact figures were provided (where available) not only in terms of RWA, but also in terms of exposure value. According to that report, the introduction of the SA-CCR would have led to an average increase in EV and RWA. For the median bank, the increase was quantified to be27% in EV and 40% in RWA for CCR, with a more diluted effect for banks using a combination of IMM and CEM/MtM (median increase of 5% in exposure value and 7% in RWA). Considering the low share of counterparty credit risk RWA in banks' total RWA, the overall impact on banks' total RWA was estimated as rather limited.

32. In the present report, the impact of SA-CCR, simplified SA-CCR and OEM is analysed along three dimensions: a) changes in the methods used by institutions to compute CCR exposure values, assessing how much of the current EV and RWA were calculated with each of the CCR approaches available prior to CRR2; b) changes in EV, comparing the EV calculated using the current CCR approaches with the EV calculated using the approaches available prior to CRR2; c) changes in RWA, comparing the RWA calculated using the current CCR approaches with the EV calculated using the approaches available prior to CRR2.

33. SA-CCR, simplified SA and OEM are not used exclusively in the calculation of capital requirements for CCR, but they are also used in other parts of the prudential framework, such as in the calculation of capital requirements for CVA risk[24], in the leverage ratio[25] and in the large

[23] Response to the European Commission's CfA on Standardised Approach for Counterparty Credit Risk and own funds requirements for market risk (EBA-Op-2016-19)

[24] According to Article 384(1) of the CRR, an institution which does not calculate the OFRs for CVA risk for its counterparties in accordance with the advanced method (see Article 383) shall calculate a portfolio OFRs for CVA risk for each counterparty in accordance with the standardised method. To calculate CVA own funds requirements under the standardised method, the EAD entering the calculations is the CCR exposure value of each counterparty calculated in accordance with SA-CCR, simplified SA-CCR, OEM or IMM, as applicable.

[25] According to Article 429c(1) of the CRR, institutions shall calculate the exposure values of derivative contracts listed in Annex II and of credit derivatives, including those that are off-balance-sheet, for the purpose of the leverage ratio (Part 7 of the CRR) in accordance with SA-CCR (with adjustments to the methodology as set out in paragraphs 3 to 5 of Article 429c). However, Article 429c(6) allows institutions to use simplified SA-CCR or OEM to determine the exposure value of derivative contracts listed in points 1 and 2 of Annex II, but only where they also use the methods for CCR purposes.

exposures[26] regime. The quantification of those 'indirect' impacts is considered to go beyond the mandate and hence not included as part of this report.

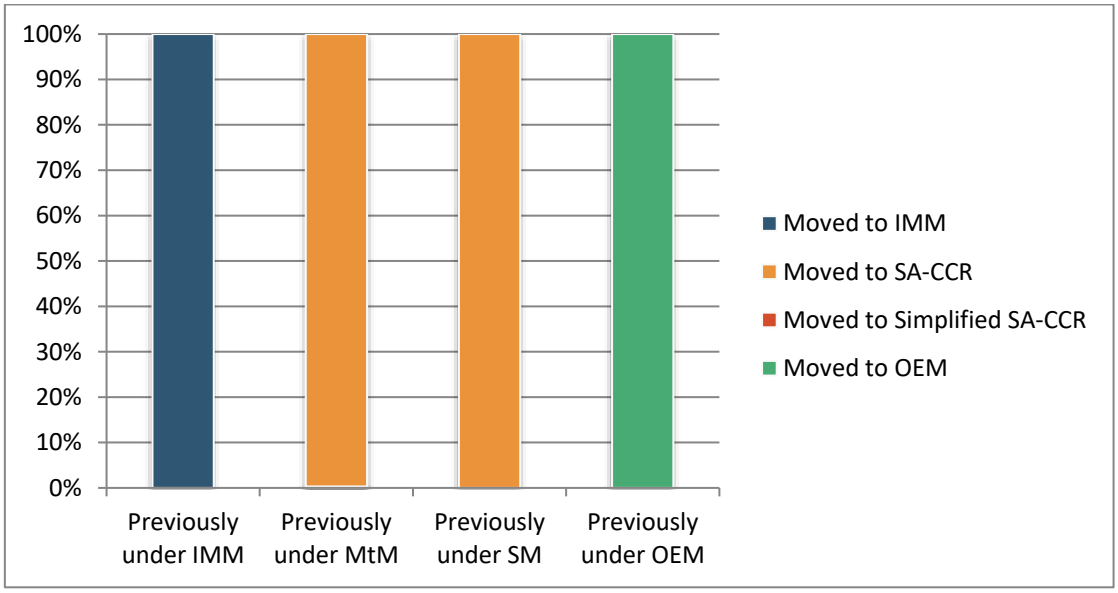
4.1 Changes in the methods used to calculate counterparty credit risk exposure values

34. Figure 9 presents the share of EV that moved from each of the old CCR approaches to the current CCR approaches.

35. The share of derivative business to which IMM is applied did not change: portfolios for which CCR capital requirements were previously calculated under the IMM remained entirely under the internal method, and no transactions for which CCR was previously calculated by one of the old standardised approaches moved to IMM.

36. Banks previously using the MtM have replaced such a method with SA-CCR for the vast majority of their derivative business (99.7% in terms of EV), while simplified SA-CCR and the new OEM have been used to a much smaller extent (0.1% and 0.2% in terms of EV). In addition, SA-CCR has completely replaced the SM, while the new OEM has completely replaced the old OEM.

Figure 9: Share of exposure value moving between previous and current CCR approaches



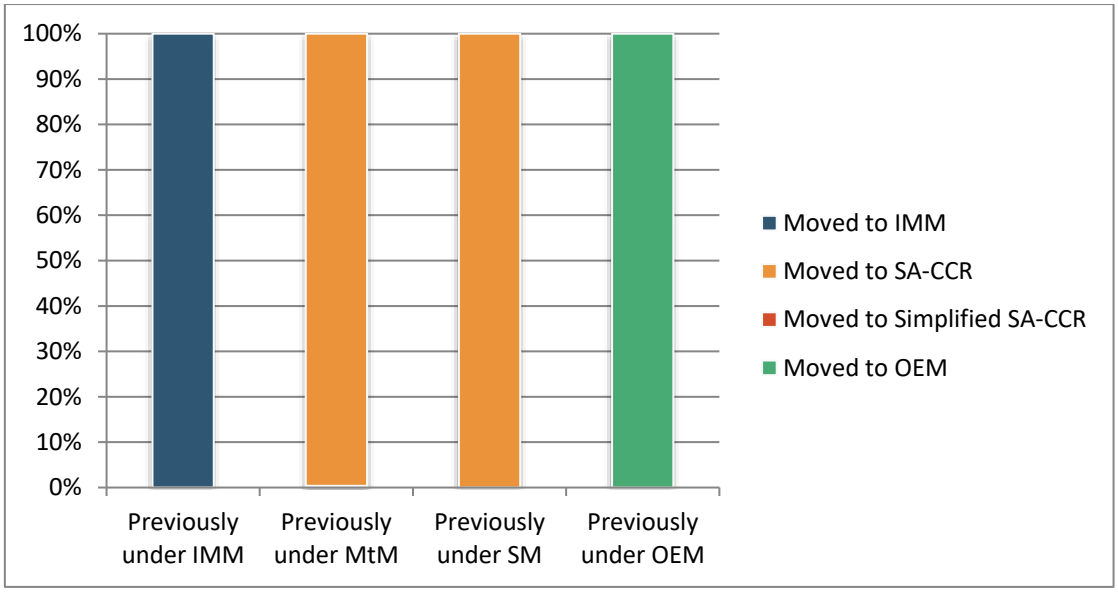
Source: EBA QIS data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

[26] According to Article 390(4) of the CRR, institutions shall calculate the exposure values of the derivative contracts listed in Annex II and of credit derivative contracts directly entered into with a client in accordance with SA-CCR, simplified SA-CCR or OEM, as applicable, for the purpose of the large exposure framework (Part 4 of the CRR).

37. Very similar results are shown in Figure 10 in terms of RWA moving between previous and current CCR approaches: 99.6% of what previously calculated under MtM moved to SA-CCR, 0.1% to simplified SA-CCR and 0.3% to the new OEM. In addition, all the exposures previously calculated under the old OEM moved to the new OEM and all the exposures previously calculated under the SM moved to the SA-CCR.

Figure 10: Share of RWA moving between previous and current CCR approaches



Source: EBA QIS data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

4.2 Changes in exposure values

38. Table 3 shows the distribution of the changes in exposure value when moving from the previous to the current CCR framework. Changes are shown in percentage and are broken down by current CCR approach. The distribution is not shown when there are less than 5 banks in a cluster.

39. For SA-CCR, the EV is on (weighted) average -7.3% compared to the one calculated under the old methods. However, for the median bank the calculated EV increased by +25.5%. The observed difference between the median and average impact can be explained by the fact that the effect of introducing SA-CCR has been quite diverse across banks. For 25% of the banks in the sample, there is an increase of +63.2% or more in EV, while for another 25% there is a decrease of -5.5% or less. On the one hand, the banks that show a reduction of EV below -5.5% (1st quartile) are mainly larger banks, accounting for 48.6% of the total reported SA-CCR EV,

driving the (weighted) average impact down. On the other hand, the banks that show an increase in EV above +63.2% (3rd quartile) are generally institutions with smaller derivative business, accounting for 2.6% of the total reported SA-CCR EV. For these institutions, the share of SA-CCR EV to total CR EV ratio is 1.1% and hence the overall impact on their EV is expected to be rather limited.

40. The aggregate results on the impact of introducing SA-CCR are mainly driven by business which moved from the MtM, which accounts for the largest share of the current SA-CCR EV (99.6%) and for which the average impact is almost identical (-7.4%). On the contrary, the average impact on EV for business that moved from SM to SA-CCR is positive and stands at +26%.

41. For Simplified SA-CCR, the EV is on average +38.0% higher than the MtM one (no other method was used to calculate EV for these derivatives). For OEM, EV figures increased +32.9% on average and +42.3% for the median bank, compared to the old methods. The impact is primarily driven by derivatives moved from MtM (+38.7% in EV on average), which account for 88.7% of the current total OEM EV. On the other hand, derivatives that moved from the old OEM to the new OEM did not experience any change in EV. The impact is line with expectations, as the OEM is considered the simplest and most conservative method available under CRR2. It is worth noting also in this case that the share of OEM EV to total CR EV ratio is very low (0.4%) and hence the overall impact on banks' EV is expected to be rather limited.

42. At total level, the results are very similar to the ones under SA-CCR, given that this approach is used by most banks in the sample and accounts for 99.7% of the current standardised CCR EV. The impact of the introduction of the new standardised CCR methods is a reduction of EV of -7.2% on average, while for the median bank the EV increased by +31.0%. For 25% of the banks in the sample the impact is higher than +70.7%. Compared to the median, the (weighted) average impact is driven down by some large banks, which experience a low or negative impact and account for a very large share of the total CCR EV under standardised methods in the sample. Moreover, the banks that have a significant positive impact are mostly banks with a small derivative business and hence contribute little to the average impact.

Table 3: Distribution of percentage changes in CCR exposure value when moving from the previous to the current framework, by current CCR approach

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
SA-CCR	51	-71.1%	-5.5%	25.5%	63.2%	121.4%	-7.3%
Of which: moved from MtM	48	-71.1%	-6.2%	27.3%	62.2%	121.4%	-7.4%
Of which: moved from SM*	3						26.3%
Simplified SA-CCR*	4						38.0%
Of which: moved from MtM*	4						38.0%

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
OEM	11	0.0%	0.0%	42.3%	227.1%	335.1%	32.9%
Of which: moved from MtM	8	0.0%	21.1%	142.2%	261.2%	335.1%	38.7%
Of which: moved from OEM*	3						0.0%
Total (standardised approaches)	65	-68.1%	0.0%	31.0%	70.7%	262.6%	-7.2%
Of which: moved from MtM	59	-71.1%	0.0%	35.3%	76.7%	295.3%	-7.4%
Of which: moved from SM*	3						26.3%
Of which: moved from OEM*	3						0.0%

Source: EBA QIS data (December 2021) and EBA calculations.

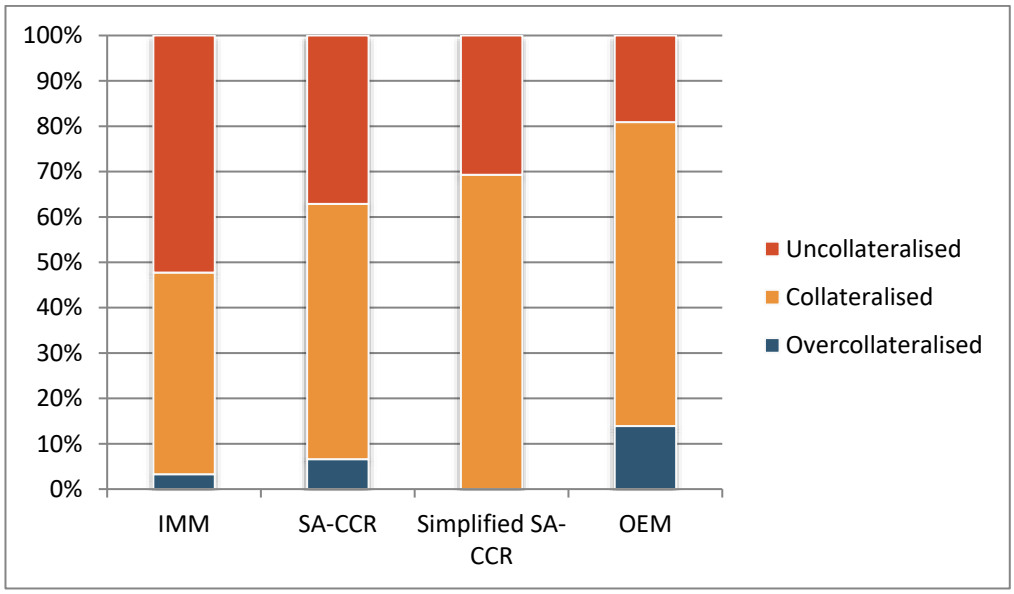
Note: IMM banks are included in the sample. However, only the derivative business covered under SA-CCR, simplified SA-CCR and OEM has been considered.

* The distribution is not displayed because there are less than five entitites in the cluster.

43. Figure 11 shows the breakdown of EV by CCR approach and by collateralization[27] and gives the necessary background to analyse the impact of the introduction of the new CCR methods under the CRR2 when collateralisation of the business is considered. Overall, around half of derivative business of EU banks is collateralised (50.2% of EV) with an additional small share being overcollateralised (4.9% of EV). Collateralisation is higher under the standardised methods (62.9% on average), while derivatives under the IMM are mainly uncollateralised (52.3% of EV).

[27] In line with the definitions provided in the instructions of the Basel III monitoring exercise, for uncollateralised netting sets it is intended those netting sets with large (e.g. >€5m or >$5m) CSA thresholds or minimum transfer amounts, or less than daily call frequencies. Collateralised netting sets are defined as those where the counterparty posts variation margin on a daily basis with no threshold or low threshold (e.g. <€5m or <$5m) but there is little or no initial margin received from the counterparty. Overcollateralised netting sets are defined as those where a material quantity of initial margin is also posted by the counterparty in addition to variation margin.

Figure 11: Breakdown of exposure value, by CCR approach and collateralisation



Source: EBA QIS data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

44. Table 4 shows the percentage change in CCR EV when moving from the previous to the current framework (relative to the previous EV), by current CCR approach and collateralisation.

45. SA-CCR shows to be more favourable compared to the old methods for collateralised and overcollateralised business, recognising the risk-reducing nature of collateral in the exposures. On average, the introduction of SA-CCR led to a -17.0% decrease in EV for collateralised business and -40.9% for overcollateralised business. On the other hand, SA-CCR seems to be more conservative than the old methods for uncollateralised business, with an average increase in EV of +28.2%. These results are in line with expectations and reflect the fact that SA-CCR has been developed to be more risk sensitive than the previous CCR standardised approaches and to appropriately differentiates between margined and unmargined trades.

46. For Simplified SA-CCR, the opposite is observed. In fact, Simplified SA-CCR seems to be more conservative compared to the old methods for collateralised business causing an average increase in EV of +67.6%. For uncollateralised business, Simplified SA-CCR produces EV figures which are very close to the ones produced by the old CCR methods (decrease in EV of -1.2%). However, these results should be interpreted with caution given that the sample size is very small (3 banks).

47. Finally, for OEM, an increase is observed both for uncollateralised (average increase of 30.1%) and collateralised business (average increase 43.3%).

48. In terms of total impact, a significant decrease (-40.8%) is observed for overcollateralised business and a moderate decrease (-16.8%) for collateralised business. For uncollateralised business, an increase (+28.2%) is observed. Again, the total results are mainly driven by SA-CCR, which accounts for the largest share of EV calculated under the standardised CCR methods.

Table 4: Percentage changes in CCR exposure value when moving from the previous to the current framework, by current CCR approach and collateralisation

Derivative exposures subject to CCR under:	Num. of banks	Weighted average
SA-CCR	51	-7.3%
Of which: Overcollateralised	20	-40.9%
Of which: Collateralised	44	-17.0%
Of which: Uncollateralised	41	28.2%
Simplified SA-CCR	4	38.0%
Of which: Overcollateralised*	0	
Of which: Collateralised	3	67.6%
Of which: Uncollateralised	3	-1.2%
OEM	11	32.9%
Of which: Overcollateralised*	2	
Of which: Collateralised	7	43.3%
Of which: Uncollateralised	8	30.1%
Total (standardised approaches)	65	-7.2%
Of which: Overcollateralised	22	-40.8%
Of which: Collateralised	53	-16.8%
Of which: Uncollateralised	51	28.2%

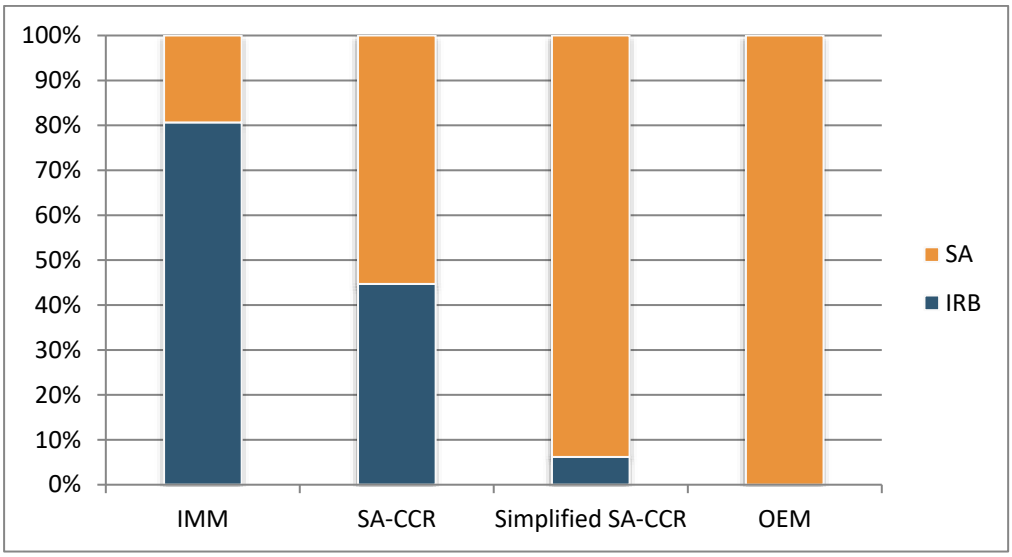
Source: EBA QIS data (December 2021) and EBA calculations.

Note: IMM banks are included in the sample. However, only the derivative business covered under SA-CCR, simplified SA-CCR and OEM has been considered.

* The figures are not displayed because there are less than three entitites in the cluster.

49. Figure 12 shows the breakdown of EV by CCR approach and by CR approach used for capitalising CCR exposures. For IMM banks, the business is mainly capitalised using IRB models (80.6% in terms of EV). On the other hand, OEM and Simplified SA-CCR banks use either exclusively or almost exclusively the CR SA (100% and 93.8% in terms of EV, respectively). For SA-CCR, 55.3% of the CCR exposures are capitalised using CR SA and the rest using IRB models.

Figure 12: Breakdown of exposure value, by CCR approach and credit risk approach



Source: EBA QIS data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

50. Table 5 shows the changes in CCR EV when moving from the previous to the current framework, by current CCR approach and by CR approach. For SA-CCR, banks reported an average increase (+23.9%) in EV for business capitalised under the IRB and an average decrease (-23.0%) for business capitalised under the SA.

51. The results at total level are similar to the ones under SA-CCR: an average increase (+24.0%) is observed for business capitalised under the IRB and an average decrease (-22.8%) for business capitalised under the SA.

Table 5: Percentage changes in CCR exposure value when moving from the previous to the current framework, by current CCR approach and collateralisation

Derivative exposures subject to CCR under:	Num. of banks	Weighted average
SA-CCR	51	-7.3%
Of which: CR-SA	50	-23.0%
Of which: CR-IRB	25	23.9%
Simplified SA-CCR	4	38.0%
Of which: CR-SA	3	33.1%
Of which: CR-IRB*	1	
OEM	11	32.9%
Of which: CR-SA	11	32.9%
Total (standardised approaches)	65	-7.2%
Of which: CR-SA	63	-22.8%
Of which: CR-IRB	26	24.0%

Source: EBA QIS data (December 2021) and EBA calculations.
Note: IMM banks are included in the sample. However, only the derivative business covered under SA-CCR, simplified SA-CCR and OEM has been considered.
* The figures are not displayed because there are less than three entitites in the cluster.

4.3 Changes in RWA

52. Section 4.3 repeats the analysis performed in Section 4.2, but in terms of RWA. Table 6 shows the distribution of changes in CCR RWA when moving from the previous to the current CCR framework, by current CCR approach. Interestingly, the results are somehow different from on the ones based on EV.

53. For SA-CCR, RWA increased on average by around +10.5% even though EV decreased by -7.3%. The median bank shows an increase in RWA of +47.8% whereas the increase in EV was +25.5%. The change in RWA ranges between 0% and +84.3% for half of the banks in the sample (between -5.5% and 63% in terms of EV). Similarly to the results in terms EV, the distribution of the impact on RWA is heterogenous across banks.

54. For Simplified SA-CCR, the average impact is +19.4% in terms of RWA against an increase of +38.0% in terms of EV. For OEM, the average impact on RWAs stands at +11.8%, whereas it was +32.9% for EV.

55. At total level, RWA increased by +10.5% on average (the average impact is -7.2% for EV). For the median bank, the impact in terms of RWA is +44.0% (to be compared with +31.0% in terms of EV). For one quarter of the sample, there is no impact or a reduction in calculated RWA, while for another quarter RWA increase more than +84.5%. The differences between EV and RWA figures can be explained considering that RWA incorporate the nonlinear effects that different risk weights produce on exposures, depending on the counterparty types. An extensive analysis of these effects would require detailed and granular data at exposure/obligor level. However, considering the significant efforts required to produce those granular data and the consequent burden for banks, only aggregate figures have been requested during the data collection phase.

Table 6: Distribution of percentage changes in CCR RWA when moving from the previous to the current framework, by current CCR approach

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
SA-CCR	51	-58.9%	0.0%	46.6%	84.3%	225.6%	10.5%
Of which: moved from MtM	48	-58.9%	1.6%	47.8%	83.7%	225.6%	10.4%
Of which: moved from SM*	3						42.7%
Simplified SA-CCR*	4						19.4%
Of which: moved from MtM*	4						19.4%
OEM	11	-69.7%	0.0%	0.0%	179.6%	635.0%	11.8%

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Of which: moved from MtM	8	-69.7%	0.0%	90.8%	237.4%	635.0%	15.0%
Of which: moved from OEM*	3						0.0%
Total (standardised approaches)	65	-58.9%	0.0%	44.0%	84.5%	247.5%	10.5%
Of which: moved from MtM	59	-69.7%	0.0%	46.6%	85.4%	262.6%	10.4%
Of which: moved from SM*	3						42.7%
Of which: moved from OEM*	3						0.0%

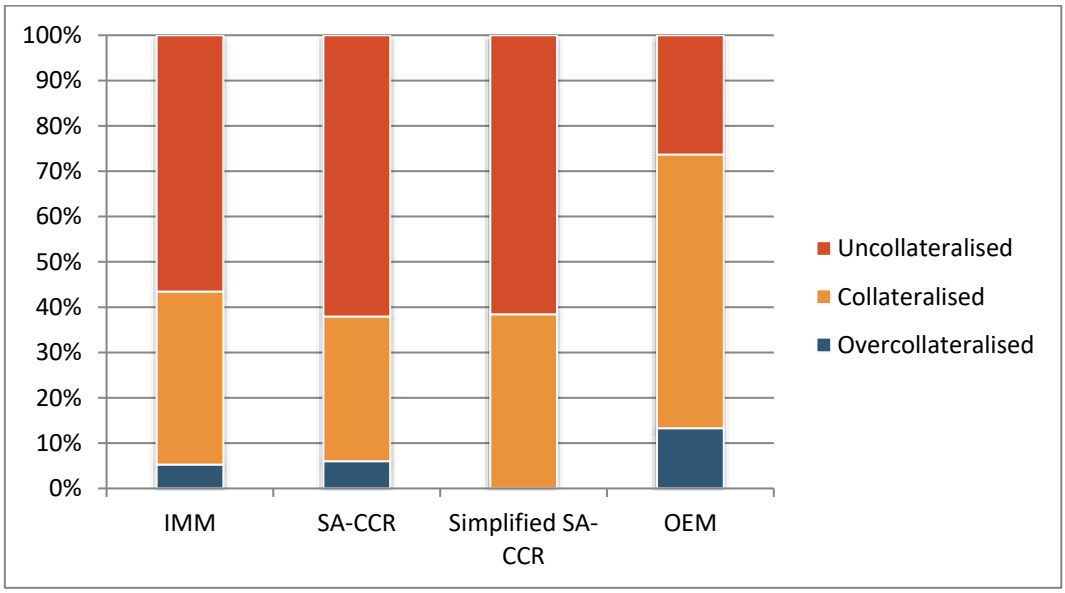
Source: EBA QIS data (December 2021) and EBA calculations.

Note: IMM banks are included in the sample. However, only the derivative business covered under SA-CCR, simplified SA-CCR and OEM has been considered.

* The distribution is not displayed because there are less than five entitites in the cluster.

56. Figure 13 shows the breakdown of RWA by CCR approach and by collateralization. Differently from the previous results for EV, in terms of RWA, the derivative business of the banks in the sample is largely uncollateralised (59.6%), with a meaningful share being collateralised (34.8%) and a small amount being overcollateralised (5.7%). This is true in particular for IMM (56.5%), SA-CCR (62.1%) and Simplified SA-CCR (61.6%) exposures.

Figure 13: Breakdown of RWA, by CCR approach and collateralisation



Source: EBA QIS data (December 2021) and EBA calculations.

Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

57. Table 7 shows the changes in CCR RWA when moving from the previous to the current framework, by current CCR approach and collateralisation.

58. In line with previous results, SA-CCR seems to be more favourable compared to the old methods for collateralised business (average decrease in calculated RWA of -30.9%) and more conservative than the old methods for uncollateralised business (average increase in calculated RWA of +59.0%). For overcollateralised business, a moderate average increase (+15.1%) is observed in calculated RWA. The latter result, in contrast to the observed impact in terms of EV (-40.9% reduction for overcollateralised business), should again be read considering the nonlinear effects produced by applying different risk weights to the exposures.

59. Also, for Simplified SA-CCR, a moderate average decrease (-6.5%) in RWA is observed for collateralised business and an average increase (+44.3%) in RWA is observed for uncollateralised business.

60. For OEM, an average increase in RWA is observed for both collateralised (+10.9%) and uncollateralised business (+20.9%).

61. In terms of total impact, a decrease (-30.7%) in RWA is observed for collateralised business, while an increase in RWA is observed for both uncollateralised business (+29.5%) and overcollateralised business (+15.0%).

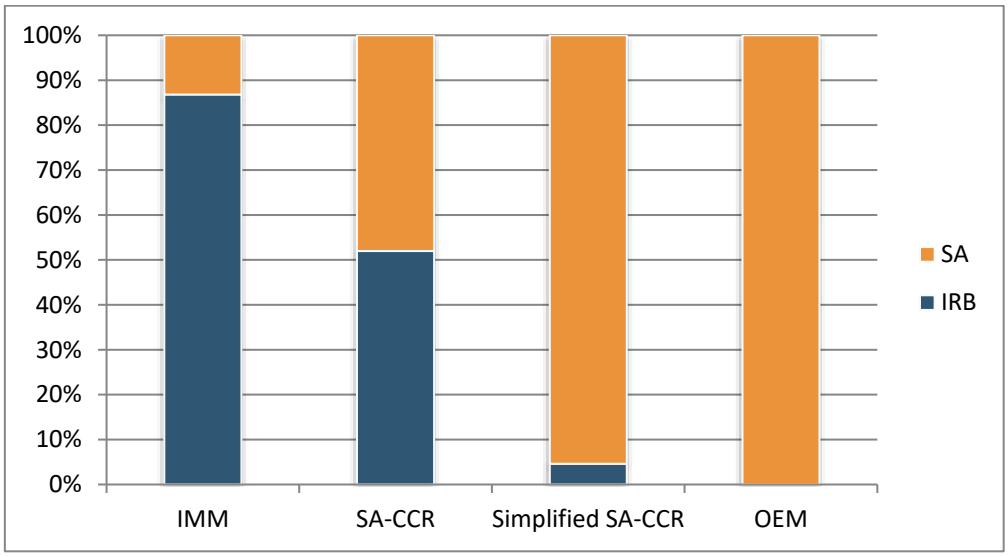
Table 7: Percentage changes in CCR RWA when moving from the previous to the current framework, by current CCR approach and collateralisation

Derivative exposures subject to CCR under:	Num. of banks	Weighted average
SA-CCR	51	10.5%
Of which: Overcollateralised	20	15.1%
Of which: Collateralised	43	-30.9%
Of which: Uncollateralised	39	59.0%
Simplified SA-CCR	4	19.4%
Of which: Collateralised	3	-6.5%
Of which: Uncollateralised	3	44.3%
OEM	11	11.8%
Of which: Overcollateralised*	2	
Of which: Collateralised	7	10.9%
Of which: Uncollateralised	7	20.9%
Total (standardised approaches)	65	10.5%
Of which: Overcollateralised	22	15.0%
Of which: Collateralised	52	-30.7%
Of which: uncorcollateralised	48	29.5%

Source: EBA QIS data (December 2021) and EBA calculations.
Note: IMM banks are included in the sample. However, only the derivative business covered under SA-CCR, simplified SA-CCR and OEM has been considered.
* The figures are not displayed because there are less than three entitites in the cluster.

62. In Figure 14 the breakdown of RWA by CCR approach and by CR approach used for capitalising CCR exposures is presented. For IMM banks, the business is mainly capitalised using IRB models (86.8% in terms of RWA). For SA-CCR, 51.9% of the CCR exposures are capitalised using CR IRB and the rest using SA. OEM and Simplified SA-CCR banks use either exclusively or almost exclusively the CR SA (100% and 95.3% in terms of RWA, respectively).

Figure 14: Breakdown of RWA, by CCR approach and credit risk approach



Source: EBA QIS data (December 2021) and EBA calculations.
Note: The number of credit institutions are not mutually exclusive across counterparty credit risk approaches, i.e. the same credit institution may use more than one approach and contributes to the figures with each of the approaches used.

63. Table 8: Percentage changes in CCR RWA when moving from the previous to the current framework, by current CCR approach and shows the changes in CCR RWA when moving from the previous to the current framework, by current CCR approach and by CR approach. For SA-CCR, RWA for business capitalised under the IRB and under the SA increased on average (+11.3% and 9.7%, respectively).

64. At total level, the impact in RWA is very similar to SA-CCR, standing at +11.3% for business capitalised under the IRB and +9.8% for business capitalised under the SA.

Table 8: Percentage changes in CCR RWA when moving from the previous to the current framework, by current CCR approach and CR approach

Derivative exposures subject to CCR under:	Num. of banks	Weighted average

SA-CCR	51	10.5%
Of which: CR-SA	50	9.7%
Of which: CR-IRB	25	11.3%
Simplified SA-CCR	4	19.4%
Of which: CR-SA	3	15.8%
Of which: CR-IRB*	1	
OEM	11	11.8%
Of which: CR-SA	11	11.8%
Total (standardised approaches)	65	10.5%
Of which: CR-SA	63	9.8%
Of which: CR-IRB	26	11.3%

Source: EBA QIS data (December 2021) and EBA calculations.

Note: IMM banks are included in the sample. However, only the derivative business covered under SA-CCR, simplified SA-CCR and OEM has been considered.

* The figures are not displayed because there are less than three entitites in the cluster.

5. Relative calibration of standardised approaches

65. According to the mandate in Article 514(1) of the CRR, the EBA shall report to the EC on the relative calibration of the SA-CCR, simplified SA-CCR and OEM. Section 5 assesses the relative calibration by comparing the EV figures produced under each approach to the figures produced under the other approaches. Internal model figures produced by IMM banks are also used as a benchmark. In particular, the following comparisons will be presented:

- SA-CCR figures compared to IMM figures;
- Simplified SA-CCR figures compared to IMM and SA-CCR figures;
- OEM figures compared to IMM, SA-CCR and simplified SA-CCR figures.

66. The calibration of SA-CCR, simplified SA-CCR and OEM is measured in terms of ratio of calculated EV between methods and three different breakdowns are provided: a) by collateralisation; b) by counterparty type; c) by CR approach used for capitalising CCR exposures.

5.1 Relative calibration of SA-CCR

5.1.1 Total relative calibration figures

67. Table 9 shows the distribution of the SA-CCR to IMM EV ratio. The ratio SA-CCR to IMM is on average 1.6, i.e. SA-CCR produces EV figures on the same portfolios that are on average 60% higher than the ones produced under the IMM. For the median bank, SA-CCR figures are 40% higher that the IMM ones. The 25th and 75th percentiles of the SA-CCR to IMM ratio are 1.3 and 1.8, respectively. For 90% of the banks in the sample, the ratio ranges from 1.2 to 2.3. These results are very similar to the ones presented by BCBS[28] in 2013 when comparing the SA-CCR (identified at that time as Non-Internal Model Method – NIMM) to simplified supervisory IMM. In that case, the ratio was estimated to be within the range of 1.25 to 2.54.

Table 9: SA-CCR to IMM EV ratio

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
SA-CCR to IMM	9	1.2	1.3	1.4	1.8	2.3	1.6

[28] BCBS, Consultative Document – The non-internal model method for capitalizing counterparty credit risk exposures. (2013 rev. 2013) https://www.bis.org/publ/bcbs254.pdf.

Source: EBA QIS data (December 2021) and EBA calculations.

5.1.2 Relative calibration figures by collateralization (margin vs non-margin trades)

68. In Table 10 the distribution of the SA-CCR to IMM EV ratio is shown, broken down by collateralisation of the derivative business. SA-CCR tends to produce higher EV figures compared to the IMM the more a netting set is collateralised: on average, the ratio is 1.3 for uncollateralised business, 1.7 for collateralised business and 2.8 for overcollateralised business. For the median bank, the ratio is 1.3 for uncollateralised business, 1.5 for collateralised business and 2.9 for overcollateralised business. For uncollateralised and collateralised business, the ratio seems to be rather concentrated across the sample of banks: half of the sample of banks lies between 1.2 and 1.6 for uncollateralised business and between 1.3 and 1.8 for collateralised one. For overcollateralised business, the distribution is more skewed as the 25th and 75th percentiles are 1.2 and 4.1.

69. According to the figures in Table 10, SA-CCR might seem to be conservatively calibrated for overcollateralised business, i.e. when IM is posted. However, it is well known[29] that IM recognition in the multiplier is by design conservative, as it accounts for other hypotheses made when designing the SA-CCR, such as normality of returns. It has been shown[30] that, when more realistic distributions exhibiting skewness and kurtosis are assumed (e.g. the Student t), the SA-CCR formula for the multiplier proves to be a reasonable approximation.

Table 10: SA-CCR to IMM EV ratio, by collateralisation

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Overcollateralised	7	1.1	1.2	2.9	4.1	4.5	2.8
Collateralised	9	1.2	1.3	1.5	1.8	2.9	1.7
Uncollateralised	9	1.1	1.2	1.3	1.6	2.0	1.3

Source: EBA QIS data (December 2021) and EBA calculations.

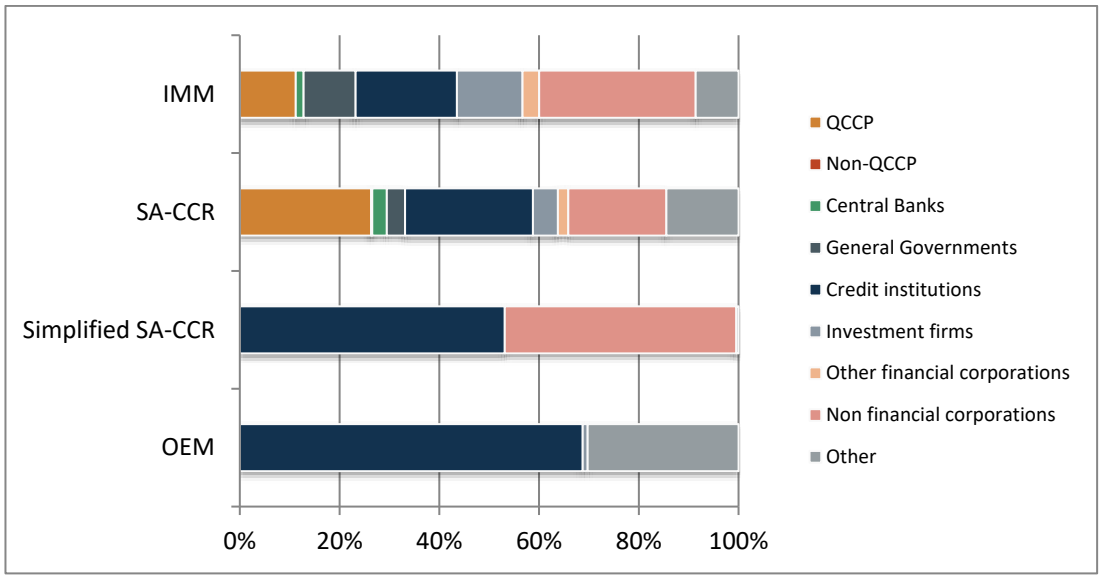
5.1.3 Relative calibration figures by counterparty type

70. Figure 15 shows the share of EV reported by banks in the sample, by type of counterparty and by CCR approach used. On the one hand, for banks using IMM and SA-CCR, the set of counterparty types is very diversified, with a significant part of derivative business made with qualifying CCPs, non-financial companies and other credit institutions. On the other hand, most of the derivative business under Simplified SA-CCR and OEM is concentrated towards two main counterparties. For SA-CCR these are non-financial companies and other credit institutions whereas for OEM these are other credit institutions or other type of counterparty.

[29] BCBS, WP 26 – Foundations of the standardised approach for measuring counterparty credit risk exposures. (2014 rev. 2017) https://www.bis.org/publ/bcbs_wp26.pdf.

[30] Roberson, M. An Empirical Analysis of Initial Margin and the SA-CCR (2018) https://www.cftc.gov/sites/default/files/2018-07/SA-CCRPaper0718.pdf.

Figure 15: Share of exposure value, by type of counterparty and CCR approach



Source: EBA QIS data (December 2021) and EBA calculations.

71. The distribution of counterparty types in Figure 15 provides the background to analyse how the SA-CCR to IMM EV ratio changes in relation to different counterparty types, as shown in Table 11. Interestingly, for the median bank, the SA-CCR to IMM ratio remains constant or displays only little variation (ratio 1.3 – 1.6) across different counterparty types. This result also holds, to an extent, when considering the weighted average (ratio 1.2 – 1.4). In this case, a higher average ratio is reported only for transactions made with other credit institutions (ratio 2.1) or qualifying CCPs (ratio 1.7). These two types of counterparties are also the ones which show the largest dispersion of the ratio across the sample of banks.

Table 11: SA-CCR to IMM EV ratio, by counterparty type

Derivative exposures subject to CCR towards:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Qualifying central counterparties (QCCP)	8	1.2	1.3	1.6	3.1	14.5	1.7
Central Banks	8	1.0	1.1	1.4	1.7	2.0	1.2
General Governments	8	1.1	1.2	1.3	1.5	1.6	1.2
Credit institutions	8	1.2	1.3	1.5	2.3	4.0	2.1
Investment firms	6	1.2	1.2	1.3	1.7	2.2	1.3
Other financial corporations (excluding investment firms)	5	1.0	1.2	1.3	1.5	1.9	1.4
Non-financial counterparties as defined in point (9) of Art 2 of Regulation (EU) No 648/2012, or non-financial counterparties	7	1.2	1.2	1.4	1.6	1.7	1.4

established in a third country							
Of which: non-financial counterparties which do not exceed the EMIR clearing threshold*	4						1.3
Other*	4						2.0

Source: EBA QIS data (December 2021) and EBA calculations.

Note: None of the banks in the sample reported data to calibrate the ratio fo derivative exposures towards Non-qualifying central counterparties (Non-QCCP).

* The distribution is not displayed because there are less than five entitites in the cluster.

5.1.4 Relative calibration figures by CR approach

72. Table 12 shows the distribution of the SA-CCR to IMM ratio, differentiating between the business capitalised under the IRB and the business capitalised under the CR SA. On average, the ratio is similar between business capitalised under the IRB (1.3) and business capitalised under the CR SA (1.5). However, the distribution of the ratio is more concentrated for business under the IRB (90% of the sample lies between 1 and 1.7) and more disperse for business under the CR SA (90% of the sample lies between 0.9 and 3.2).

Table 12: SA-CCR to IMM EV ratio, by credit risk approach

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
CR-SA	8	0.9	1.3	1.8	2.1	3.2	1.5
CR-IRB	7	1.0	1.3	1.4	1.5	1.7	1.3

Source: EBA QIS data (December 2021) and EBA calculations.

5.2 Relative calibration of simplified SA-CCR

5.2.1 Total relative calibration figures

73. Table 13 analyses the distribution of the simplified SA-CCR to SA-CCR ratio.[31] The ratio simplified SA-CCR to SA-CCR is on average 1.6. For the median bank, simplified SA-CCR figures are 40% higher that the SA-CCR ones. The distribution of the ratio ranges from 0.7 for the 5th percentile to 3.3 for the top 95th percentile. For half of the sample, the ratio ranges from 1.2 to 2.2.

Table 13: Simplified SA-CCR to SA-CCR EV ratio

Ratio	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Simplified SA-CCR to SA-CCR ratio	28	0.7	1.2	1.4	2.2	3.3	1.6

[31] The simplified SA-CCR to IMM ratio is not displayed in Table 13 or the following tables in Section 5.2 because there are less than 3 banks in the cluster.

Source: EBA QIS data (December 2021) and EBA calculations.
Note: The distribution and weighted average are not displayed for the Simplified SA-CCR to IMM ratio because there are less than three entitites in the cluster.

5.2.2 Relative calibration figures by collateralization (margin vs non-margin trades)

74. Table 14 shows the distribution of the simplified SA-CCR to SA-CCR ratio, with breakdown by collateralisation of the derivative business. For uncollateralised business, simplified SA-CCR produces figures which are, on average, 40% higher than SA-CCR figures (30% higher for the median bank). The conservativeness of simplified SA-CCR compared to SA-CCR increases for collateralised business (90% higher than SA-CCR on average and 50% higher for the median bank) and becomes even more pronounced when it comes to overcollateralised business (90% higher than SA-CCR on average and 150% higher for the median bank).

75. As expected, simplified SA-CCR seems to be conservatively calibrated compared to SA-CCR, which compensates the reduced risk-sensitiveness and ensures that the calculated EV is not underestimated. These results also reflect some simplifications introduced under simplified SA-CCR which ease the framework on one side but reduce collateral recognition on the other side, e.g. simplifications in the calculation of the RC or in the calculation of the multiplier to determine the PFE.

Table 14: Simplified SA-CCR to SA-CCR EV ratio and Simplified SA-CCR to IMM EV ratio, by collateralisation

	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Simplified SA-CCR to SA-CCR ratio							
Overcollateralised	7	0.5	0.9	2.5	2.9	21.5	1.9
Collateralised	23	0.6	1.0	1.5	2.7	3.4	1.9
Uncollateralised	22	1.0	1.1	1.3	2.0	3.7	1.4

Source: EBA QIS data (December 2021) and EBA calculations.
Note: The distribution and weighted average are not displayed for the Simplified SA-CCR to IMM ratio because there are less than three entitites in the cluster.

5.2.3 Relative calibration figures by counterparty type

76. The simplified SA-CCR to SA-CCR ratio changes in relation to different counterparty types are shown in Table 15. On average, the simplified SA-CCR to SA-CCR ratio reported is below 2 for trades with QCCP (1.4), central banks (1.8), general governments (1.2), credit institutions (1.8) and non-financial counterparties (1.4). The simplified SA-CCR to SA-CCR ratio reported is, on average, equal to or above 2 for trades with investment firms (2.5), other financial corporations (2) and other counterparties (2.1). For trades with credit institutions and non-financial counterparties, which are the trades mainly relevant for the simplified SA-CCR as shown in Figure 15, the observed median values are 1.6 and 1.2 respectively.

Table 15: Simplified SA-CCR to SA-CCR EV ratio and Simplified SA-CCR to IMM EV ratio, by counterparty type

	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Simplified SA-CCR to SA-CCR ratio							
Qualifying central counterparties (QCCP)	21	0.7	1.1	1.6	2.8	3.3	1.4
Central Banks	6	1.3	1.6	2.7	3.4	5.5	1.8
General Governments	11	1.0	1.1	1.3	1.5	1.8	1.2
Credit institutions	27	1.0	1.3	1.6	2.3	3.7	1.8
Investment firms	10	1.0	1.5	2.4	3.3	7.9	2.5
Other financial corporations (excluding investment firms)	12	1.0	1.4	1.7	2.5	3.6	2.0
Non-financial counterparties as defined in point (9) of Art 2 of Regulation (EU) No 648/2012, or non-financial counterparties established in a third country	17	0.2	1.1	1.2	1.4	3.6	1.4
Of which: non-financial counterparties which do not exceed the EMIR clearing threshold	12	1.0	1.1	1.2	1.5	3.6	1.5
Other	12	1.0	1.1	1.4	2.2	13.8	2.1

Source: EBA QIS data (December 2021) and EBA calculations.

Note: The distribution and weighted average are not displayed for the Simplified SA-CCR to IMM ratio because there are less than three entitites in the cluster.

5.2.4 Relative calibration figures by CR approach

77. Table 16 shows the distribution of the simplified SA-CCR to SA-CCR ratio, differentiating by business capitalised under IRB or CR SA. On average, the ratio is higher for business capitalised under the IRB (1.8) and lower for business capitalised under the CR SA (1.4). The opposite is observed for the median bank, for business under the IRB the ratio is 1.3, while it is 1.6 for business under the CR SA.

Table 16: Simplified SA-CCR to SA-CCR EV ratio and Simplified SA-CCR to IMM EV ratio, by credit risk approach

Derivative exposures subject to CCR under:	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
Simplified SA-CCR to SA-CCR ratio							
CR-SA	27	0.6	1.0	1.6	2.0	2.8	1.4
CR-IRB	12	0.9	1.1	1.3	2.3	3.3	1.8

Source: EBA QIS data (December 2021) and EBA calculations.

Note: The distribution and weighted average are not displayed for the Simplified SA-CCR to IMM ratio because there are less than three entitites in the cluster.

5.3 Relative calibration of OEM

5.3.1 Total relative calibration figures

78. Table 17 shows the distribution of the OEM to simplified SA-CCR ratio and of the OEM to SA-CCR ratio. For the reasons explained in paragraph 73, statistics related to OEM to IMM ratio cannot be shown. The ratio OEM to simplified SA-CCR is 2.1 on average and 1.3 for the median bank. The ratio OEM to SA-CCR is 3.4 on average and 1.9 for the median bank. For 50% of the banks in the sample, the ratio OEM to simplified SA-CCR lies between 1 and 2 while the ratio OEM to SA-CCR lies between 1.3 to 3.9. In line with what suggested by EBA in its Report on SA-CCR and FRTB implementation, OEM calibration appears to be sufficiently conservative when compared to more complex methods such as SA-CCR or simplified SA-CCR.

Table 17: OEM to Simplified SA-CCR EV ratio, OEM to SA-CCR EV ratio and OEM to IMM EV ratio, by collateralisation

	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
OEM to simplified SA-CCR ratio	30	0.2	1.0	1.3	2.0	5.5	2.1
OEM to SA-CCR ratio	28	0.4	1.3	1.9	3.9	7.4	3.4

Source: EBA QIS data (December 2021) and EBA calculations.

Note: The distribution and weighted average are not displayed for the OEM to IMM ratio because there are less than three entitites in the cluster.

5.3.2 Relative calibration figures by collateralization (margin vs non-margin trades)

79. Table 18 presents the distributions of the OEM to simplified SA-CCR ratio and OEM to SA-CCR ratio, when the collateralisation of the derivative business is considered. Compared to SA-CCR, OEM conservativeness increases as the collateralisation of the business increases. In fact, the average OEM to SA-CCR ratio goes from 3.4 for uncollateralised business (4.1 for the median bank) to 4.7 for collateralised business (4.3 for the median bank), to 5.9 for overcollateralised business (7.1 for the median bank). Compared to simplified SA-CCR, the OEM produces EV figures for uncollateralised and overcollateralised business which are, on average, 60% higher. When it comes to collateralised business, the OEM is even more conservative than simplified SA-CCR, with an average ratio of 2.5 (1.5 for the median bank).

Table 18: OEM to Simplified SA-CCR EV ratio, OEM to SA-CCR EV ratio and OEM to IMM EV ratio, by collateralisation

	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
OEM to simplified SA-CCR ratio							
Overcollateralised	23	0.4	1.0	1.1	1.3	3.3	1.6
Collateralised	25	0.4	1.2	1.5	2.3	6.9	2.5
Uncollateralised	23	0.4	1.0	1.1	1.3	3.3	1.6
OEM to SA-CCR ratio							

Overcollateralised	7	0.4	0.6	7.1	10.0	21.5	5.9
Collateralised	23	0.2	1.1	4.3	5.9	11.6	4.7
Uncollateralised	23	0.2	1.1	4.1	5.4	11.6	3.4

Source: EBA QIS data (December 2021) and EBA calculations.

Note: The distribution and weighted average are not displayed for the OEM to IMM ratio because there are less than three entitites in the cluster.

5.3.3 Relative calibration figures by counterparty type

80. In terms of counterparty types, both OEM to SA-CCR and OEM to simplified SA-CCR ratios are significantly higher for QCCP business than for the rest of counterparty types (6.3 and 5.9 on average and 8.8 and 3.8 for the median bank, respectively). Indeed, for the other counterparty types, the OEM to simplified SA-CCR ratio presents average values between 1.1 and 2. The OEM to simplified SA-CCR ratio is as expected a bit higher, with average values ranging between 1.3 and 4.1.

Table 19: OEM to Simplified SA-CCR EV ratio, OEM to SA-CCR EV ratio and OEM to IMM EV ratio, by counterparty type

	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
OEM to simplified SA-CCR ratio							
Qualifying central counterparties (QCCP)	21	0.1	1.4	3.8	9.3	30.2	5.9
Non-qualifying central counterparties (Non-QCCP)*	3						1.9
Central Banks	6	1.0	1.0	1.0	1.2	2.5	1.9
General Governments	11	1.0	1.0	1.1	1.2	2.8	1.1
Credit institutions	28	0.3	1.0	1.5	1.9	3.9	2.0
Investment firms	10	0.8	1.0	1.4	1.6	4.1	1.3
Other financial corporations (excluding investment firms)	12	0.5	1.0	1.3	1.6	4.5	1.4
Non-financial counterparties as defined in point (9) of Art 2 of Regulation (EU) No 648/2012, or non-financial counterparties established in a third country	17	0.8	1.0	1.1	1.2	1.6	1.1
Of which: non-financial counterparties which do not exceed the EMIR clearing threshold	13	0.0	1.0	1.1	1.3	1.6	1.2
Other	12	0.8	1.0	1.1	1.4	2.0	1.9
OEM to SA-CCR ratio							
Qualifying central counterparties (QCCP)	23	0.3	0.9	8.8	16.1	46.5	6.3
Central Banks	7	0.8	1.6	3.0	5.6	5.9	3.0
General Governments	13	0.8	1.2	1.4	1.7	9.5	1.3
Credit institutions	28	0.5	1.5	2.2	4.4	9.1	3.2
Investment firms	11	0.1	1.8	2.2	4.4	12.6	3.2

Other financial corporations (excluding investment firms)	13	0.5	1.8	2.3	3.9	10.5	2.8
Non-financial counterparties as defined in point (9) of Art 2 of Regulation (EU) No 648/2012, or non-financial counterparties established in a third country	18	0.8	1.1	1.3	1.7	3.6	1.6
Of which: non-financial counterparties which do not exceed the EMIR clearing threshold	13	0.0	1.1	1.7	1.8	3.6	1.7
Other	12	1.0	1.3	1.8	3.0	13.8	4.1

Source: EBA QIS data (December 2021) and EBA calculations.

Note: The distribution and weighted average are not displayed for the OEM to IMM ratio because there are less than three entitites in the cluster.

* The distribution is not displayed because there are less than five entitites in the cluster.

5.3.4 Relative calibration figures by CR approach

81. Table 20 shows the distribution of the OEM to simplified SA-CCR and OEM to SA-CCR ratios, with a breakdown by credit risk approach used to capitalise the exposures. On average, the two ratios behave similarly, showing higher values for business capitalised under the CR SA (2.7 and 3.5, respectively) and lower for business capitalised under the IRB (1.8 and 3, respectively). Also in this case, the OEM conservativeness relative to the Simplified SA-CCR is more pronounced than relative to the SA-CCR.

Table 20: OEM to Simplified SA-CCR EV ratio, OEM to SA-CCR EV ratio and OEM to IMM EV ratio, by credit risk approach

	Num. of banks	5th percentile	25th percentile	Median	75th percentile	95th percentile	Weighted average
OEM to simplified SA-CCR ratio							
CR-SA	27	0.2	1.0	1.3	2.6	9.9	2.7
CR-IRB	13	0.9	1.1	1.2	1.5	2.5	1.8
OEM to SA-CCR ratio							
CR-SA	28	0.4	1.1	2.0	4.1	19.3	3.5
CR-IRB	13	0.8	1.0	1.4	2.6	8.2	3.0

Source: EBA QIS data (December 2021) and EBA calculations.

Note: The distribution and weighted average are not displayed for the OEM to IMM ratio because there are less than three entitites in the cluster.

6. Output floor analysis

82. This chapter analyses the impact of setting alpha equal to 1 under SA-CCR for the purposes of the output floor on a permanent basis for IMM exposures. The impact is assessed under two scenarios: the Basel III scenario and the hypothetical EU-specific scenario (for details see section 2.3.4).

83. As shown in Table 21, the full implementation of the final Basel III standards (Basel III scenario) is expected to increase T1 Minimum Required Capital (MRC) by +15.0% relative to the current EU capital requirements (CRR/CRD IV). The output floor is one of the main drivers of the impact contributing by +6.3%. Setting alpha of IMM exposures equal to 1 for the purposes of the output floor reduces the impact only marginally by -0.2 p.p., with the EU average T1 MRC expected to increase by 14.8% instead. The reduction in the contribution of the output floor is slightly higher (-0.3p.p.) which however does not lead to a one-to-one reduction in the total impact, due to the interaction with the leverage ratio, which becomes more binding as the risk-based T1 MRC declines.

Table 21: Impact when setting alpha=1 for IMM exposures in Basel III on the change in total T1 MRC between Basel III and current EU law, expressed as a percentage of the overall current Tier 1 MRC (full implementation)

Scenario	Credit risk				Market risk	CVA	Op risk	Output floor	Other Pillar 1	Total risk-based	Revised LR	Total
	SA	IRB	Securitisation	CCPs								
Basel III	2.6	1.8	0.0	0.0	1.8	2.6	3.7	6.3	-0.6	18.3	-3.3	15.0
Basel III (with alpha = 1 for IMM exposures for the OF)	2.6	1.8	0.0	0.0	1.8	2.6	3.7	6.0	-0.6	18.0	-3.2	14.8
Delta	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*-0.3*	*na*	*-0.3*	*+0.1*	*-0.2*

Source: EBA QIS data (December 2021) and EBA calculations.

84. Similar results are observed under the EU scenario (Table 22), as sketched above. The implementation of the final Basel III standards under the EU Specific scenario is expected to increase European banks' T1 MRC by +10.7%, with the output floor remaining one of the key drivers of the impact (+6.8%). Setting alpha equal to 1 for IMM exposures will reduce the impact

of the output floor by -0.2 p.p. and result in a -0.2p.p. reduction in the total impact of the EU average T1 MRC, which is expected to increase by +10.6%.

Table 22: Impact when setting alpha=1 for IMM exposures in the EU-specific implementation of Basel III onthe change in total T1 MRC between Basel III and current EU law, expressed as a percentage of the overall current Tier 1 MRC (full implementation)

Scenario	Credit risk				Market risk	CVA	Op risk	Output floor	Other Pillar 1	Total risk-based	Revised LR	Total
	SA	IRB	Securitisation	CCPs								
EU-specific	1.5	0.2	0.0	0.0	1.8	0.4	1.7	6.8	-0.6	11.8	-1.1	10.7
EU-Specific (with alpha = 1 for IMM exposures for the OF)	1.5	0.2	0.0	0.0	1.8	0.4	1.7	6.6	-0.6	11.6	-1.0	10.6
Delta	*na*	*na*	*na*	*na*	*na*	*na*	*na*	*-0.2*	*na*	*-0.2*	*+0.1*	*-0.2*

Source: EBA QIS data (December 2021) and EBA calculations.

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