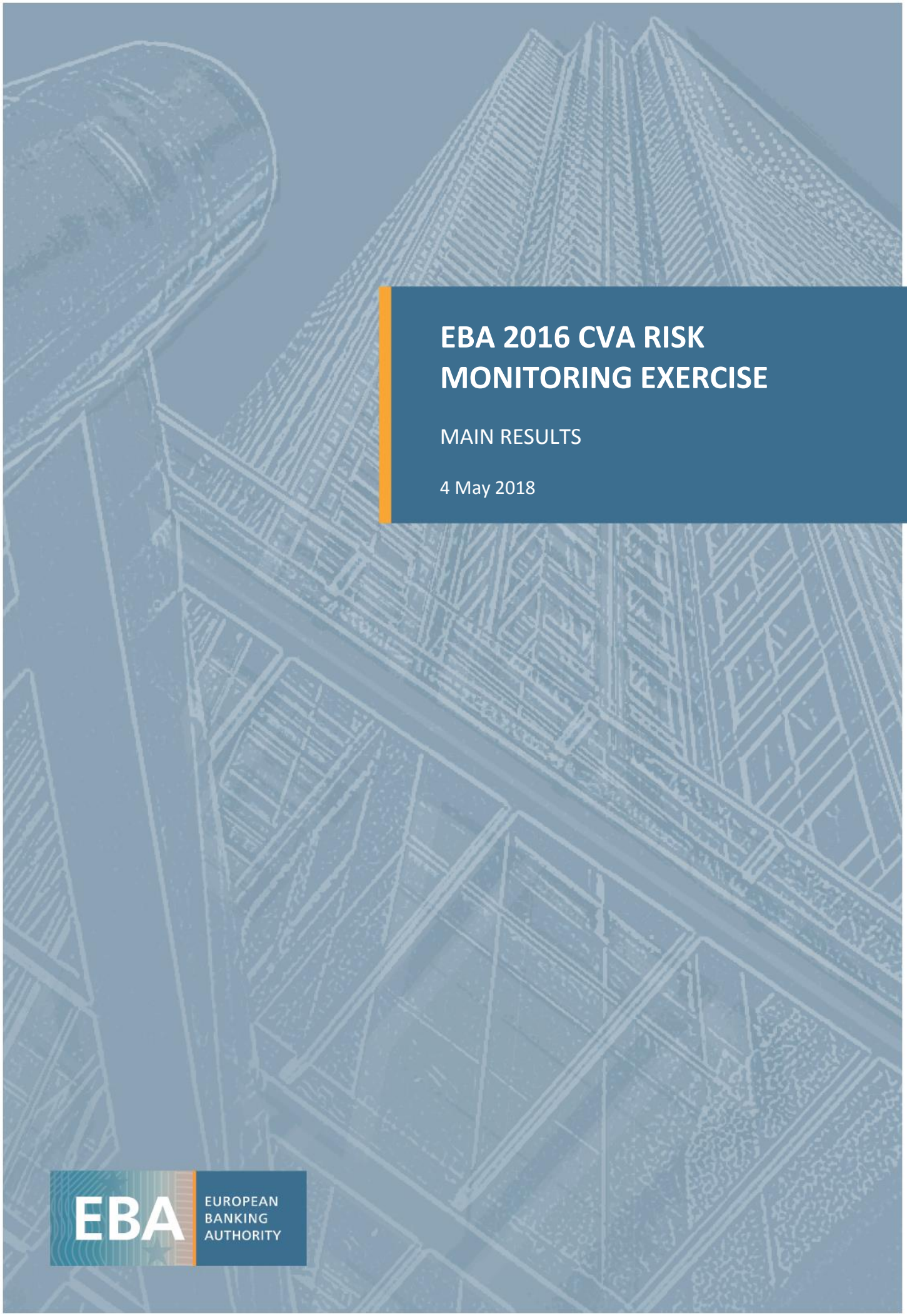

EBA 2016 CVA RISK MONITORING EXERCISE

MAIN RESULTS

4 May 2018

EBA EUROPEAN BANKING AUTHORITY

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Executive Summary

1. Article 456(2) of Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR) mandates the EBA to 'monitor the own funds requirements for CVA risk and by 1 January 2015 submit a report to the Commission'.

2. The EBA published its CVA Report alongside its Opinion on CVA[1] on 25 February 2015. The report, which was informed by a data collection exercise based on 2014 data, highlighted the materiality of the CVA risks that are currently not covered by EU legislation due to exemptions, and recommended that EU exemptions should be reconsidered and possibly removed upon completion of a review of the CVA risk charge in Basel.[2] The report also made specific proposals on how the international standards on CVA risk should be amended[3] and recommended developing 'an EBA coordinated approach for yearly monitoring of the impact of transactions exempted from the CVA risk charge and for defining situations constituting a presumption of excessive CVA risks to be considered under SREP'.[4]

3. This short report outlines the main outcomes of the 2016 CVA risk monitoring exercise, which was launched on 21 June 2017 to monitor the impact of transactions exempted for the purpose of calculating the CVA risk charge under the CRR,[5] in line with policy recommendation No 4 put forward in the CVA Report. This is the second report on CVA risk monitoring, following the 2015 CVA risk monitoring exercise and its accompanying report.[6]

4. On 12 November 2015, the EBA published a Consultation Paper on its Guidelines on the treatment of CVA risk under the supervisory review and evaluation process (SREP).[7] Upon launching the 2016 CVA risk monitoring exercise, the EBA communicated that it had put on hold these draft Guidelines on the treatment of CVA risk under SREP until further notice, due to continued developments in the CVA risk framework at international level. However, the EBA, with this report, continues to monitor own funds requirements (OFR) for CVA risk and the impact of the reintegration of transactions exempted from the CVA risk charge.

5. The structure of the report and the methodology employed to monitor the impact of the exempted transactions are the same as those used for the 2015 CVA risk monitoring exercise. In particular, the indicators used in this report are consistent with those proposed in the Consultation Paper on the draft Guidelines on the treatment of CVA risk under SREP, since they

[1] See the CVA Report and the Opinion on CVA.

[2] CVA Report policy recommendation No 3.

[3] CVA Report policy recommendation No 15.

[4] CVA Report policy recommendation No 4.

[5] See 'EBA launches 2016 CVA risk monitoring exercise'.

[6] See the Report on 2015 CVA risk monitoring exercise.

[7] See 'EBA consults on draft Guidelines on the treatment of CVA risk under SREP' and the respective Consultation Paper.

continue to be relevant for the purposes of assessing the materiality of CVA risk and the impact of exemptions.

6. This report is based on data submitted by 169 EU banks, which encompass major EU institutions, representing 27 Member States. These institutions were requested to compute the impact of the reintegration in the scope of their CVA risk charge of transactions currently subject to CRR exemptions.

7. The outcomes of the 2016 CVA risk monitoring exercise are similar to those of the 2015 CVA risk monitoring exercise. With caveats regarding the data quality, results show that the median bank would see its current CVA risk charge multiplied by 3.06 when reintegrating exempted transactions. In terms of CET1 ratio, the results show that the full capitalisation of CVA risk would lead to impacts greater than 200 basis points, compared with initial CET1 ratio levels, for 7 institutions.

8. Finally, the EBA welcomes the finalisation by the Basel Committee on Banking Supervision of the Basel III post-crisis reforms – as communicated on its website on 7 December 2017[8] – which inter alia include the revised framework for CVA risk.[9] Consequently, the EBA will extend the scope of its next CVA monitoring exercise to assess the impact of the CRR exemptions not only based on the current CVA framework but also in the context of the future implementation of the revised CVA standards in the EU.

[8] See 'EBA welcomes the revised Basel framework and provides an overview of its impact in the EU'.

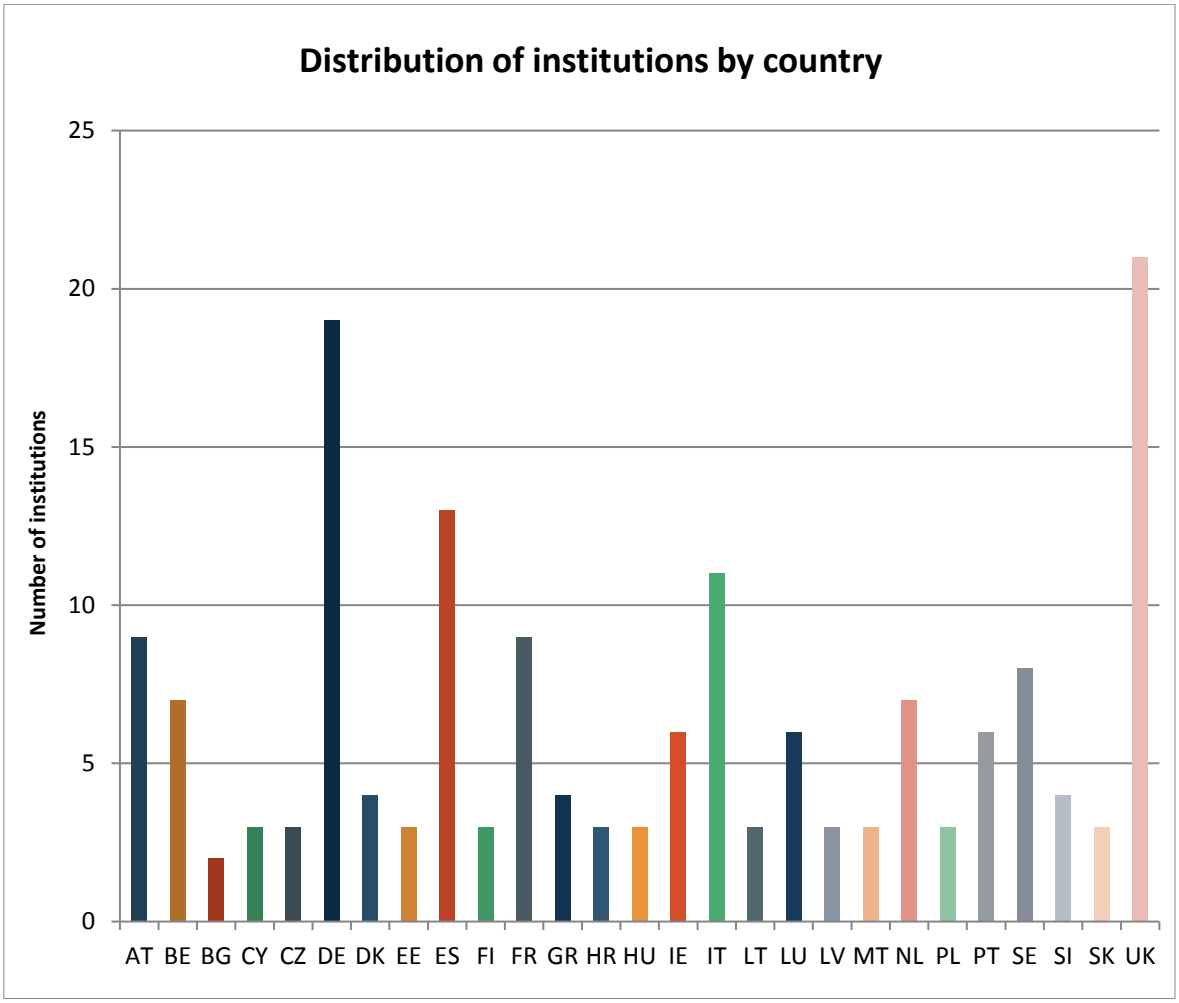
[9] See the press release and the revised standards, including the revised framework for CVA risk.

1. General

1.1 Participation

9. A total of 169 EU institutions, representing 27 EU Member States, participated in the 2016 CVA risk monitoring exercise. Banks included in the EBA list of reporting institutions for which the EBA receives COREP submissions were required to participate in the monitoring exercise.[10]

Figure 1: Distribution of participating institutions by country



[10] Institutions included in this list of reporting institutions were asked to complete this template in accordance with these instructions.

1.2 Requested data

10. Banks were requested to provide data as of 31 December 2016. All reported values have been converted into euros.

11. The requested data included, in particular:

- A section on current data values for total CET1 capital and for total OFR under Pillar 1 and for CVA risk, as reported by the institution in its COREP submissions.

- A section on hypothetical CVA risk charge, which required institutions to calculate their CVA charges associated to the Basel scope of transactions subject to CVA, which includes the following transactions that are currently excluded from the CRR scope of transactions subject to CVA:

  i. clients' transactions referred to in Article 382(3) CRR;[11]

  ii. transactions with non-financial counterparties referred to in Article 382(4)(a) CRR;

  iii. transactions with intragroup counterparties referred to in Article 382(4)(b) CRR;

  iv. transactions with pension fund counterparties referred to in Article 382(4)(c) CRR;

  v. transactions with sovereign counterparties referred to in Article 382(4)(d) CRR.

  In particular, the template required banks to calculate the marginal contributions of the above exemptions, expressed as percentages with respect to the total figures associated to the Basel scope for CVA risk.

- A section on current CVA risk charge, calculated on the basis of the CRR scope of transaction subject to CVA.

12. These data have been used to calculate the impact of the reintegration of the above exempted transactions to the current CVA risk charge. Nevertheless, in this report the impact of clients' transactions referred to in Article 382(3) CRR is not considered for the purpose of the hypothetical CVA. Instead, the hypothetical CVA includes the four sets of exempted transactions referred to in Article 382(4) CRR.

13. Clients' transactions have not been reintegrated to make it possible to compare the outcome of this exercise with that of the 2015 CVA risk monitoring exercise, in which clients' transactions were not included for the purpose of calculating the hypothetical CVA. In addition, while the EBA recommended reconsidering the treatment of all exempted transactions under the CRR in

[11] Please note that with respect to clients' transactions referred to in Article 382(3) CRR, policy recommendation No 6 of the EBA CVA Report clarifies that, in the EBA's view, Article 382(3) CRR currently exempts from the CVA risk charge centrally cleared clients' trades from the perspective of both the clearing member and the client, when the client is subject to the CRR.

its policy recommendations No 3 and No 6 of the CVA Report, it considers that the framework should continue to ensure that indirect clearing remains incentivised vis-à-vis bilateral trading.

14. The submission of data was conducted in two stages, whereby banks showing data quality issues after the first submission were requested to review their reported values and/or provide explanations, and resubmit their contribution. In most cases, the data quality increased significantly as a result of this process. Nevertheless, for some institutions data quality issues remained even following the second submission.[12] Therefore, the results obtained should generally be treated with caution.

[12] As an example, the percentages to be reported in the template, which are intended to allow an assessment of the impact of particular exemptions, and the order of magnitude by which they were expressed, were in some cases misreported or suspicious, calling into question the reliability of the data.

2. Materiality of CVA risk

15. The materiality of CVA risk was assessed based on two broad indicators: (i) an absolute indicator expressed in terms of exposure value (exposure at default – EAD) and (ii) a relative indicator expressed in terms of the ratio of current CVA risk charge to total Pillar 1 capital.

16. The total exposure value of derivatives corresponds to the counterparty credit risk exposure value (CCR EAD) associated with all derivatives not cleared with a Qualifying Central Counterparty (QCCP), and thus including also exempted transactions under Article 382(4) CRR but excluding clients' transactions referred to in Article 382(3) CRR.

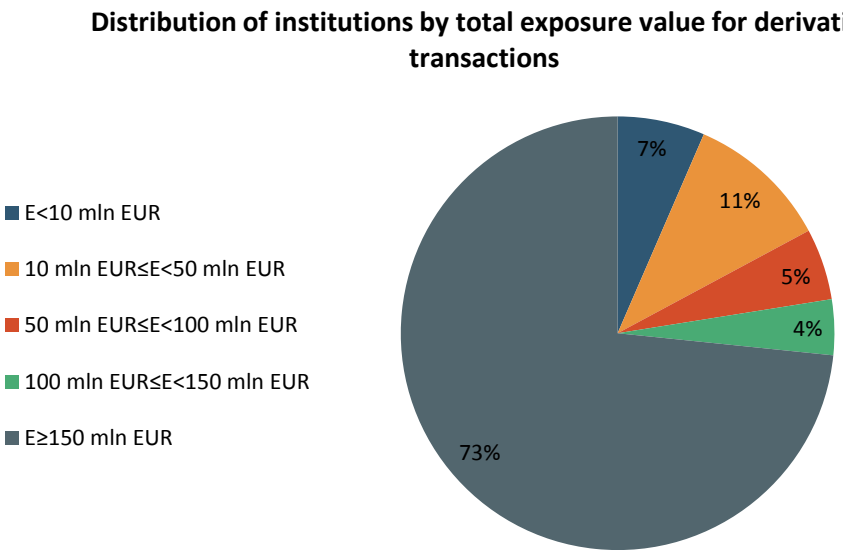
17. Both indicators are naturally unable to reflect accurately the materiality of CVA risk. On the one hand, the exposure value simply does not measure CVA risk. On the other hand, the ratio of current CVA risk charge to total Pillar 1 capital does not take into account the transactions that, in the EU, are currently exempted from the scope of the CVA risk charge.

18. Nonetheless, those indicators provide a broad overview of the materiality of risks stemming from non-centrally cleared derivative transactions for the sample of banks considered.

2.1 Total exposure value of derivative transactions

19. Figure 2 shows that, in absolute terms, 73% of the banks in the sample have a portfolio of derivatives generating an exposure value (EAD) greater than EUR 150 million.

Figure 2: Distribution of institutions by total exposure value (EAD) for derivative transactions



20.The quartiles of the distribution are shown in Figure 3.

Figure 3: Distribution of total exposure value (EAD) for derivative transactions

	Total exposure value (EUR)
Observations	169
Minimum	403 234
25th percentile	127 400 135
50th percentile	665 814 691
75th percentile	5 030 484 021
Maximum	96 464 654 491

2.2 Current CVA risk

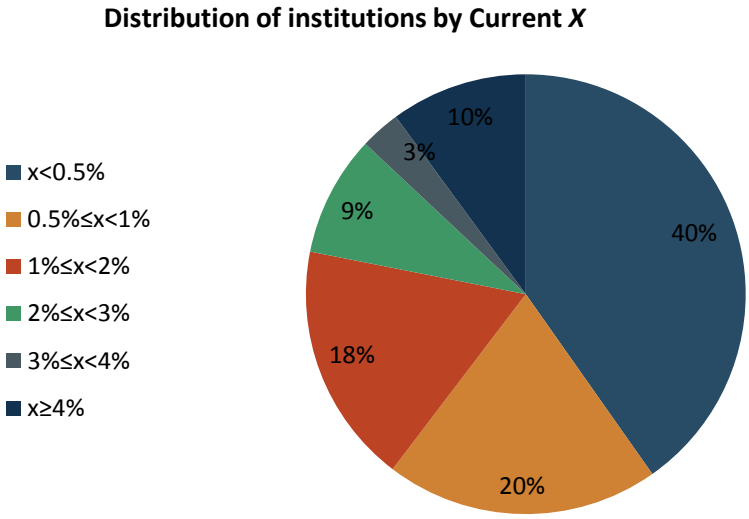
21.The materiality of CVA risk for banks was assessed based on the ratio of current CVA risk charge to total Pillar 1 own fund requirements (OFR). Current *X* is defined as follows:

$$Current\ X = \frac{Current\ own\ funds\ requirements\ for\ CVA\ risk}{Current\ total\ Pillar\ 1\ own\ funds\ requirements}$$

22.Current *X* does not reflect the transactions currently excluded from the scope of the CVA risk charge due to EU exemptions.

23.Figure 4 shows that for more than half of the institutions in the sample Current *X* is below 1%. However, for 10% of the banks Current *X* is already above 4%, despite the CVA risk charge not reflecting exempted transactions.

Figure 4: Distribution of institutions by Current *X* (i.e. current CVA contribution to current total Pillar 1 OFR)



24.The quartiles of the distribution of Current *X* are shown in Figure 5.

Figure 5: Distribution of Current *X* (i.e. current CVA contribution to current total Pillar 1 OFR)

	Current *X*
Observations	169
Minimum	0.00%
25th percentile	0.22%
50th percentile	0.70%
75th percentile	1.62%
Maximum	39.79%

25.It can be seen from Figure 5 that for the vast majority of institutions Current *X* is below 2%.

3. Impact figures excluding intragroup transactions

26. For the purposes of this section, the impact of intragroup transactions is disregarded, i.e. intragroup transactions referred to in Article 382(4)(b) CRR are not reintegrated into the scope of the hypothetical CVA risk charge.

27. Therefore, on top of the institutions' transactions already in scope, only the following transactions are reintegrated for the purpose of calculating the hypothetical CVA risk charge:

    i. transactions with non-financial counterparties referred to in Article 382(4)(a) CRR;

    ii. transactions with pension fund counterparties referred to in Article 382(4)(c) CRR;

    iii. transactions with sovereign counterparties referred to in Article 382(4)(d) CRR.

    As indicated above, clients' transactions referred to in Article 382(3) CRR are excluded from the scope of the hypothetical CVA charge.

28. Only banks with hypothetical CVA risk greater than current CVA risk are considered.

3.1 Impact on CVA risk charge

29. In this section the impact of the hypothetical CVA risk charge (calculated as indicated above) on the current CVA risk charge is considered, expressed as:

$$CVA\ impact = \frac{Hypothetical\ CVA\ risk}{Current\ CVA\ risk}$$

30. According to Figure 6, which shows the impact for banks applying both advanced and standardised CVA approaches, the median bank would see its current CVA risk charge multiplied by 2.68 as a result of the reintegration of exempted transactions.

Figure 6: CVA impact excluding intragroup transactions – all institutions

	CVA impact (all institutions and no intragroup)
Observations	125
Minimum	↓1
25th percentile	1.66
50th percentile	2.68
75th percentile	7.66
Maximum	440.16

31. Figure 7 shows the CVA impact only for those institutions that apply the advanced method for CVA risk. It can observed that for the median bank the current CVA risk charge would be multiplied by 3.76 as a result of the reintegration of exempted transactions.

Figure 7: CVA impact excluding intragroup transactions – institutions using the advanced method for CVA risk

	CVA impact (institutions using the advanced method and no intragroup)
Observations	19
Minimum	↓1
25th percentile	2.00
50th percentile	3.76
75th percentile	7.00
Maximum	19.46

3.2 Impact on ratio of CVA risk to total Pillar 1

32. Similarly to the analysis carried out for the Current *X* ratio (i.e. current CVA contribution to current total Pillar 1 OFR), this section considers the relative impact of the hypothetical CVA risk charge (i.e. that which would be produced if exempted transactions were reintegrated) with respect to the hypothetical total Pillar 1 OFR (i.e. the OFR that would be computed using the hypothetical CVA risk charge instead of the current CVA risk charge).

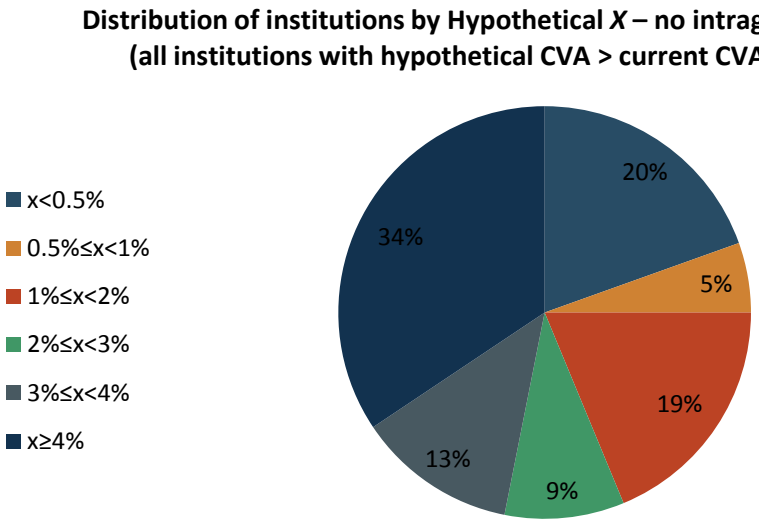
33. Hypothetical *X* is defined as follows:

$$Hypothetical\ X = \frac{Hypothetical\ own\ funds\ requirements\ for\ CVA\ risk}{Hypothetical\ total\ Pillar\ 1\ own\ funds\ requirements}$$

Where Hypothetical total Pillar 1 = Current total Pillar 1 – Current CVA risk + Hypothetical CVA risk.

34. From Figure 8, it can be seen that more than half of the institutions in the sample exhibit a Hypothetical *X* lower than 3%. However, 34% of the institutions show a Hypothetical *X* greater than 4%.

Figure 8: Distribution of institutions by Hypothetical *X* (i.e. hypothetical CVA contribution to hypothetical total Pillar 1 OFR) excluding intragroup transactions – all institutions



35. The quartiles of the distribution are shown in Figure 9.

Figure 9: Distribution of Hypothetical *X* (i.e. hypothetical CVA contribution to hypothetical total Pillar 1 OFR) excluding intragroup transactions – all institutions

	Hypothetical *X* (all institutions and no intragroup)
Observations	128
Minimum	↓0
25th percentile	0.97%
50th percentile	2.63%
75th percentile	6.18%
Maximum	42.89%

36. From Figure 9, it can be seen that the median bank has a Hypothetical *X* of 2.63% when exempted transactions under Article 382(4)(a),(c) and (d) are reintegrated. Figure 10 shows the distribution of Hypothetical *X* only for those institutions that apply the advanced method for CVA risk. In this case, the median bank exhibits a Hypothetical *X* of 5.46% when exempted transactions are reintegrated for the purpose of calculating the CVA risk charge.

Figure 10: Distribution of Hypothetical *X* (i.e. hypothetical CVA contribution to hypothetical total Pillar 1 OFR) excluding intragroup transactions – institutions using the advanced method for CVA risk

	Hypothetical *X* (institutions using the advanced method and no intragroup)
Observations	19
Minimum	1.06%
25th percentile	3.65%
50th percentile	5.46%
75th percentile	10.44%
Maximum	24.63%

3.3 Impact on capital

37. As a key part of the monitoring exercise, the EBA has analysed the potential undercapitalisation resulting from the current Pillar 1 exemptions. In this regard, various scenarios were tested in which a proportion *y*% of the hypothetical CVA risk is considered capitalised, and this is compared with the current CVA risk (which is what is actually capitalised) to assess the level of undercapitalisation for CVA risk. It should be noted that this report does not intend to suggest a benchmark for the capitalisation of uncovered CVA risk, particularly considering that the EBA has currently put on hold the development of its Guidelines on the treatment of CVA risk under SREP. Undercapitalisation is defined as follows:

$$Undercapitalisation = max\{0, y\% \cdot Hypothetical\ CVA\ risk\ charge - Current\ CVA\ risk\ charge\}$$

38. Figure 11 shows the distribution of the undercapitalisation for CVA risk (due to the exemptions), for different threshold values of *y*%. The starting sample is the full sample of 169 banks.

39. It can be seen that, if 50% of the hypothetical CVA risk were to materialise, this would result on average in a level of undercapitalisation for CVA risk of approximately EUR 120 million for 84 institutions (out of 169). The remaining institutions in the sample would not be considered undercapitalised, as their current CVA risk charge is already greater than 50% of their hypothetical CVA risk. In this same scenario, the median bank would be undercapitalised for CVA risk by approximately EUR 30 million, while the total level of undercapitalisation for CVA risk in the sample of banks amounts to approximately EUR 10 billion.

Figure 11: Undercapitalisation for various values of *y*% and excluding intragroup transactions

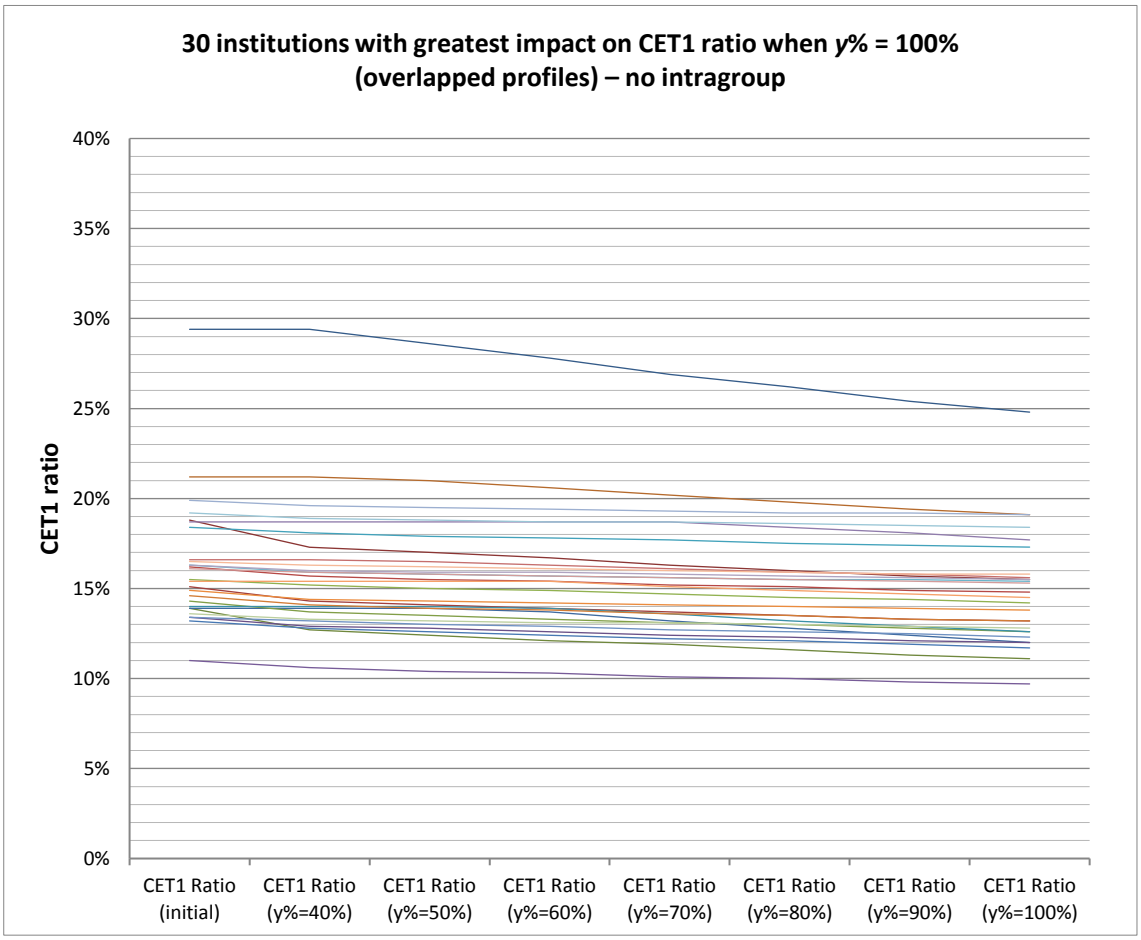
	Undercapitalisation for *y*% = 40%	**Undercapitalisation for *y*% = 50%**	**Undercapitalisation for *y*% = 60%**	**Undercapitalisation for *y*% = 70%**
Observations	73	84	94	99
Minimum	113	141	12	198
25th percentile	1 981 405	2 285 879	2 657 728	3 446 563
50th percentile	25 656 965	30 855 709	33 294 637	43 061 499
75th percentile	76 457 381	120 895 335	146 336 000	190 112 000
Maximum	783 915 419	1 088 817 300	1 393 719 180	1 698 621 060
Sum	6 702 917 873	10 089 913 982	13 756 474 846	17 649 419 989
Average	91 820 793	120 118 024	146 345 477	178 276 970

3.4 Impact on CET1 ratio

40. Figure 12 shows the sub-sample of the 30 banks most affected, in terms of a decrease in basis points of the CET1 ratio, by the capitalisation of 100% of their hypothetical CVA risk (excluding intragroup transactions).

41. For this sub-sample of 30 banks, the impact on the initial CET1 ratio is shown for various scenarios of capitalisation of *y*%.

Figure 12: CET1 ratio impact for the 30 institutions experiencing the greatest impact on CET1 ratio when *y*% = 100% (excluding intragroup transactions)



42. From Figure 12, it can be seen that the decrease in CET1 ratio compared with the initial CET1 ratio amounts for six institutions to more than 200 basis points when *y*% = 100% (i.e. where 100% of the hypothetical CVA risk is capitalised, excluding intragroup transactions).

4. Impact figures including intragroup transactions

43. For the purposes of this section, the impact of intragroup transactions is included. Therefore, on top of the institution's transactions already in scope, the following transactions are reintegrated for the purpose of calculating the hypothetical CVA risk charge:

    i. transactions with non-financial counterparties referred to in Article 382(4)(a) CRR;

    ii. intragroup transactions referred to in Article 382(4)(b) CRR;

    iii. transactions with pension fund counterparties referred to in Article 382(4)(c) CRR;

    iv. transactions with sovereign counterparties referred to in Article 382(4)(d) CRR.

    As indicated above, clients' transactions referred to in Article 382(3) CRR are excluded from the scope of the hypothetical CVA charge.

44. Only banks with hypothetical CVA risk greater than current CVA risk are considered.

4.1 Impact on CVA risk charge

45. As above, in this section the impact of the hypothetical CVA risk charge on the current CVA risk charge is considered, expressed as:

$$CVA\ Impact = \frac{Hypothetical\ CVA\ risk}{Current\ CVA\ risk}$$

46. According to Figure 13, which shows the impact for banks applying both advanced and standardised CVA approaches, the median bank would see its current CVA risk charge multiplied by 3.06 as a result of the reintegration of exempted transactions.

Figure 13: CVA impact including intragroup transactions – all institutions

	CVA impact (all institutions)
Observations	129
Minimum	↓1
25th percentile	1.66
50th percentile	3.06
75th percentile	7.66
Maximum	3836.37

47. Figure 14 shows the CVA impact only for those institutions that apply the advanced method for CVA risk. It can observed that for the median bank the current CVA risk charge would be multiplied by 4.05 as a result of the reintegration of exempted transactions.

Figure 14: CVA impact including intragroup transactions – institutions using the advanced method for CVA risk

	CVA impact (institutions using the advanced method)
Observations	20
Minimum	1.01
25th percentile	2.31
50th percentile	4.05
75th percentile	6.90
Maximum	23.32

4.2 Impact on ratio of CVA risk to total Pillar 1

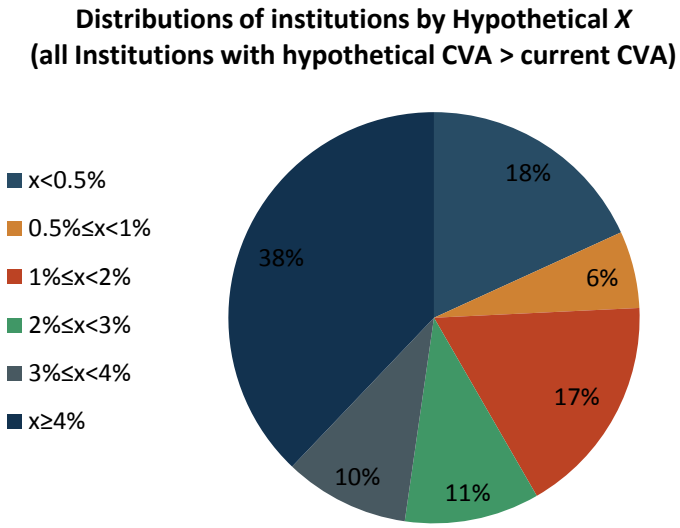
48. Similarly to above, this section considers the relative impact of the hypothetical CVA risk charge on the hypothetical total Pillar 1 OFR, through the definition of Hypothetical *X*:

$$Hypothetical\ X = \frac{Hypothetical\ own\ funds\ requirements\ for\ CVA\ risk}{Hypothetical\ total\ Pillar\ 1\ own\ funds\ requirements}$$

Where Hypothetical total Pillar 1 = Current total Pillar 1 – Current CVA risk + Hypothetical CVA risk.

49. From Figure 15, it can be seen that more than half of the institutions in the sample exhibit a Hypothetical *X* lower than 3%. However, 38% of the institutions show a Hypothetical *X* greater than 4%.

Figure 15: Distribution of institutions by Hypothetical *X* (i.e. hypothetical CVA contribution to hypothetical total Pillar 1 OFR) including intragroup transactions – all institutions



50. The quartiles of the distribution are shown in Figure 16.

Figure 16: Distribution of Hypothetical *X* (i.e. hypothetical CVA contribution to hypothetical total Pillar 1 OFR) including intragroup transactions – all institutions

	Hypothetical *X* (all institutions)
Observations	132
Minimum	↓0
25th percentile	1.03%
50th percentile	2.77%
75th percentile	6.11%
Maximum	42.89%

51. From Figure 16, it can be seen that the median bank has a Hypothetical *X* of 2.77% when exempted transactions under Article 382(4) CRR are reintegrated. Figure 17 shows the distribution of Hypothetical *X* only for those institutions that apply the advanced method for CVA risk.

Figure 17: Distribution of Hypothetical *X* (i.e. hypothetical CVA contribution to hypothetical total Pillar 1 OFR) including intragroup transactions – institutions using the advanced method for CVA risk

	Hypothetical *X* (institutions using the advanced method)
Observations	20
Minimum	1.19%
25th percentile	3.69%
50th percentile	5.17%
75th percentile	10.55%
Maximum	25.02%

4.3 Impact on capital

52. As above, this section analyses the potential undercapitalisation resulting from the current Pillar 1 exemptions by testing scenarios in which a proportion *y*% of the hypothetical CVA risk is considered capitalised, and this is compared with the current CVA risk (which is what is actually capitalised). The hypothetical CVA risk charge includes the reintegration of the exempted transactions under Article 382(4) CRR, while undercapitalisation is defined, as above, as follows:

$$Undercapitalisation = max\{0, y\% \cdot Hypothetical\ CVA\ risk\ charge - Current\ CVA\ risk\ charge\}$$

53. Figure 18 shows the distribution of the undercapitalisation for CVA risk (due to the exemptions) for different threshold values of *y*%. The starting sample is the full sample of 169 banks.

54. It can be seen that if 50% of the hypothetical CVA risk were to materialise, this would result on average in a level of undercapitalisation for CVA risk of approximately EUR 132 million for 88 banks (out of 169). The remaining banks in the sample would not be considered undercapitalised, as their current CVA risk charge is already greater than 50% of their hypothetical CVA risk. In this same scenario, the aggregated level of undercapitalisation across the sample would amount to approximately EUR 11 billion.

Figure 18: Undercapitalisation for various values of *y*% and including intragroup transactions

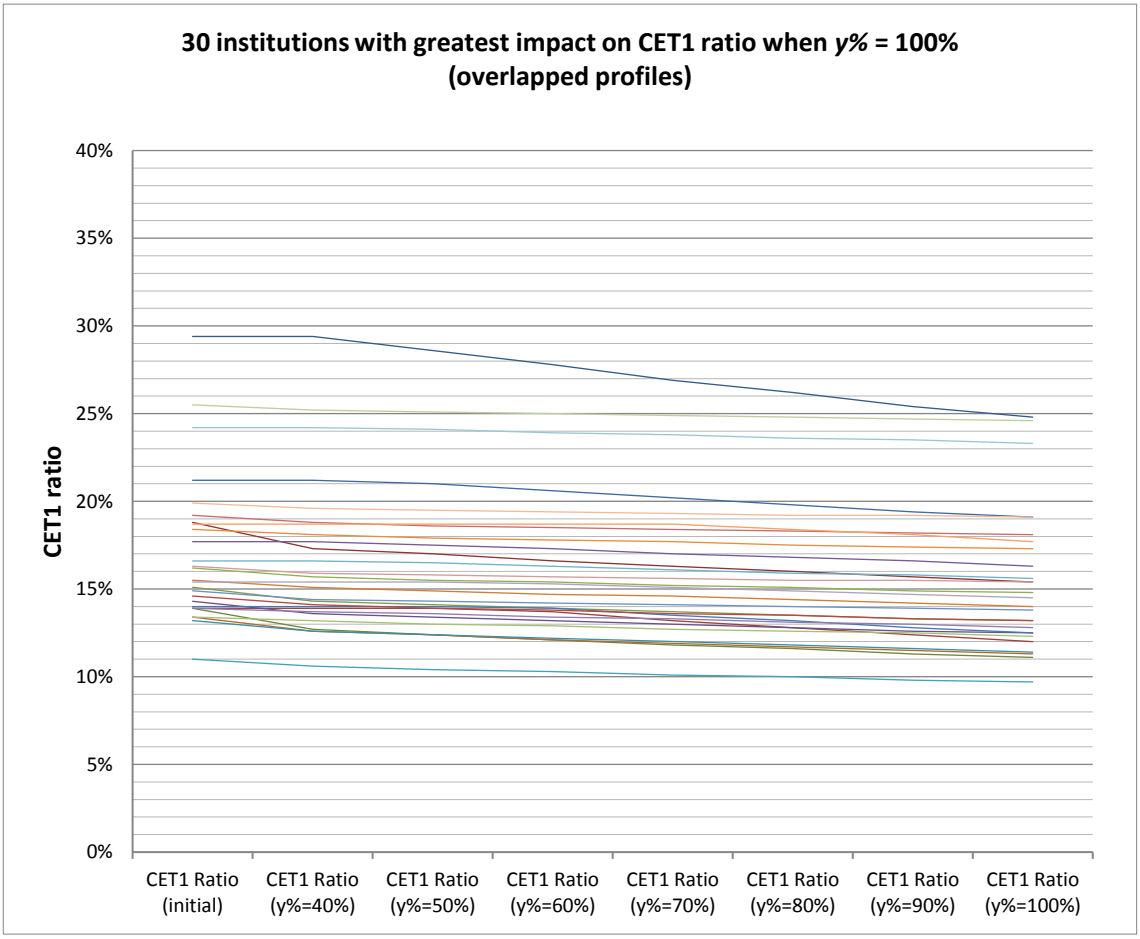
	Undercapitalisation for *y*% = 40%	**Undercapitalisation for *y*% = 50%**	**Undercapitalisation for *y*% = 60%**	**Undercapitalisation for *y*% = 70%**
Observations	75	88	99	104
Minimum	113	141	170	198
25th percentile	3 370 087	4 871 066	5 795 408	5 944 125
50th percentile	27 470 160	31 009 843	36 284 151	49 836 460
75th percentile	89 553 837	130 249 853	170 101 417	200 243 603
Maximum	1 375 441 422	1 828 224 803	2 281 008 184	2 733 791 565
Sum	7 804 424 819	11 617 864 938	15 672 173 036	19 935 406 212
Average	104 058 998	132 021 192	158 304 778	191 686 598

4.4 Impact on CET1 ratio

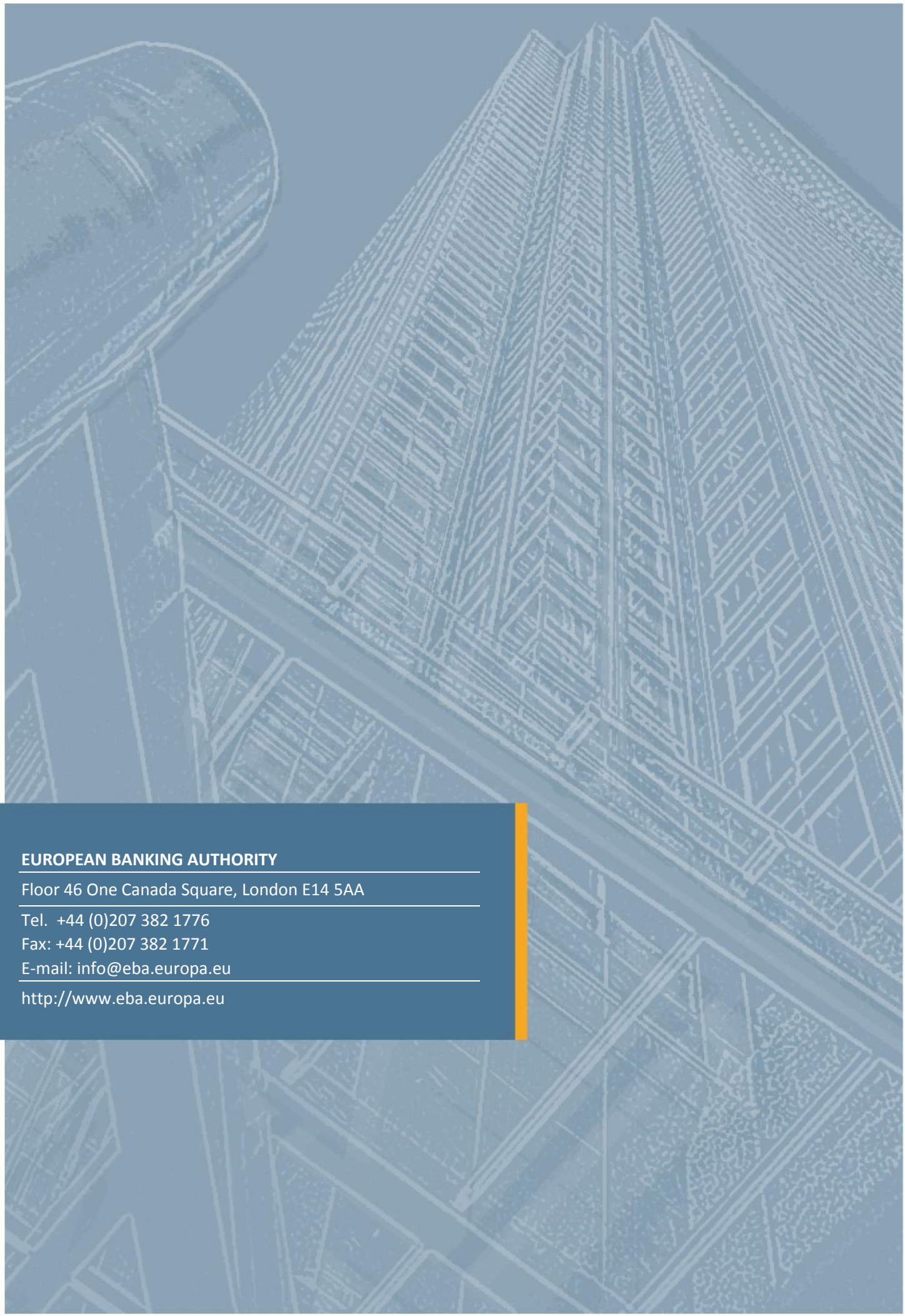
55. Figure 19 shows the impact (of the reintegration of the transactions exempted under Article 382(4) CRR) on the CET1 ratio for the sub-sample of the 30 banks most affected, in terms of a decrease in basis points of the CET1 ratio, by the capitalisation of 100% of their hypothetical CVA risk.

56. For this sub-sample of 30 banks, the impact on the initial CET1 ratio is shown for various scenarios of capitalisation of *y*%.

Figure 19: CET1 ratio impact for the 30 institutions experiencing the greatest impact on CET1 ratio when *y*% = 100% (including intragroup transactions)



57. From Figure 19, it can be seen that, when reintegrating the transactions excluded under Article 382(4) CRR, the decrease in CET1 ratio compared with the initial CET1 ratio amounts for seven institutions to more than 200 basis points when *y*% = 100%.



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