

2019 ex-ante contribution period: Information on the discretization of the non-binary risk indicators

According to the Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63, the discretization is performed as follows:

1. A discretization approach is applied to determine the optimal number of bins per risk indicator;
2. Institutions are assigned to the bins such that each bin contains the same number of institutions according to the value taken by their risk indicator. Institutions with the lowest values of the raw risk indicators are assigned to the first bin and institutions with the highest values are assigned to the last bin. Institutions with the same values of the raw risk indicators are assigned to the same bin;
3. Entities in the same bucket are given a risk indicator equal to the value of the order of the bin, counting from the left to the right (i.e. institutions in the leftmost bin get a value of 1, those in the following bin get a two...)¹.

For each contribution period, the number of bins depends on the sample of institutions in scope (in terms of number of institutions and value of indicators).

Please note that the values in table below are based on the data submitted for the calculation of the 2019 ex-ante contributions. The below table is therefore under no circumstances to be considered as an indication or forecast for the values that may apply for the calculation of future contributions as those depend on the data submitted (on a yearly basis) by the institutions in scope.

¹ In the following Step 3 of Annex I of Commission Delegated Regulation (EU) 2015/63, the scores of the bin are rescaled to range from 1 to 1000, such that higher values correspond to lower riskiness:

- If the sign of the indicator is negative: $(1000-1) * (\text{bin the institution belongs to} - \text{minimum bin}) / (\text{maximum bin} - \text{minimum bin}) + 1$;
- If the sign of the indicator is positive: $1001 - [(1000-1) * (\text{bin the institution belongs to} - \text{minimum bin}) / (\text{maximum bin} - \text{minimum bin}) + 1]$.

2019 ex-ante contribution period - Information on the discretization of the non-binary risk indicators

| Bin | Risk pillar I - Leverage ratio | | | Risk pillar I - Common Equity Tier 1 Capital (CET1) ratio | | | Risk pillar I - Total Risk Exposure divided by Total Assets | | |
|----------------------|--------------------------------|----------|-----------|---|----------|------------|---|----------|-----------|
| | no. | min. | max. | no. | min. | max. | no. | min. | max. |
| 1 | 86 | 0.2200% | 3.7200% | 74 | 6.1352% | 10.7933% | 91 | 0.0831% | 20.1237% |
| 2 | 85 | 3.7322% | 4.5200% | 86 | 10.8176% | 11.5646% | 91 | 20.3696% | 27.0584% |
| 3 | 87 | 4.5302% | 5.2400% | 86 | 11.5654% | 12.1204% | 91 | 27.0767% | 31.7398% |
| 4 | 86 | 5.2500% | 5.7900% | 82 | 12.1289% | 12.6637% | 91 | 31.8569% | 35.9507% |
| 5 | 83 | 5.8000% | 6.1800% | 82 | 12.6655% | 13.2621% | 91 | 35.9804% | 41.1871% |
| 6 | 89 | 6.1900% | 6.5900% | 82 | 13.2697% | 13.7037% | 91 | 41.1874% | 44.5669% |
| 7 | 86 | 6.6000% | 6.9800% | 82 | 13.7084% | 14.1648% | 91 | 44.6140% | 47.6260% |
| 8 | 86 | 6.9900% | 7.2800% | 82 | 14.1658% | 14.5935% | 91 | 47.6371% | 50.2418% |
| 9 | 85 | 7.2900% | 7.5100% | 82 | 14.5949% | 15.0664% | 91 | 50.2474% | 52.8193% |
| 10 | 86 | 7.5200% | 7.7800% | 81 | 15.0679% | 15.5931% | 90 | 52.8482% | 54.9931% |
| 11 | 87 | 7.8000% | 8.0890% | 81 | 15.6038% | 16.0644% | 90 | 55.0072% | 56.9077% |
| 12 | 84 | 8.0900% | 8.4240% | 81 | 16.0757% | 16.6348% | 90 | 56.9209% | 58.7058% |
| 13 | 87 | 8.4300% | 8.7100% | 81 | 16.6504% | 17.1825% | 90 | 58.7435% | 60.8423% |
| 14 | 87 | 8.7300% | 9.1490% | 81 | 17.1966% | 18.0598% | 90 | 60.8509% | 63.1477% |
| 15 | 85 | 9.1500% | 9.6893% | 81 | 18.0733% | 18.9527% | 90 | 63.1872% | 65.7523% |
| 16 | 85 | 9.6900% | 10.3300% | 81 | 18.9568% | 20.2590% | 90 | 65.7690% | 69.2543% |
| 17 | 85 | 10.3400% | 11.3100% | 81 | 20.2661% | 22.1507% | 90 | 69.3282% | 76.2462% |
| 18 | 85 | 11.3300% | 14.6200% | 81 | 22.1588% | 24.8010% | 90 | 76.2797% | 485.0528% |
| 19 | 85 | 14.8300% | 100.0000% | 81 | 24.8041% | 36.3499% | | | |
| 20 | | | | 81 | 36.4951% | 1509.9978% | | | |
| 21 | | | | | | | | | |
| g_{ij} | 7.2160 | | | 20.1022 | | | 5.3244 | | |
| N | 1,629 | | | 1,629 | | | 1,629 | | |
| Sigma (σ_g) | 0.0606 | | | 0.0606 | | | 0.0606 | | |
| Mean (\bar{x}) | 8.5799% | | | 21.6148% | | | 50.7656% | | |

- The table above presents statistics regarding the discretization (i.e. Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63) of the non-binary risk indicators (see Article 5 of Commission Delegated Regulation (EU) 2015/63).

- The statistics presented in this table correspond only to the discretization step performed calculating the ex-ante contributions at Euro Area Base (calculated in accordance with Articles 69 and 70 of Regulation (EU) No 806/2014 and Article 4 of Council Implementing Regulation (EU) 2015/81).

- The summary statistics (i.e. g_{ij} , N, Sigma (σ_g), Mean (\bar{x})) are defined in the Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63.

2019 ex-ante contribution period - Information on the discretization of the non-binary risk indicators

| Bin | Risk pillar II - Liquidity Coverage ratio (LCR) | | | Risk pillar III - Share of Interbank Loans and Deposits in the EU | | | Risk pillar IV - Trading Activities divided by Total Assets | | |
|----------------------|---|-----------|----------------|---|---------------------|----------------------|---|--------------|--------------|
| | no. | min. | max. | no. | min. | max. | no. | min. | max. |
| 1 | 81 | 0.0000% | 109.3300% | 86 | € - | € 80,566,172.00 | 1236 | 0.000000000% | 0.000000000% |
| 2 | 82 | 109.4000% | 115.8400% | 86 | € 80,962,244.00 | € 128,596,592.00 | 0 | - | - |
| 3 | 83 | 116.0000% | 121.3100% | 86 | € 129,309,764.35 | € 165,646,217.00 | 0 | - | - |
| 4 | 82 | 121.3200% | 126.0700% | 86 | € 166,051,549.00 | € 200,017,612.00 | 0 | - | - |
| 5 | 82 | 126.2009% | 131.4400% | 86 | € 200,435,412.81 | € 233,960,600.66 | 0 | - | - |
| 6 | 82 | 131.4900% | 136.5100% | 86 | € 234,081,709.51 | € 275,866,147.00 | 0 | - | - |
| 7 | 82 | 136.5900% | 142.7300% | 86 | € 276,496,308.52 | € 325,387,782.00 | 0 | - | - |
| 8 | 82 | 142.7400% | 148.6200% | 86 | € 325,527,190.61 | € 390,904,009.00 | 0 | - | - |
| 9 | 82 | 148.6500% | 155.6100% | 86 | € 391,609,608.00 | € 469,320,451.00 | 0 | - | - |
| 10 | 81 | 155.6700% | 164.3100% | 86 | € 471,279,278.00 | € 559,633,871.00 | 0 | - | - |
| 11 | 81 | 164.3800% | 173.2400% | 86 | € 561,894,731.00 | € 755,046,001.00 | 0 | - | - |
| 12 | 81 | 173.7300% | 182.1200% | 86 | € 756,028,480.00 | € 978,059,401.00 | 0 | - | - |
| 13 | 81 | 182.5400% | 194.2500% | 86 | € 981,226,294.00 | € 1,501,798,316.00 | 0 | - | - |
| 14 | 81 | 194.6905% | 211.6100% | 86 | € 1,507,915,943.20 | € 2,320,263,091.00 | 0 | - | - |
| 15 | 81 | 211.8500% | 240.5400% | 85 | € 2,349,248,554.00 | € 4,051,570,254.00 | 0 | - | - |
| 16 | 81 | 240.7600% | 276.0300% | 85 | € 4,060,244,738.00 | € 7,180,174,526.00 | 8 | 0.000000001% | 0.000005% |
| 17 | 81 | 276.0500% | 330.1900% | 85 | € 7,192,656,860.00 | € 13,183,279,388.00 | 77 | 0.000006% | 0.0237% |
| 18 | 81 | 331.6500% | 437.4200% | 85 | € 13,221,182,635.00 | € 47,237,310,878.45 | 77 | 0.0243% | 0.1492% |
| 19 | 81 | 439.9400% | 652.4600% | 85 | € 47,477,665,497.00 | € 560,192,624,937.00 | 77 | 0.1543% | 0.5640% |
| 20 | 81 | 653.7700% | 99999900.0000% | | | | 77 | 0.5687% | 1.2238% |
| 21 | | | | | | | 77 | 1.2324% | 176.8156% |
| g_{ij} | 20.0867 | | | 6.8422 | | | 32.7436 | | |
| N | 1,629 | | | 1,629 | | | 1,629 | | |
| Sigma (σ_g) | 0.0606 | | | 0.0606 | | | 0.0606 | | |
| Mean (\bar{x}) | 246626.4189% | | | € 13,532,452,006.59 | | | 0.3743% | | |

- The table above presents statistics regarding the discretization (i.e. Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63) of the non-binary risk indicators (see Article 5 of Commission Delegated Regulation (EU) 2015/63).

- The statistics presented in this table correspond only to the discretization step performed calculating the ex-ante contributions at Euro Area Base (calculated in accordance with Articles 69 and 70 of Regulation (EU) No 806/2014 and Article 4 of Council Implementing Regulation (EU) 2015/81).

- The summary statistics (i.e. g_{ij} , N, Sigma (σ_g), Mean (\bar{x})) are defined in the Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63.

2019 ex-ante contribution period - Information on the discretization of the non-binary risk indicators

| Bin | Risk pillar IV - Trading Activities divided by CET1 | | | Risk pillar IV - Trading Activities divided by Total Risk Exposure | | | Risk pillar IV - Off-balance sheet nominal amount divided by Total Assets | | |
|----------------------|---|-------------|-------------|--|-------------|-------------|---|----------|-----------|
| | no. | min. | max. | no. | min. | max. | no. | min. | max. |
| 1 | 1236 | 0.00000000% | 0.00000000% | 1236 | 0.00000000% | 0.00000000% | 86 | 0.0000% | 0.0157% |
| 2 | 0 | - | - | 0 | - | - | 86 | 0.0159% | 2.4073% |
| 3 | 0 | - | - | 0 | - | - | 86 | 2.4089% | 5.3181% |
| 4 | 0 | - | - | 0 | - | - | 86 | 5.3253% | 7.9470% |
| 5 | 0 | - | - | 0 | - | - | 86 | 7.9542% | 9.9460% |
| 6 | 0 | - | - | 0 | - | - | 86 | 9.9565% | 11.7678% |
| 7 | 0 | - | - | 0 | - | - | 86 | 11.8272% | 13.5294% |
| 8 | 0 | - | - | 0 | - | - | 86 | 13.5515% | 14.8815% |
| 9 | 0 | - | - | 0 | - | - | 88 | 14.9121% | 16.0076% |
| 10 | 0 | - | - | 0 | - | - | 87 | 16.0288% | 17.0575% |
| 11 | 0 | - | - | 0 | - | - | 83 | 17.0848% | 18.0243% |
| 12 | 0 | - | - | 0 | - | - | 86 | 18.0313% | 19.1182% |
| 13 | 0 | - | - | 0 | - | - | 86 | 19.1258% | 20.0688% |
| 14 | 0 | - | - | 0 | - | - | 86 | 20.0765% | 21.0953% |
| 15 | 0 | - | - | 0 | - | - | 85 | 21.1041% | 22.2094% |
| 16 | 69 | 0.00000002% | 0.1368% | 69 | 0.0000001% | 0.0250% | 85 | 22.2724% | 24.0380% |
| 17 | 81 | 0.1410% | 1.5299% | 81 | 0.0267% | 0.2383% | 85 | 24.0696% | 26.8614% |
| 18 | 81 | 1.5479% | 8.1601% | 81 | 0.2444% | 1.5470% | 85 | 26.8818% | 35.9816% |
| 19 | 83 | 8.2194% | 20.4419% | 81 | 1.5546% | 3.5400% | 85 | 36.1640% | 440.5511% |
| 20 | 79 | 20.5726% | 900.3227% | 81 | 3.5645% | 127.4666% | | | |
| 21 | | | | | | | | | |
| g_{ij} | 19.2948 | | | 15.6822 | | | 9.7992 | | |
| N | 1,629 | | | 1,629 | | | 1,629 | | |
| Sigma (σ_g) | 0.0606 | | | 0.0606 | | | 0.0606 | | |
| Mean (\bar{x}) | 4.5356% | | | 0.7942% | | | 17.7335% | | |

- The table above presents statistics regarding the discretization (i.e. Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63) of the non-binary risk indicators (see Article 5 of Commission Delegated Regulation (EU) 2015/63).

- The statistics presented in this table correspond only to the discretization step performed calculating the ex-ante contributions at Euro Area Base (calculated in accordance with Articles 69 and 70 of Regulation (EU) No 806/2014 and Article 4 of Council Implementing Regulation (EU) 2015/81).

- The summary statistics (i.e. g_{ij} , N, Sigma (σ_g), Mean (\bar{x})) are defined in the Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63.

2019 ex-ante contribution period - Information on the discretization of the non-binary risk indicators

| Bin | Risk pillar IV - Off-balance sheet nominal amount divided by CET1 | | | Risk pillar IV - Off-balance sheet nominal amount divided by Total Risk Exposure | | | Risk pillar IV - Derivatives exposure divided by Total Assets | | |
|----------------------|---|-----------|------------|--|-------------|-------------|---|-----------|-----------|
| | no. | min. | max. | no. | min. | max. | no. | min. | max. |
| 1 | 86 | 0.0000% | 0.1234% | 78 | 0.00000000% | 0.00000000% | 349 | 0.000000% | 0.000000% |
| 2 | 86 | 0.1765% | 29.5679% | 78 | 0.00000005% | 4.9236% | 0 | - | - |
| 3 | 86 | 30.1891% | 67.6539% | 78 | 4.9860% | 10.8010% | 0 | - | - |
| 4 | 86 | 68.1075% | 100.3030% | 78 | 10.9540% | 16.3561% | 0 | - | - |
| 5 | 86 | 100.7058% | 125.4956% | 78 | 16.3784% | 20.5548% | 61 | 0.000001% | 0.0046% |
| 6 | 86 | 125.6110% | 144.9369% | 78 | 20.6180% | 23.4923% | 82 | 0.0046% | 0.0175% |
| 7 | 86 | 144.9492% | 160.6968% | 78 | 23.4925% | 25.7110% | 82 | 0.0179% | 0.0402% |
| 8 | 86 | 160.8728% | 175.8145% | 78 | 25.7281% | 27.6166% | 82 | 0.0405% | 0.0735% |
| 9 | 86 | 175.8860% | 190.2885% | 78 | 27.6550% | 28.8753% | 82 | 0.0739% | 0.1016% |
| 10 | 86 | 190.4886% | 204.6917% | 78 | 28.9199% | 30.3812% | 81 | 0.1019% | 0.1374% |
| 11 | 86 | 204.8361% | 221.6267% | 78 | 30.3813% | 31.6898% | 81 | 0.1386% | 0.2013% |
| 12 | 86 | 222.0280% | 238.0249% | 78 | 31.7326% | 33.2999% | 81 | 0.2024% | 0.2960% |
| 13 | 86 | 238.2058% | 253.8340% | 77 | 33.3536% | 34.6739% | 81 | 0.2972% | 0.4178% |
| 14 | 86 | 254.5186% | 272.7214% | 77 | 34.7038% | 36.6798% | 81 | 0.4192% | 0.6003% |
| 15 | 85 | 272.7540% | 295.4680% | 77 | 36.6834% | 39.0117% | 81 | 0.6016% | 0.8206% |
| 16 | 85 | 297.2974% | 335.3146% | 77 | 39.0149% | 41.2019% | 81 | 0.8210% | 1.1236% |
| 17 | 85 | 337.0131% | 419.1227% | 77 | 41.2866% | 45.2856% | 81 | 1.1283% | 1.7047% |
| 18 | 85 | 420.6104% | 554.6241% | 77 | 45.3131% | 51.6706% | 81 | 1.7082% | 2.5908% |
| 19 | 85 | 555.5567% | 5564.7956% | 77 | 51.9905% | 63.2723% | 85 | 2.5925% | 5.9918% |
| 20 | | | | 77 | 63.5668% | 88.7958% | 77 | 5.9918% | 178.4506% |
| 21 | | | | 77 | 88.8470% | 15773.9136% | | | |
| g_{ij} | 8.0871 | | | 39.2048 | | | 17.3833 | | |
| N | 1,629 | | | 1,629 | | | 1,629 | | |
| Sigma (σ_g) | 0.0606 | | | 0.0606 | | | 0.0606 | | |
| Mean (\bar{x}) | 234.4680% | | | 47.1263% | | | 1.3542% | | |

- The table above presents statistics regarding the discretization (i.e. Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63) of the non-binary risk indicators (see Article 5 of Commission Delegated Regulation (EU) 2015/63).

- The statistics presented in this table correspond only to the discretization step performed calculating the ex-ante contributions at Euro Area Base (calculated in accordance with Articles 69 and 70 of Regulation (EU) No 806/2014 and Article 4 of Council Implementing Regulation (EU) 2015/81).

- The summary statistics (i.e. g_{ij} , N, Sigma (σ_g), Mean (\bar{x})) are defined in the Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63.

2019 ex-ante contribution period - Information on the discretization of the non-binary risk indicators

| Bin | Risk pillar IV - Derivatives exposure divided by CET1 | | | Risk pillar IV - Derivatives exposure divided by Total Risk Exposure | | |
|----------------------|---|-----------|------------|--|-----------|------------|
| | no. | min. | max. | no. | min. | max. |
| 1 | 349 | 0.000000% | 0.000000% | 349 | 0.000000% | 0.000000% |
| 2 | 0 | - | - | 0 | - | - |
| 3 | 0 | - | - | 0 | - | - |
| 4 | 0 | - | - | 0 | - | - |
| 5 | 61 | 0.000003% | 0.0529% | 61 | 0.000001% | 0.0081% |
| 6 | 82 | 0.0552% | 0.2263% | 82 | 0.0082% | 0.0360% |
| 7 | 82 | 0.2308% | 0.5036% | 82 | 0.0360% | 0.0788% |
| 8 | 82 | 0.5082% | 0.9029% | 82 | 0.0795% | 0.1386% |
| 9 | 82 | 0.9100% | 1.2837% | 82 | 0.1390% | 0.1962% |
| 10 | 81 | 1.2962% | 1.7142% | 81 | 0.1966% | 0.2773% |
| 11 | 81 | 1.7177% | 2.4026% | 81 | 0.2774% | 0.3839% |
| 12 | 81 | 2.4095% | 3.6744% | 81 | 0.3863% | 0.5843% |
| 13 | 81 | 3.7501% | 5.0663% | 81 | 0.5843% | 0.8873% |
| 14 | 81 | 5.0947% | 7.5254% | 81 | 0.8939% | 1.2824% |
| 15 | 81 | 7.5589% | 10.9768% | 81 | 1.2892% | 1.7791% |
| 16 | 81 | 11.0154% | 15.0111% | 81 | 1.7983% | 2.6436% |
| 17 | 81 | 15.0780% | 25.3007% | 82 | 2.6456% | 4.0218% |
| 18 | 81 | 25.3839% | 41.4319% | 80 | 4.0324% | 7.1892% |
| 19 | 81 | 41.9889% | 107.8202% | 81 | 7.2727% | 21.8794% |
| 20 | 81 | 108.3219% | 3012.0426% | 81 | 22.3085% | 1026.2508% |
| 21 | | | | | | |
| g_{ij} | 18.7618 | | | 23.4874 | | |
| N | 1,629 | | | 1,629 | | |
| Sigma (σ_g) | 0.0606 | | | 0.0606 | | |
| Mean (\bar{x}) | 23.0878% | | | 4.5940% | | |

- The table above presents statistics regarding the discretization (i.e. Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63) of the non-binary risk indicators (see Article 5 of Commission Delegated Regulation (EU) 2015/63).

- The statistics presented in this table correspond only to the discretization step performed calculating the ex-ante contributions at Euro Area Base (calculated in accordance with Articles 69 and 70 of Regulation (EU) No 806/2014 and Article 4 of Council Implementing Regulation (EU) 2015/81).

- The summary statistics (i.e. g_{ij} , N, Sigma (σ_g), Mean (\bar{x})) are defined in the Step 2 of Annex I of Commission Delegated Regulation (EU) 2015/63.