

Methodology for calculating contributions to the Deposit Guarantee Fund (“DGF”)

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Methodology for calculating contributions to the Deposit Guarantee Fund (“DGF”)

1. Introduction

- (1) The present methodology has been developed in accordance with the European Banking Authority’s (“EBA”) guidelines on methods for calculating contributions to deposit guarantee schemes¹. These guidelines provide guidance and contain minimum requirements that must be met when defining the relevant methodology for calculating the contributions payable to the DGF by the credit institutions that participate in the Deposit Guarantee and Resolution of Credit and Other Institutions Scheme (“DGS”).
- (2) Contributions are paid at least until the target level laid down in Regulation 16(1) of the Deposit Guarantee and Resolution of Credit and Other Institutions Scheme Regulations of 2016 to (No. 2) of 2020 (“the Regulations”)² is reached.
- (3) Contributions are calculated by the DGS, and paid by the credit institutions participating in the DGS, within the time limits set, and in any event, within twenty one (21) working days from the date on which the relevant notice is transmitted by the Management Committee of the DGS, pursuant to Regulation 16(2).

¹ <https://eba.europa.eu/eba-publishes-guidelines-on-contributions-and-payment-commitments-to-deposit-guarantee-scheme>

² https://www.centralbank.cy/images/media/redirectfile/DGS/CONS_REG_EN_16112020.pdf

2. Credit institutions' contributions

- (4) In accordance with the EBA Guidelines, the risk-based contributions of each credit institution participating in the DGS shall be calculated in accordance with the following equation:

$$C_i = CR * ARW_i * CD_i * \mu$$

where:

C _i (contribution)	Contribution for credit institution 'i'
CR (contribution rate)	Contribution rate
ARW _i (aggregate risk weight)	Aggregate risk weight for credit institution 'i'
CD _i (covered deposits)	Covered deposits for credit institution «i»
μ (adjustment coefficient)	Adjustment coefficient

For the purposes of this methodology, the above equation has been adjusted accordingly to calculate contributions on a semi-annual basis. Therefore, contributions will be calculated and collected from credit institutions participating in the DGS twice a year from 2020 to 2023 and once for the year 2024, in order to reach the target level on time by 3 July 2024 (i.e. a total of nine six-month periods from 2020 to 2024).

3. Explanation of the various parts of the equation

3.1 Contribution Rate ("CR")

- (5) The contribution rate is defined as the quotient of the semi-annual target level, adjusted on the basis of the procyclicality of the banking sector, to the sum of the covered deposits of all participating credit institutions.
- (6) It should be noted that, when the procyclicality of the domestic banking sector does not justify the payment of higher or reduced contributions for the six-month period under consideration, the semi-annual target level is the sum of the funds that the DGS

requires in order to reach the total target level laid down in Regulation 16(1), divided evenly over the number of six-month periods until the date the total target level should be achieved, i.e. 3rd of July 2024.

- (7) The semi-annual contribution rate is identical for all credit institutions that pay contributions to the DGF.

3.2 Covered Deposits (“CD”)

- (8) Covered deposits means the part of eligible deposits³ that does not exceed the coverage level laid down in Regulation 8.
- (9) In this methodology the same reporting date for covered deposits as for the data used to calculate the risk indicators is used. Specific reference to this information is made in paragraph 19.

3.3 Aggregate risk weight (“ARW”)

- (10) An explanation of the stages followed in calculating each credit institution’s ARW follows. There are four (4) stages and these are presented in turn in sections 3.3.1 to 3.3.4.

3.3.1 Determining risk indicators and their corresponding final risk weights

- (11) According to the EBA guidelines, the DGS shall include in its methodology specific core risk indicators and the risk weight of each one of those shall have a minimum value. The DGS may, however, add additional risk indicators and corresponding risk weights, provided that the minimum requirements set out in the EBA Guidelines are met.
- (12) In accordance with the above, Table 1 presents the risk indicators per risk category used in the methodology, as well as the calculation for each risk indicator. Additional information and relevant justification for selecting these indicators is provided in Section 3.3.1.1.

³ In accordance with Regulation 6(1) eligible deposits are all deposits owned by natural or legal persons other than the deposits referred to in Regulation 7, in euro or in other currency, in credit institutions and branches of a credit institution established in the Republic which operate in another country but pay contributions to the Deposit Guarantee Fund, as well as accrued interest up to the expiry date of the deposit or the date on which deposits are rendered unavailable, whichever comes first.

Table 1: Risk indicators (per risk category) and relevant calculation per indicator

Risk categories and risk indicators	Ratio
1. Capital	
1.1 Transitional leverage ratio	$\frac{\text{Tier 1 Capital}}{\text{Total Assets}}$
1.2 CET1 ratio	$\frac{\text{Common Equity Tier 1 Capital}}{\text{Risk Weighted Assets}}$
2. Liquidity and funding	
2.1 Liquidity coverage ratio	$\frac{\text{Stock of High Quality Liquid Assets}}{\text{Total net cash outflows over the next 30 calendar days}}$
2.2 Liquid assets to one year liabilities	$\frac{\text{Liquid Assets}}{\text{One Year Liabilities}}$
3. Asset Quality	
3.1 Non-performing loans ratio – NPL ratio	$\frac{\text{Non Performing Loans and Advances}^*}{\text{Total Loans Advances}^*}$ <i>*Excluding Loans and Advances to Central Banks and Credit Institutions</i>
3.2 Net of impairments Non performing exposures to Tier one capital	$\frac{\text{Net of Impairment Non performing exposures}}{\text{Tier 1 Capital}}$
4. Business model and management	
4.1 Risk Weighted Assets / Total Assets	$\frac{\text{Risk Weighted Assets}}{\text{Total Assets}}$
4.2 Return on assets – ROA ⁴	$\frac{\text{Net Income}}{\text{Total Assets}}$
5. Potential losses for the DGS	
5.1 Unencumbered assets / covered deposits	$\frac{\text{Total Assets} - \text{Encumbered Assets}}{\text{Covered Deposits}}$

⁴ The Return on Assets ratio is calculated as the average of the ratio at the reporting date and that at last year's end in order to mitigate the procyclical effects and to better reflect the viability and stability of the sources of income. Also, the calculation of this ratio is in accordance with the EBA methodology with regard to risk indicators and analysis tools, i.e. total assets (denominator) are calculated as the average of the total assets at the reporting date and those at the beginning of each year while the return (numerator) is annualised where appropriate.

- (13) In addition to what is prescribed in paragraph 11, the DGS shall allocate to the risk indicators in Table 1 a specific risk weight which equals the sum of the minimum risk weight provided in the EBA Guidelines (where applicable) and the flexible risk weight decided by the Management Committee of the DGS, subject to the relevant conditions.
- (14) Table 2 presents the risk weights per risk indicator and per risk category of the methodology.
- (15) The final risk weight for each risk category is in accordance with the EBA guidelines, whilst the sum of all risk weights assigned to all risk indicators equals to 100%.

More information and justification for the selection of these risk weights is included in Section 3.3.1.2.

Table 2: Final risk weights per risk indicator per risk category

Risk categories and risk indicators	Minimum risk weight	Flexible risk weight	«Final risk weight» or «IW»
1. Capital adequacy	18%	+ 5%	23%
1.1 Transitional leverage ratio	9%	+2,5%	11,5%
1.2 Common Equity Tier 1 (CET1) ratio	9%	+2,5%	11,5%
2. Liquidity and funding	18%	0	18%
2.1 Liquidity coverage ratio	9%	0	9%
2.2 Liquid assets to one year liabilities ratio	0	9%	9%
2.3 Net Stable Funding Ratio (NSFR)	9%	-9%	0
3. Asset quality	13%	15%	28%
3.1 Non-performing loans ratio (NPL ratio)	13%	0	13%
3.2 Net of impairments Non performing exposures to Tier one capital ratio	0	15%	15%
4. Business model and management	13%	5%	18%
4.1 Risk Weighted Assets (RWA) / Total Assets ratio	6,5%	+2,5%	9%
4.2 Return on Assets (RoA) ratio	6,5%	+2,5%	9%
5. Potential losses for the DGS	13%	0	13%
5.1 Unencumbered assets / Covered Deposits ratio	13%	0	13%
TOTAL	75%	25%	100%

3.3.1.1 Risk indicators

a) Capital Equity Tier 1 ratio (use of CET1 ratio instead of the capital coverage ratio)

(16) As per the EBA guidelines, the CET1 ratio or the capital coverage ratio is suggested as a core risk indicator of the «Capital Adequacy» risk category. The current methodology uses the CET1 ratio, after taking into consideration the formal opinion of the Banking Stakeholder Group⁵ (as mentioned in the EBA guidelines) on this issue, which argues that the use of CET1 ratio allows for a greater comparability among credit institutions compared to the capital coverage ratio since it is independent of any supervisory discretions.

b) Net Stable Funding Ratio («NSFR»)

(17) NSFR is a core risk indicator of the «Liquidity and funding» risk category, and therefore, deposit guarantee schemes should include it in their methodology when this indicator becomes fully operational. This indicator is expected to become fully operational in 2021, and for this reason, it was decided not to be taken into consideration in the current methodology and to be replaced by the Liquid assets to one year liabilities ratio. Paragraph 24 of the current methodology is relevant.

c) Introduction of two (2) additional risk indicators

(18) The following two (2) risk indicators were added in the methodology:

i. Liquid assets to one year liabilities: As mentioned in paragraph 17, this risk indicator replaced NSFR since it was considered to be representative of a credit institution's liquidity risks since it records the liquidity mismatch between assets and liabilities.

In addition, this indicator provides an indication of the extent to which credit institutions could meet short-term liabilities without encountering liquidity issues.

ii. Net of impairments Non performing exposures to Tier one capital: This particular risk indicator was considered to be representative of the risks arising from

⁵ The EBA's Banking Stakeholder Group is composed of 30 members appointed to represent in balanced proportions credit and investment institutions operating in the Union, their employees' representatives as well as consumers, users of financial services, academics and representatives of SMEs. The Group's role is to help facilitate consultation with stakeholders in areas relevant to the tasks of the EBA.

asset quality as it demonstrates the credit institutions' ability to absorb potential, unexpected losses arising from the portfolio of assets that are in default.

As mentioned in paragraph 11, it is up to the discretion of the deposit guarantee schemes to choose whether they will use additional indicators to those proposed in the EBA Guidelines, if this is considered to provide a more complete and representative view of the domestic banking system.

d) Data used for the calculation of risk indicators

(19) The following shall apply to the calculation of final contributions which includes the calculation of risk indicators:

- i) Contributions for the first six-month period: the data used for the calculation are the latest available final supervisory year-end data of credit institutions for the pre-preceding calendar year (i.e. for the contributions of the first six-month period of 2020, data with reference date 31 December 2018 will be used) which have already been submitted by the credit institutions for supervisory purposes in the FINREP and COREP reporting.
- ii) Contributions for the second six-month period: the data used for the calculation are the latest available final supervisory interim data of credit institutions for the preceding calendar year (i.e. for the contributions of the second six-month period of 2020, data with reference date 30 June 2019 will be used) which have already been submitted by the credit institutions for supervisory purposes in the FINREP and COREP reporting.

Table 3 below shows the reference date of the data to be used in the calculation for each six-month period's contributions:

Table 3: Reference date of data per six-month period

Six-month period	1 st 2020	2 nd 2020	1 st 2021	2 nd 2021	1 st 2022	2 nd 2022	1 st 2023	2 nd 2023	1 st 2024
Reference date	31 Dec. 2018	30 June 2019	31 Dec. 2019	30 June 2020	31 Dec. 2020	30 June 2021	31 Dec. 2021	30 June 2022	31 Dec. 2022

- (20) It is noted that in accordance with the EBA Methodological Guide on Risk Indicators and Detailed Risk Analysis Tools published in an updated version in 2020⁶, data which derive from the interim Income Statement are annualised. It is also noted that in accordance with the same methodological guidance and paragraph 66 of the EBA Guidelines, in the case of indicators deriving data both from the Income Statement and the Balance Sheet, the value of the data at the end of the reporting period is used as per the Income Statement and the average value of the data is used as per the Balance Sheet (beginning and end of the said period).
- (21) In accordance with the EBA Guidelines, the risk indicators for each credit institution are calculated on a solo basis.

3.3.1.2 Final risk weights per risk indicator

- (22) In accordance with the EBA Guidelines, the sum of the minimum risk weights allocated to the core risk indicators i.e. the risk indicators that deposit guarantee schemes should use in their methodology with predetermined minimum risk weights, is 75%.
- (23) It is up to the DGS's discretion to apportion the remaining risk weight of 25%, among core and/or additional risk indicators, as it deems appropriate. The relevant apportionment chosen by the DGS is presented in Table 2.
- (24) In particular, the method for distributing the remaining risk weight (25%) and relevant justification is provided below:
- i. Liquid assets to one year liabilities:** In addition to what has been prescribed in paragraph 17, the risk weight of this risk indicator (adopted to replace the core risk indicator NSFR) is set at 9%. This percentage is chosen as it is equal to NSFR's minimum risk weight.
 - ii. Net of impairments Non performing exposures to Tier one capital:** The «asset quality» risk category to which this indicator belongs to is considered as the most

⁶https://www.eba.europa.eu/sites/default/documents/files/document_library/Risk%20Analysis%20and%20Data/EBA%20guides%20on%20data/2020/882497/EBA%20Methodological%20Guide%20-%20RI%20%20DRAT.pdf

important for the financial system of Cyprus, given the significantly high volume of non-performing loans and the associated risks arising therefrom.

As a result, the risk weight of this indicator is set at the maximum possible level of 15% since it has been evaluated as the most representative of the credit institutions' ability to absorb unexpected losses arising from their asset quality.

iii. Leverage ratio, CET1 ratio, RWA / Total assets, Return on Assets (RoA): The remaining 10% of the flexible risk weight was equally distributed among the risk categories «capital adequacy» and «business model and management», and their respective risk indicators, as both categories are considered significant for the risks of the financial system, and therefore for the purposes of calculating contributions.

3.3.2 Determining individual risk scores (IRS) for each risk indicator per credit institution

(25) Table 4 below shows the number of buckets for each risk indicator, the boundaries for each bucket, as well as the individual risk score - IRS - per each bucket which are used in the methodology.

Table 4: Number of Buckets, Boundaries for each bucket and Individual Risk Scores per indicator (IRS)

Risk indicators	“Final risk weight” or “IW”	Buckets and boundaries	Individual Risk Scores (IRS)
Capital adequacy	23%		
Leverage ratio	11,5%	x < 4%	100
		4% ≤ x < 6%	66
		6% ≤ x < 9%	33
		x ≥ 9%	0
Common Equity Tier 1 (CET1)	11,5%	x < 12%	100
		12% ≤ x < 14%	66
		14% ≤ x < 16%	33
		x ≥ 16%	0
Liquidity and Funding	18%		
Liquidity coverage ratio	9%	x < 120%	100
		120% ≤ x < 200%	66
		200% ≤ x < 300%	33
		x ≥ 300%	0
	9%	x < 15%	100

Liquid assets to one year liabilities		15% ≤ x < 30%	66
		30% ≤ x < 40%	33
		x ≥ 40%	0
Asset Quality	28%		
Non-performing Loans ratio (NPL ratio)	13%	x < 5%	0
		5% ≤ x < 15%	33
		15% ≤ x < 25%	66
		x ≥ 25%	100
Net of impairments Non performing exposures to Tier one capital ratio	15%	x < 50%	0
		50% ≤ x < 100%	33
		100% ≤ x < 140%	66
		x ≥ 140%	100
Business Model and Management	18%		
Risk Weighted Assets (RWA) / Total Assets ratio	9%	x < 40%	0
		40% ≤ x < 50%	33
		50% ≤ x < 60%	66
		x ≥ 60%	100
Return on Assets (RoA) ratio	9%	x < -1%	100
		-1% ≤ x < 0%	66
		0% ≤ x < 1%	33
		x ≥ 1%	0
Potential losses for the DGS	13%		
Unencumbered assets / Covered deposits ratio	13%	x < 150%	100
		150% ≤ x < 200%	66
		200% ≤ x < 250%	33
		x ≥ 250%	0

3.3.2.1 Risk classification using the bucket method or the sliding method.

(26) In accordance with the EBA guidelines, the determination of the IRS (and consequently the aggregate risk score (ARS) explained in detail in Section 3.3.3 and the ARW) is

made based on the **Bucket method** (classification on a discrete scale) or the **Sliding method** (classification on a continuous scale).

- (27) For the purposes of this methodology, the Bucket method was chosen, mainly due to the low complexity of the Cypriot banking sector.

3.3.2.2 Number of buckets per risk indicator

- (28) Four (4) buckets per each risk indicator have been set for all risk indicators, taking into account the relatively limited number of credit institutions participating in the DGS. Moreover, this number of buckets ensures the sufficient and substantial differentiation of the participating institutions on one hand and avoids the same bucket classification of credit institutions with significant differences in their risk indicators, on the other hand.

3.3.2.3 Boundaries per bucket (Absolute method Vs Relative method)

- (29) The boundaries per bucket are determined either based on the absolute method or the relative method:
- **the absolute method** provides that the boundaries of each bucket are determined on the basis of the minimum requirements set / determined for the risk indicators in accordance with the relevant European Directives and Regulations and the historical data of these risk indicators where these are available.
 - **the relative method** provides that the boundaries of each bucket are determined in such a way that the number of credit institutions attributed to each bucket is equal or almost equal.
- (30) The methodology sets the boundaries per each bucket on the basis of the absolute method since it was considered that it achieves better distribution and sufficient differentiation of credit institutions per bucket than the relative method.

3.3.2.4 Individual risk score (IRS)

- (31) IRS per bucket was determined on a pro-rata basis with respect to the number of buckets set, i.e. 0%, 33%, 66% and 100% (0% corresponds to the bucket with the lowest degree of risk, whereas 100% to the bucket with the highest degree of risk).

3.3.2.5 Exemption for branches of credit institutions established in Non-EU countries («third-country branches»)

- (32) Third-country branches do not fall within the scope of the EBA guidelines, as many of the risk adjustment metrics provided for in these guidelines do not apply to them. Paragraph 16 of the EBA guidelines is relevant.
- (33) In view of the above, and given that specific risk indicators used in the methodology are not applicable to third-country branches, it was decided to allocate the highest ARW (150%) to these branches directly (without calculating IRS and ARS). In addition, the risk stemming from third-countries is considered to be higher because of the different regulatory / supervisory framework for credit institutions which have branches in Cyprus.

3.3.3 Calculating the aggregate risk score (ARS) for each credit institution

- (34) The aggregate risk score (ARS) of each credit institution is the sum of the final risk weights (IW) multiplied by the individual risk scores (IRS), for each risk indicator.
- (35) Consequently, each credit institution is assigned a specific ARS, ranging from 0 to 100.

3.3.4 Determination of the ARW per each credit institution depending on which risk class its ARS falls into

- (36) Table 5 below includes the number of risk classes, the boundaries for each risk class as well as the ARW of each risk class, used in the methodology.

Table 5: Number of risk classes, boundaries per risk class, ARW per risk class

Risk classes	Boundaries of aggregate risk scores (ARS)	Aggregate risk weight (ARW)
Class 1 (LOW)	ARS < 40	75%
Class 2 (AVERAGE)	40 ≤ ARS < 55	100%
Class 3 (HIGH)	55 ≤ ARS < 70	125%
Class 4 (VERY HIGH)	ARS > 70	150%

3.3.4.1 Number of risk classes

- (37) The number of risk classes was set to the minimum required number, namely four (4), taking into account the relatively limited number of credit institutions falling into the scope of this methodology.

3.3.4.2 Boundaries for the risk classes

- (38) The risk classes' boundaries were determined as in Table 5. It is considered that these boundaries achieve a sufficient and appropriate allocation of the related credit institutions into the risk classes on the basis of their risk profile as determined by the risk indicators.

3.3.4.3 ARW per risk class

- (39) The ARW was set at 75%, 100%, 125% and 150%. ARW of 75% corresponds to the risk class with the lowest degree of risk, 100% to the risk class with average degree of risk and 125% and 150% to the risk classes with high and very high degree of risk, respectively.
- (40) This determination was made taking into account the minimum requirements set out in the EBA Guidelines for the values of the lowest and highest ARW. Moreover, the use of the smallest possible range (75% - 150%) was considered as the most appropriate

for ARW determination purposes due to the relatively limited number of credit institutions that contribute to the DGF.

3.4. Adjustment coefficient (“ μ ”)

- (41) The adjustment coefficient (μ), is used in the contributions’ calculation equation in order to adjust any discrepancies arising in the form of higher or lower calculated semi-annual contributions (risk based) in relation to the originally established semi-annual target level.
- (42) The adjustment coefficient (μ) is calculated as follows:

$$\mu = \frac{\text{Semi-annual target level}}{\text{Aggregate risk adjusted contributions}}$$

Where: *Aggregate risk adjusted contributions* is the product of the equation $[CR \times ARW_i \times CD_i]$ for all credit institutions contributing to the DGF.

4. Calculating final contributions per credit institution

- (43) Following the calculation of all individual variables (CR, ARW_i , CD_i , μ), the contribution of each credit institution is calculated using the basic equation referred to in paragraph 4.
- (44) The Management Committee of the DGS has decided that in the case of mergers which are legally completed following the initiation of the contribution cycle, the contributions attributable to the merged credit institutions will be paid by the combined entity. In the case of acquisitions or other transactions via which liabilities relating to covered deposits are transferred from one credit institution to another, and which are legally completed following the initiation of the contribution cycle, the contributions attributable to the underlying covered deposits, will be charged proportionately to the entity to which the covered deposits were transferred.

5. Revision of the methodology

- (45) It is noted that the methodology will be reviewed annually and revised if necessary, taking into account the current condition of the domestic banking system and any

developments at the European level. If considered necessary, the methodology may be reviewed and revised on an exceptional basis.

- (46) In addition, it is noted that in accordance with Paragraph 40 of the EBA Guidelines, in case where, revised data are submitted by credit institutions (for example for correcting accounting errors) and these revisions lead to an increase or decrease of the institutions' contribution for any of the previous six month periods, then the DGS will adjust accordingly the institutions' contribution in the next contribution cycle.