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Conseil de Protection des
Déposants et des Investisseurs

Circular CSSF-CPDI 20/21 as amended by Circular CSSF-CPDI 23/34

Fonds de garantie des dépôts Luxembourg (FGDL) – Method for calculating the ex-ante contributions pursuant to Article 182 of the Law of 18 December 2015 on the failure of credit institutions and of certain investment

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Re: Fonds de garantie des dépôts Luxembourg (FGDL) – Method for calculating the ex-ante contributions pursuant to Article 182 of the Law of 18 December 2015 on the failure of credit institutions and of certain investment firms ("2015 Law")

Luxembourg, 28 May 2020

To all credit institutions incorporated under Luxemburg law, to the branches of non-EU credit institutions, and to POST Luxembourg

Ladies and Gentlemen,

1. This circular modifies the calculation method of the total volume of annual contributions that the FGDL collects in relation to the target level referred to in Article 179 of the 2015 Law and in relation to the buffer of financial means referred to in Article 180 of the said law. It also introduces a fairer method for apportioning the annual contributions between member institutions of the FGDL. Circulars CSSF-CPDI 16/01 and 17/06 are repealed. The provisions of this circular depart from paragraphs 35, 37 and 39 of the EBA Guidelines on methods for calculating contributions to deposit guarantee schemes (EBA/GL/2015/10) ("the EBA Guidelines"), which have been applied since 2016.

2. The risk adjustment, as defined in Annex 1 of Circular CSSF-CPDI 16/01, remains applicable. The text is reproduced in Annex 2 of this circular with one amendment, namely setting the lower bound of the sliding scale applied to the liquidity coverage ratio (LCR) (cf. Table 2 of said Annex 2) to a ratio of 100%, in accordance with Article 38 of Commission Delegated Regulation (EU) 2015/61.

3. Paragraph 37 of the EBA Guidelines defines the annual volume of contributions by dividing the difference between the target level (i.e. 0.8% of covered deposits) and the available financial means by the remaining number of years to reach the target level. By this approach, contributions react with some delay to variations in the total amount of covered deposits. If deposits grow regularly, as in the past, the contributions calculated in accordance with the EBA Guidelines are small at the beginning, but increase significantly towards the end of the period over which the target level must be reached. In case of decreasing covered deposits, the EBA method can lead to the collection of contributions in excess of the target level. This circular defines a calculation method that mitigates that effect by giving more weight to the variation of the volume of covered deposits at the beginning of the build-up cycle of the fund. The definition and explanation of the new method are provided in paragraphs 3 and 4 of this circular's Annex 1.

4. Regarding the apportionment of the annual volume of contributions between member institutions, paragraphs 35 and 39 of the EBA Guidelines provide for a break-down that is proportional to covered deposits, leaving aside the risk adjustment. If the total volume of covered deposits (and hence the target level) increase, all member institutions, including those with constant or decreasing covered deposits, must contribute to adjust the FGDL's financial means to the higher target level. Under the new method of apportionment, the contribution of each member institution comprises a part which is proportional to the variation of its covered deposits over the preceding year and, where appropriate, an add-on which does not depend on the variations of the covered deposits over the preceding year at member institutions of the FGDL. Member

institutions whose covered deposits have not increased hence do not pay for the increase of covered deposits over the preceding year at other member institutions as it was the case under the method for determining individual contributions pursuant to Circular CSSF-CPDI 17/06 and the EBA Guidelines. The add-on corresponds to contributions that are necessary for reasons other than the increase of the target level, such as the compensation of depositors or the built-up of the buffer of financial means. The contribution of each member institution continues to be risk adjusted in accordance with paragraph 2 of this circular. The details of the method are provided in the annex.

5. The new calculation methods, as defined in this circular, apply to the annual contributions collected by the FGDL from 2020 onwards. The invoices will be issued in the coming weeks.

For any questions regarding the 2019 contributions, please contact Mr. Laurent Goergen (laurent.goergen@cssf.lu) or the CPDI (cpdi@cssf.lu).

Annex 1: Details of the calculation method

1. In view of a better readability of Annex 1, we call the available financial means referred to by Article 179 of the 2015 Law "1st compartment" of the FGDL. The buffer of financial means provided for by Article 180 is referred to as "2nd compartment". The target level is set each year 0.8% of covered deposits as at 31 December of the preceding year. We remind you that the 1st compartment has reached its target level for the first time in 2018, in accordance with Article 179(4). The FGDL has 8 years to fill the 2nd compartment up to a level of 0.8% of covered deposits. The first tranche was collected in 2019.

Total volume of annual contributions

2. For each year where the financial means of the 1st compartment are less than the target level, the FGDL collects a contribution in relation to the 1st compartment, in accordance with Article 179(4) of the 2015 Law. From 2019 onwards, the FGDL also collects a contribution in relation to the 2nd compartment if the latter presents a gap with respect to its target level, subject to Article 180(3) of the 2015 Law.

3. If N^q refers to the number of years within which the FGDL must fill compartment $q \in \{1, 2\}$ based on the 2015 Law, then the total contribution to be levied in year $j = 1, 2, \ldots, N^q$ is set to:

$$(1) \qquad C_j^q = \max\left(0; F_0^q + \frac{j}{N^q}\left(0{,}8\%\ D_{j-1} - F_0^q\right) - F_{j-1}^q\right), \text{ where}$$

- D_j is the volume of covered deposits as at 31 December of year j, and
- $F^q{}_j$ is the asset value of compartment q as at 31 December of year j, and $F^q{}_0$ represents the asset value of compartment q at the beginning of the multiannual cycle of levies.

4. For the sake of simplifying the interpretation of formula (1), let us assume that the covered deposits are constant, i.e. $D_j=D$ for all years j, and that no outflows occur. The term (0.8% D - $F^q{}_0$) is the gap between the target level and the assets $F^q{}_0$ at the beginning of the multiannual cycle of levies. This gap is filled linearly over N^q years, i.e. each year a share $1/N^q$ of the gap is collected. This way, in year j, the assets accumulated in the compartment since the beginning of the cycle reach the amount $F^q{}_0 + (j/ N^q)$ (0.8% D - $F^q{}_0$). The contribution $C^q{}_j$ levied in year j is then the difference between this stock at the end of period j and the stock $F^q{}_{j-1}$ of assets at the beginning of period j, i.e. $F^q{}_0 + (j/ N^q)$ (0,8% D - $F^q{}_0$) - $F^q{}_{j-1}$. If covered deposits vary over time, this difference could become negative (a case not permitted by law); hence the presence of a max(.) operator in formula (1).

5. In particular, and in the absence of a failure of a large member institution, the number of years N^1 for maintaining the 1st compartment at its

target level is set to 1. Formula (1) then simplifies to C^1_1 = max (0; 0.8% D_0 – F^1_0), where D_0 and F^1_0 are respectively the volume of covered deposits and the value of the 1st compartment's assets as at the 31 December of preceding year. This formula shall determine the total volume of annual contributions for the 1st compartment in 2020.

Regarding the contributions in relation to the 2nd compartment, N^2 is set to 8 and the year 2018 corresponds to the year zero, as long as no failure of a large member institution occurs. For the year 2020, j = 2 and formula (1) yields C^2_2 = max (0; 2/8 · 0.8% D_1 - F^2_1), because de initial asset value F^2_0 in 2018 of the 2nd compartment equals zero.

6. If after the failure of a member institution, the asset value of a compartment is reduced to less than two-thirds of the legal level that must be reached, a new cycle of levies starts, in line with the third sentence of Article 179(4) of the 2015 Law.

Apportionment of the total volume of annual contributions between member institutions

7. In what follows, we define the manner to allocate the total contribution C^q_j to member institutions. For the sake of readability, we drop the index q in the notation, but emphasize that the formulas apply to both compartments.

8. We define

$$(2) \qquad \Delta_{j\text{-}1,\,k} = D_{j\text{-}1,\,k} - D_{j\text{-}2,\,k}$$

as the variation of covered deposits of member institution k from the end of year j-2 to the end of year j-1. Covered deposits at a date at which a member institution does not exist are considered as zero.

The total volume of covered deposits $D_{j\text{-}1}$, which appears in formula (1), can be expressed as the sum of the variations $\Delta_{j\text{-}1,\,k}$ over the institutions k and the total volume of covered deposits $D_{j\text{-}2}$ at the end of the year before last. A substitution in formula (1) yields the following expression for the part of the contribution C_j that depends on $\Delta_{j\text{-}1,\,k}$:

$$(3) \qquad A_{j,\,k} = 0{,}8\% \frac{j}{N} \Delta_{j\text{-}1,\,k} .$$

Please note that $A_{j,\,k}$ may take negative or positive values. We then denote by A_j the sum of the amounts $A_{j,\,k}$ over institutions k that are affiliated with the FGDL on 1 January of year j or on 1 January of year j-1:

$$(4) \qquad A_j = \sum_k A_{j,\,k} .$$

9. The amount of the contribution C_j that remains after deduction of A_j is referred to as B_j:

$$(5) \qquad B_j = C_j - A_j .$$

This amount corresponds to the contributions that are necessary if the compartment has not reached its target level yet (under constant covered deposits), or that serve the purpose to fill a decrease in the compartment's assets caused by the compensation of depositors, a negative investment result, or the transfer of contributions to another deposit guarantee scheme pursuant to Article 189(2) of the 2015 Law.

10. As the part A_j of the contribution takes account of the evolution of covered deposits since the beginning of year j-1, it is appropriate to apportion the amount B_j between member institutions participating in the FGDL at the beginning of year j in proportion to their covered deposits as at 31 December of year j-2. For that purpose, we define

$$(6) \qquad T_j = \frac{B_j}{D^*_{j\text{-}2}}$$

as the contribution rate with respect to the volume $D^*_{j\text{-}2}$ of covered deposits as at 31 December of the year j-2 of institutions participating in the FGDL at the beginning of year j, or having been merged into another member during the year j-1, with the convention that the contribution rate is zero if the denominator vanishes. The contribution rate is identical for all member institutions, but depends on the compartment. It appears on the invoices issued by the FGDL.

11. Finally, the annual contribution of member institution k to each of the two compartments is calculated as follows:

$$(7) \quad C_{j,\,k} = ARW_{j,\,k} \max(0;\, A_{j,\,k} + T_j D_{j\text{-}2,\,k}) \;\mu, \text{ where}$$

- $ARW_{j,\,k}$ is the risk adjustment factor as defined in Annex 2 of this circular. The factor is the same for both compartments;
- $T_j D_{j\text{-}2,\,k}$ is the complement referred to in paragraph 4 of this circular;
- μ is an adjustment factor which ensures that the sum of the $C_{j,\,k}$ over all member institutions k equals the total volume of annual contributions C_j as defined by formula (1). This factor depends on the compartment.

The factors $ARW_{j,\,k}$ and μ will also appear on the invoices issued by the FGDL.

12. If a member institution ℓ has received eligible deposits from a member institution k in the context of a merger, a transfer of liabilities or a similar contractual operation during the year j-1, we first determine the amount of institution k's contributions (of each compartment) for year j before adjustment by μ and without a floor at zero:

$$(8) \quad X_{j,k} = ARW_{j,k}\left(A_{j,k} + T_j D_{j\text{-}2,k}\right).$$

If institution *k* no longer exists on 31 December of year *j*-1, the risk adjustment factor $ARW_{j,k}$ is chosen equal to the previous year's factor.

The amount $X_{j,k}$, which can be positive or negative, is added to the contribution before adjustment by μ of each member institution ℓ having received deposits from institution *k* during the year *j*-1, in proportion to institution ℓ's covered deposits' increase Γ_ℓ caused by the transfer. However, the absolute value of the added amount is limited by the amount of contributions required in year *j* to cover the increase Γ_ℓ. This required amount equals $ARW_{j,\ell}\, 0{,}8\%\, j/N\, \Gamma_\ell$, in accordance with formula (3) above. Moreover, no positive amount is added to any institution ℓ's contribution if institution *k* is able to pay its contribution for year *j*. Indeed, if institution *k* has partially or fully transferred its eligible deposits to one or more member institutions ℓ, and continues to be affiliated with the FGDL, it is appropriate for institution *k* to pay its contribution by itself, if such contribution is positive despite the decrease in its covered deposits. This exceptional situation may arise if the FGDL must replenish its financial means after a large intervention.

Hence, in case of the merger of institution k into a member institution ℓ, the amount $A_{j,k}$ equals - $0{,}8\% \frac{j}{N} D_{j\text{-}2,k}$, and the amount $X_{j,k}$ is thus negative, unless the factor T_j is very large because of a sizeable intervention of the FGDL that occurred during year *j*-1.

13. Member institutions which receive eligible deposits from other member institutions because of mergers, transfers of liabilities or similar contractual operations, shall communicate the amount of received eligible deposits and the consequent increase of their covered deposits.

Annex 2 : Calculation method of the risk adjustment factor

1. This annex defines the method for calculating the risk adjustment of the contributions to the Luxembourg DGS. The design of the method is guided by three overarching principles:

A. Compliance: the risk adjustment method should be fully aligned with the EBA Guidelines;

B. Simplicity: the determination of the risk adjustment should be as simple as possible, and hence as resource efficient as possible (in terms of reporting burden on institutions and implementation costs at the CSSF);

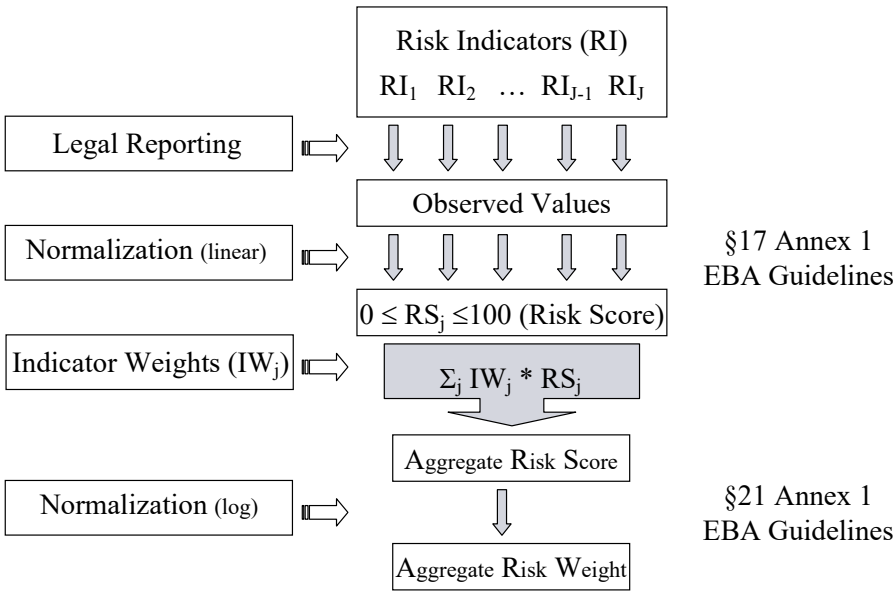
C. Risk sensitivity: contributions should adequately reflect institution specific and system-wide risks.

Given these principles, the CPDI, with the approval of the CSSF in its capacity as competent authority, has developed a calculation method that is based primarily on the mandatory EBA core risk indicators (cf. paragraph 3 below). Only one additional risk indicator, namely the ratio between a bank's covered deposits and the target level, has been implemented. The reason is that banks whose covered deposits exceed the target level shall make a higher contribution to the FGDL due to the additional cost for raising ex-post contributions in case of their failure. This risk related to the deposit-size within the Luxembourg banking sector is not adequately captured by the EBA core risk indicators alone.

2. The "Aggregate Risk Weight" (ARW_k) of institution k is obtained by scoring a set of risk indicators (EBA core risk indicators plus one additional deposit-size risk indicator) and translating them into the ARW_k (cf. paragraph 8).

For low (high) risk institutions, $ARW_k<1$ (>1) so that the contribution of institution k to the DGS is lower (higher) than the targeted 0.8% of its covered deposits.

The following figure shows how the factor ARW_k is obtained as a weighted sum of risk scores.



Risk Indicators and Indicator Weights

3. The risk level of an institution is measured using the standard set of core risk indicators in paragraph 51 of the EBA Guidelines. The CSSF chose to

add "deposit-size risk" as an additional risk indicator. These risk indicators are grouped into overarching risk categories[2] (cf. Table 1 below).

4. A global score per institution is derived by adding the weighted scores per risk indicator. Paragraph 56 of the EBA Guidelines imposes the "minimum weights" shown in Table 1 hereafter for the different risk categories (weights are evenly broken down across the risk indicators in each category). These minimum weights add up to 75% thus leaving Member States the flexibility to allocate the remaining 25% to additional indicators. The CSSF chose to give the additional risk indicator (for deposit-size risk) a 15% weight (in line with the weights per core risk category) and to distribute the remaining weight (10%) evenly across core indicators, in line with paragraph 58 of the EBA Guidelines.

The final weights applied by the CSSF are shown in the third and last columns of Table 1.

Risk Category	Minimum weights	Final weights	Risk Indicator	Final weights
1. Capital	18%	20%	Leverage ratio	10%
			Capital coverage ratio	10%
2. Liquidity and funding	18%	20%	Liquidity coverage ratio (LCR)	20%[3]
			Net stable funding ratio (NSFR)	./.
3. Asset quality	13%	15%	Non-performing loans ratio (NPL ratio)	15%
4. Business model and management	13%	15%	RWA vs. Total assets ratio	7.5%
			Return on assets (ROA)	7.5%
		15%	Deposit-size Risk*	15%
5. Potential losses for the DGS	13%	15%	Unencumbered assets versus Covered deposits	15%
Sum of weights	75%	100%		100%

Table 1: Risk categories, risk indicators and their weights. Additional risk indicators are starred (*).

5. For each member institution, the values of the risk indicators will be calculated on a solo basis, including own branches (EBA Guidelines §63). A score of 100 (worst score) is attributed to indicators that cannot be scored due to data unavailability (e.g. due to late/incomplete reporting). If data is not available due to waivers, the CSSF will ask the mother company at consolidated

[2] For a definition and rationale of the core indicators, please refer to the EBA Guidelines, Table 1 in paragraph 51 and Annex 2 therein. The additional (deposit-size) risk score is binary: institutions with deposits exceeding the target level of 0.8% of aggregate covered deposits are deemed relevant for this risk indicator (and will receive a score of 100). All other, non-relevant institutions receive a 0 score.

[3] Due to its current unavailability, the NSFR is not scored. Its weight is added on top of the LCR weight as suggested in scenario 2 of box 3 of the EBA Guidelines.

level for the respective indicators and apply them to the respective Luxembourg institution in accordance with paragraph 65 of the EBA Guidelines.

Risk Scores

6. The EBA Guidelines comprise two methods for the mapping of the observed values of the risk indicators into a risk score normalised on [0,100]. These are the "bucket method" and the "sliding scale method".

Under the "sliding scale method", the observed values of the risk indicator are linearly mapped into a risk score between 0 and 100. The linearity (and hence continuity) of the mapping function avoids the discontinuous cliff effects of a bucket approach. Under the sliding scale method, small differences in risk indicator values translate into small differences in risk scores. This method is applied to all the risk indicators except the (binary) deposit-size risk indicator. Institutions with covered deposits exceeding (below) 0.8% of aggregate covered deposits are scored 100 (0).

The sliding scale for each indicator is defined by specifying a lower and an upper boundary between which the indicator is mapped linearly to a score between 0 and 100. Values of the risk indicator that fall at or outside the boundaries are mapped onto 0 or 100. The mapping may be decreasing or increasing. The following table shows the lower and upper boundaries that the CSSF has put forth. They are calibrated in a way to ensure the "sufficient and meaningful differentiation" required under §15 of Annex 1 of the EBA Guidelines. For the Leverage ratio, the Capital coverage ratio, the Liquidity coverage ratio and the Unencumbered assets v. covered deposits ratio, higher values of the risk indicator indicate lower risk (decreasing sliding scale). The mapping for the Return on assets is decreasing between 0% and 2% and increasing between 2% and 10% (V-shaped). The remaining sliding scales are increasing.

Risk Indicator	**Boundaries**
Leverage ratio	upper bound: 9% lower bound: 3%
Capital coverage ratio	upper bound: 200% lower bound: 100%
Liquidity coverage ratio (LCR)	upper bound: 120% lower bound: 100%
Non-performing loans ratio (NPL ratio)	upper bound: 3% lower bound: 0%
RWA vs. Total assets ratio	upper bound: 100% lower bound: 0%
Return on assets (ROA)	upper bound: 2%; 10% lower bound: 0%, 2%
Deposit-size risk	
Unencumbered assets v. Covered deposits ratio	upper bound: 200% lower bound: 0%

Table 2: Boundaries and corresponding risk score information.

7. Please note that these boundaries as well as the choice of the risk weights indicated in Table 1 may be amended, as regulatory requirements or the banking landscape itself and its risk structure change. An annual review of the methodology will thus be made and communicated.

Aggregate Risk Weights (ARW)

8. The final ARW_k that is used in the contribution formula (7) of Annex 1 of the present circular is obtained by inserting the Aggregated Risk Score (ARS_k) in the following formula, cf. paragraph 21 of Annex 1 of the EBA Guidelines.

$$ARW_k = 75\% + 75\% * (1- \log_{10} (10 - 9\ ARS_k))$$

This yields an ARW_k between 75% and 150%. This function is recommended by the EBA as it increases the risk weight for the most risky institutions.