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ANNEX 1

ANNEX

to the

Commission Delegated Regulation (EU) N° .../.. of XXX

**supplementing Directive 2014/59/EU of the European Parliament and the Council of 15
May 2014 with regard to ex ante contributions to resolution financing arrangements**

{SWD(2014) 327}

ANNEX I
(PROCEDURE FOR THE CALCULATION OF THE ANNUAL CONTRIBUTIONS OF INSTITUTIONS)

Step 1
Calculation of the Raw Indicators

1. The resolution authority shall calculate the following indicators by applying the following measures:

Pillar	Indicator	Measures
Risk exposure	Own funds and eligible liabilities held by the institution in excess of MREL	$\left(\frac{\text{Own funds and eligible liabilities}}{\text{Total liabilities including own funds}} \right) - MREL$ <p>Where, for the purpose of this indicator:</p> <p>Own funds shall mean the sum of Tier 1 and Tier 2 Capital in accordance with the definition in point (118) of Article 4(1) of Regulation (EU) 575/2013.</p> <p>Eligible liabilities are the sum of the liabilities referred to in point (71) of Article 2(1) of Directive 2014/59/EU.</p> <p>Total liabilities as defined in Article 3(11) of this Regulation. Derivative liabilities shall be included in the total liabilities on the basis that full recognition is given to counterparty netting rights.</p> <p>MREL shall mean the minimum requirement for own funds and eligible liabilities as defined in Article 45(1) of Directive 2014/59/EU.</p>
Risk exposure	Leverage Ratio	Leverage Ratio as defined in Article 429 of Regulation (EU) No 575/2013 and reported in accordance with Annex X of Commission Implementing Regulation (EU) No 680/2014.
Risk exposure	Common Equity Tier 1 Capital Ratio	Common Equity Tier 1 Capital Ratio as defined in Article 92 of Regulation (EU) No 575/2013 and reported in accordance with Annex I of Commission Implementing Regulation (EU) No 680/2014.
Risk exposure	TRE/Total Assets	$\left(\frac{TRE}{\text{Total assets}} \right)$ <p>where:</p> <p>TRE means the total risk exposure amount as defined in Article 92(3) of Regulation (EU) No 575/2013.</p> <p>Total assets are defined in Article 3(12) of this Regulation.</p>
Stability and Variety of Funding	Net Stable Funding Ratio	Net Stable Funding Ratio as reported in accordance with Article 415 of Regulation (EU) No 575/2013.

Stability and Variety of Funding	Liquidity Coverage Ratio	Liquidity Coverage Ratio as reported in accordance with Article 415 of Regulation (EU) No 575/2013 and with the Commission Delegated Regulation (EU) No xxxx/2014.
Importance of an institution to the stability of the financial system or economy	Share of interbank loans and deposits in the EU	$\left(\frac{\text{Interbank loans} + \text{Interbank deposits}}{\text{Total interbank loans and deposits in the EU}} \right)$ <p>where:</p> <p>Interbank loans are defined as the sum of the carrying amounts of loans and advances to credit institutions and other financial corporations as determined for the purpose of template number 4.1, 4.2, 4.3 and 4.4 of Annex III of Commission Implementing Regulation (EU) No 680/2014.</p> <p>Interbank deposits are defined as the carrying amount of the deposits of credit institutions and other financial corporations as determined for the purpose of template number 8.1 of Annex III of Commission Implementing Regulation (EU) No 680/2014.</p> <p>Total interbank loans and deposits in the EU are the sum of the aggregate interbank loans and deposits held by institutions in each Member State as calculated in accordance with Article 15.</p>

Step 2

Discretization of the Indicators

1. In the notation that follows, n indexes institutions, i indexes indicators within pillars and j indexes pillars.
2. For each raw indicator resulting from Step 1, x_{ij} , except for the indicator "extent of previous extraordinary public financial support", the resolution authority shall calculate the number of bins, k_{ij} , as the nearest integer to:

$$1 + \log_2(N) + \log_2 \left(1 + \frac{|g_{ij}|}{\sigma_g} \right),$$

where:

N is the number of institutions, contributing to the resolution financing arrangement, for which the indicator is calculated;

$$g_{ij} = \frac{\frac{1}{N} \sum_{n=1}^N (x_{ij/n} - \bar{x})^3}{\left[\frac{1}{N-1} \sum_{n=1}^N (x_{ij/n} - \bar{x})^2 \right]^{3/2}},$$

$$\bar{x} = \frac{\sum_{n=1}^N x_{ij/n}}{N};$$

$$\sigma_g = \sqrt{\frac{6(N-2)}{(N+1)(N+3)}}$$

3. For each indicator, except for the indicator "extent of previous extraordinary public financial support", the resolution authority shall assign the same number of institutions to each bin, starting by assigning institutions with the lowest values of the raw indicator to the first bin. In case the number of institutions cannot be exactly divided by the number of bins, each of the first r bins, starting from the bin containing the institutions with the lowest values of the raw indicator, where r is the remainder of the division of the number of institutions, N, by the number of bins, k_{ij} , is assigned one additional institution.
4. For each indicator, except for the indicator "extent of previous extraordinary public financial support", the resolution authority shall assign to all the institutions contained in a given bin the value of the order of the bin, counting from the left to the right, so that the value of the discretized indicator is defined as $I_{ij,n} = 1, \dots, k_{ij}$.
5. This Step shall apply to the indicators listed under points (a) and (b) of Article 6(5) only if the resolution authority determines them as continuous variables.

Step 3
Rescaling of the Indicators

1. The resolution authority shall rescale each indicator resulting from Step 2, I_{ij} , over the range 1-1000 by applying the following formula:

$$RI_{i,j,n} = (1000 - 1) * \frac{I_{i,j,n} - \min_n I_{i,j,n}}{\max_n I_{i,j,n} - \min_n I_{i,j,n}} + 1,$$

where the arguments of the minimum and the maximum functions shall be the values of all institutions, contributing to the resolution financing arrangement, for which the indicator is calculated.

Step 4
Inclusion of the Assigned Sign

1. The resolution authority shall apply the following signs to the indicators:

Pillar	Indicator	Sign
Risk exposure	Own funds and eligible liabilities held by the institution in excess of the MREL	-
Risk exposure	Leverage Ratio	-
Risk exposure	Common Equity Tier 1 Capital Ratio	-

Risk exposure	TRE/Total Assets	+
Stability and Variety of Funding	Net Stable Funding Ratio	-
Stability and Variety of Funding	Liquidity Coverage Ratio	-
Importance of an institution to the stability of the financial system or economy	Share of interbank loans and deposits in the EU	+
Additional risk indicators to be determined by the resolution authority	IPS Membership	-
Additional risk indicators to be determined by the resolution authority	Extent of previous extraordinary public financial support	+

For indicators with positive sign, higher values correspond to higher riskiness of an institution. For indicators with negative sign, higher values correspond to lower riskiness of an institution.

The resolution authority shall determine the indicators trading activities, off-balance sheet exposures, derivatives, complexity and resolvability, and specify their sign accordingly.

- The resolution authority shall apply the following transformation to each rescaled indicator resulting from Step 3, $RI_{i,j,m}$, in order to include its sign:

$$TRL_{i,j,m} = \begin{cases} RI_{i,j,m} & \text{if sign} = "-" \\ 1001 - RI_{i,j,m} & \text{if sign} = "+" \end{cases}$$

Step 5

Calculation of the Composite Indicator

- The resolution authority shall aggregate the indicators i within each pillar j through a weighted arithmetic average by applying the following formula:

$$PI_{j,m} = \sum_{i=1}^{N_j} w_{i,j} * TRL_{i,j,m} = w_{1,j} * TRL_{1,j,m} + \dots + w_{N_j,j} * TRL_{N_j,j,m},$$

where:

$w_{i,j}$ is the weight of indicator i in pillar j as defined by Article 7;

N_j is the number of indicators within pillar j .

- In order to compute the composite indicator, the resolution authority shall aggregate the pillars j through a weighted geometric average by applying the following formula:

$$CI_n = \prod_j PI_{j,n}^{W_j} = PI_{1,n}^{W_1} * \dots * PI_{J,n}^{W_J},$$

where:

W_j is the weight of pillar j as defined by Article 7;

J is the number of pillars.

- The resolution authority shall apply the following transformation in order for the final composite indicator to be defined as taking higher values for institutions with higher risk profiles:

$$FCI_n = 1000 - CI_n.$$

Step 6

Calculation of the Annual Contributions

- The resolution authority shall rescale the final composite indicator resulting from Step 5, FCI_n , over the range defined in Article 9 by applying the following formula:

$$\tilde{R}_n = (1.5 - 0.8) * \frac{FCI_n - \min_n FCI_n}{\max_n FCI_n - \min_n FCI_n} + 0.8,$$

where the arguments of the minimum and the maximum functions shall be the values of all institutions, contributing to the resolution financing arrangement, for which the final composite indicator is calculated.

- The resolution authority shall compute the annual contribution of each institution n , except in respect of institutions which are subject to Article 10 and except for the lump-sum portion of the contributions of institutions to which Member States apply Article 20(5), as:

$$c_n = Target * \frac{\frac{B_n}{\sum_{p=1}^N B_p} \cdot \tilde{R}_n}{\sum_{p=1}^N \left(\frac{B_p}{\sum_{q=1}^N B_q} \cdot \tilde{R}_p \right)},$$

where:

p, q index institutions;

Target is the annual target level as determined by the resolution authority in accordance with Article 4(2), minus the sum of the contributions calculated in

accordance with Article 10 and minus the sum of any lump sum that may be paid under Article 20(5);

E_n is the amount of liabilities (excluding own funds) less covered deposits of institution n , as adjusted in accordance with Article 5 and without prejudice to the application of Article 20(5).