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ANNEX IV
RESULTS SUPERVISORY BENCHMARKING PORTFOLIOS

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PART I: GENERAL INSTRUCTIONS

1. Information shall be submitted only for those counterparties where an actual exposure or a rating which is valid to be used in the calculation of the RWA exists.
2. Information shall be submitted only for those exposures and portfolios for which an internal model has been approved and is used in the calculation of the RWA. Exposures and portfolios for which the permanent partial use of the Standardised Approach has been permitted by the respective competent authority, shall be excluded.
3. Information not required or not applicable shall not be submitted. Zero values shall be reported where the quantity is known to be zero.
4. For portfolios that are defined with a specific rating grade in Annex 1, information on the PD shall be reported for the entire rating scale used by the institution, even if no IRB exposure exists for the respective portfolio at the reporting reference date for each rating grade. In this case, the EAD shall be reported as zero and information on the other columns shall not be submitted.
5. Portfolios that are not defined by specific rating grade in Annex 1 shall not be submitted if no IRB exposure or valid rating exists at the reporting reference date.
6. Monetary amounts shall be reported as used for calculating own funds requirements as of a specific reference date (i.e. the same as reported in accordance with Implementing Regulation (EU) No 680/2014).

PART II: TEMPLATE RELATED INSTRUCTIONS

C 101 – Details on exposures in Low Default Portfolios by counterparty

Column	Label	Legal reference	Instructions
General			Specialised Lending exposures shall be excluded for the purpose of C 101.
010	Counterparty Code	Column 010 of template 101 of Annex I	The counterparty code assigned by the EBA to the counterparty included in the LDP samples portfolios shall be reported. This code is a row identifier and shall be unique for each row in the table.
020	Exposure class	Paragraph 78 of Annex 2 of Commission Implementing Regulation (EU) No 680/2014	Each portfolio shall be assigned to one of the following exposure classes: (a) Central banks and central governments; (b) Institutions; (c) Corporate – SME; (d) Corporate – Specialised lending; (e) Corporate – Other; (f) Retail – Secured by real estate SME; (g) Retail – Secured by real estate non-SME; (h) Retail – Qualifying revolving; (i) Retail – Other SME; (j) Retail – Other non – SME; (k) Not applicable 'Not applicable' shall be used where none of the answers in the list is correct which is the case when a counterparty is classified in multiple asset classes, without one being clearly predominant
040	Rating		The rank of the internal rating grade applied by the institution (from lowest risk to highest risk excluding defaults with PD corresponding to 100%) shall be reported. It shall follow the numerical order 1, 2, 3 etc.
050	Date of most recent rating of counterparty		The date of the most recent rating of the counterparty shall be reported.
060	PD	Column 010 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The PD assigned to the obligor grade or pool that shall be reported shall be based on the provisions laid down in Article 180 of Regulation (EU) No 575/2013. The PD shall be the PD used in the calculation of the RWA, excluding the effect of potential measures introduced in accordance with Article 458 of Regulation (EU) No 575/2013 ('CRR'). The PD shall be expressed as a value between 0 and 1. All reported risk parameters shall be derived from the risk parameters used in the internal rating system approved by the respective competent authority.

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070	Default status		The default status to be reported shall be one of the following: (a) Defaulted: exposures assigned to the rating grade(s) with a PD of 100 %; (b) Non-defaulted: exposures assigned to rating grades with a PD lower than 100%.
080	Original exposure pre-conversion factors	Column 020 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The original exposure value before taking into account any value adjustments, provisions, effects due to credit risk mitigation techniques or conversion factors shall be reported.
090	Exposure after CRM substitution effects pre-conversion factors	Column 090 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The amount to which a CCF is applied in order to obtain the EAD shall be reported. This shall be done taking into account credit risk mitigation techniques with substitution effects on the exposure.
100	CCF	Second subparagraph of Article 166(8) of Regulation (EU) No 575/2013	The weighted average of the CCFs shall be reported. The weights that shall be used shall be the amounts to which the CCFs are applied in order to obtain the EAD. If the institution is allowed to apply own estimates of CCFs, those shall be reported, otherwise the regulatory CCFs shall be reported.
110	EAD	Column 110 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The exposure value shall be left blank if the institution has no IRB exposure for a given counterparty.
120	Collateral value	Columns 150 to 210 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The market value of the collateral shall be reported.
130	Hyp LGD senior	Article 161 of	The hypothetical own estimates of LGD that would be applied by the institution to the counterparty shall be reported

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	unsecured without negative pledge	Regulation (EU) No 575/2013	<p>in accordance with the following:</p> <ul style="list-style-type: none"> • The scope of exposures is the same as for the LGD value reported in column 150; • The exposure is senior and unsecured; • No negative pledge clause is in place. <p>A negative pledge clause is a clause stating that the borrower or debt issuer will not pledge any of its assets to another party.</p>
140	Hyp LGD senior unsecured with negative pledge	Article 161 of Regulation (EU) No 575/2013	<p>The hypothetical own estimates of LGD that would be applied by the institution to the counterparty shall be reported in accordance with the following:</p> <ul style="list-style-type: none"> • The scope of exposures is the same as for the LGD value reported in column 150; • The exposure is senior and unsecured; • A negative pledge clause is in place. • <p>A negative pledge clause is a clause stating that the borrower or debt issuer will not pledge any of its assets to another party.</p>
150	LGD	Columns 230 and 240 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The EAD-weighted own estimates of LGD or the EAD-weighted regulatory LGD applied by the institution to the exposures to each counterparty shall be reported.
160	Maturity	Column 250 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The EAD-weighted maturity for the exposures to each counterparty shall be reported. It shall be expressed in number of days.
170	RWA	Column 260 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The risk-weighted exposure amount after applying the SME supporting factor shall be reported.

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C 102 – Details on exposures in Low Default Portfolios

Column	Label	Legal reference	Instructions
General			For portfolios defined in Annex I with a collateralisation status other than “Not applicable”, the following information may be omitted if the approved model does not accommodate distinct LGD calculations for the secured and unsecured parts of an exposure: LGD (c130), Expected Loss (c150) and RWA (c170).
General			For portfolios with the regulatory approach defined as “Specialised lending slotting criteria”, the following information may be omitted: PD (c060), LGD (c130), Maturity (c140)
010	Portfolio ID	Column 010 of template 102 of Annex I	The code assigned by the EBA to each portfolio shall be reported. This code is a row identifier and shall be unique for each row in the table.
040	Number of obligors	Column 300 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The number of obligors shall be reported.
060	PD	Column 010 of table 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	<p>The PD assigned to the obligor shall be based on the provisions laid down in Article 180 of Regulation (EU) No 575/2013. The PD shall be the PD used in the calculation of the RWA, excluding the effect of potential measures introduced in accordance with Article 458 of Regulation (EU) No 575/2013. In those cases where the PD of the protection provider is used to calculate the RWA, the PD of the protection provider shall be used. For each individual grade or pool, the PD assigned to the specific obligor grade or pool shall be reported. For figures corresponding to an aggregation of obligor grades or pools the EAD-weighted average of the PDs assigned to the obligor grades or pools included in the aggregation shall be provided. The PD shall be expressed as a value between 0 and 1.</p> <p>All reported risk parameters shall be derived from the risk parameters used in the internal rating system approved by the relevant competent authority.</p>
080	Original exposure pre-conversion factors	Column 020 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The original exposure value before taking into account any value adjustments, provisions, effects due to credit risk mitigation techniques or conversion factors shall be reported.

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090	Exposure after CRM substitution effects pre-conversion factors	Column 090 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The amount to which a CCF is applied in order to obtain the EAD shall be reported. This shall be done taking into account credit risk mitigation techniques with substitution effects on the exposure.
100	CCF	Article 166(8)(e) of Regulation (EU) No 575/2013	The weighted average of the CCFs shall be reported. The weights that shall be used shall be the amounts to which the CCFs are applied in order to obtain the EAD. If the institution is allowed to apply own estimates of CCFs, those shall be reported, otherwise the regulatory CCFs shall be reported.
110	EAD	Column 110 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The exposure value shall be reported.
120	Collateral value	Columns 150 to 210 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The market value of the collateral shall be reported.
130	LGD	Columns 230 and 240 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The EAD-weighted own estimates of LGD or the EAD-weighted regulatory LGD applied by the institution to the exposures held and included in each portfolio shall be reported.
140	Maturity	Column 250 of template of Annex 1 of Commission Implementing Regulation (EU)	The EAD-weighted maturity shall be reported. It shall be expressed in number of days. This information shall not be reported for exposures for which the maturity is not an element in the calculation of risk weighted exposure amounts.

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		No 680/2014	
150	Expected Loss	Column 280 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The expected loss shall be reported.
160	Provisions non-performing exposures	Columns 050, 055 and 060 of template 9.2 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The provisions for defaulted exposures shall be reported. These include all the general and specific credit risk adjustments for defaulted assets as defined in Article 110 of Regulation (EU) No 575/2013.
170	RWA	Column 260 of template 8.1 of Annex 1 of ITS reporting	The risk-weighted exposure amount after applying the SME supporting factor shall be reported.
180	RWA Standardised	Row 900 of template 4 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The RWA amount calculated by applying the standardised approach for credit risk to the exposures shall be reported.

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C 103 – Details on exposures in High Default Portfolio

Column	Label	Legal reference	Instructions
General			For portfolios defined in Annex I with a collateralisation status different from “Not applicable”, the following information may be omitted if the approved model does not accommodate distinct LGD calculations for the secured and unsecured parts of an exposure: LGD (c130), Expected Loss (c150), RWA (c170), Loss rate latest year (c210) and Loss rate past 5 years (c220).
010	Portfolio ID	Column 010 of template 103 of Annex I	The code assigned by the EBA to each portfolio shall be reported. This code is a row identifier and shall be unique for each row in the table.
040	Number of obligors	Column 300 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The number of obligors shall be reported.
060	PD	Column 010 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	<p>The PD assigned to the obligor grade or pool to be reported shall be based on the provisions laid down in Article 180 of Regulation (EU) No 575/2013. The PD shall be the PD used in the calculation of the RWA, excluding the effect of potential measures introduced in accordance with Article 458 of Regulation (EU) No 575/2013. In those cases where the PD of the protection provider is used to calculate the RWA, the PD of the protection provider shall be used. For each individual grade or pool, the PD assigned to the specific obligor grade or pool shall be reported. For figures corresponding to an aggregation of obligor grades or pools (e.g. total exposures), the EAD-weighted average of the PDs assigned to the obligor grades or pools included in the aggregation shall be provided. The PD shall be expressed as a value between 0 and 1.</p> <p>All reported risk parameters shall be derived from the risk parameters used in the internal rating system approved by the relevant competent authority.</p>
080	Original exposure pre conversion factors	Column 020 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The original exposure value before taking into account any value adjustments, provisions, effects due to credit risk mitigation techniques or conversion factors shall be reported.
090	Exposure after	Column 090 of	The amount to which a conversion factor is applied in order to obtain the EAD shall be reported. This shall be done

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	CRM substitution effects pre conversion factors	template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	taking into account credit risk mitigation techniques with substitution effects on the exposure.
100	CCF	Article 166(8) of Regulation (EU) No 575/2013	The weighted average of the CCFs shall be reported. The weights that shall be used shall be the amounts to which the CCFs are applied in order to obtain the EAD. If the institution is allowed to apply own estimates of CCFs, those shall be reported, otherwise the regulatory CCFs shall be reported.
110	EAD	Column 110 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The exposure value shall be reported.
120	Collateral value	Column 150 to 210 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The market value of the collateral shall be reported.
130	LGD	Columns 230 and 240 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The EAD-weighted own estimates of LGD or EAD-weighted regulatory LGD applied by the institution to the exposures to each portfolio shall be reported. The effect of measures introduced in accordance with Article 458 of Regulation (EU) No 575/2013 shall be excluded.
140	Maturity	Column 250 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The EAD-weighted maturity shall be reported. It shall be expressed in number of days. This information shall not be reported for exposures for which the maturity is not an element in the calculation of risk weighted exposure amounts. This means that this information shall not be reported for portfolios that represent exposures of the exposure class 'Retail'.
150	Expected Loss	Column 280 of template 8.1 of	The expected loss shall be reported.

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		Annex 1 of Commission Implementing Regulation (EU) No 680/2014	
160	Provisions defaulted exposures	Columns 050, 055 and 060 of template 9.2 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The provisions for defaulted exposures shall be reported. These include all the general and specific credit risk adjustments for defaulted exposures as defined in Article 110 of Regulation (EU) No 575/2013.
170	RWA	Column 260 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The risk-weighted exposure amount after applying the SME supporting factor shall be reported.
180	RWA Standardised	Row 900 of template 4 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The RWA amount calculated by applying the standardised approach for credit risk to the exposures shall be reported.
190	Default rate latest year		<p>The default rate for the latest year shall be reported.</p> <p>The default rate shall be the sum of the original exposures (pre conversion factor), measured exactly one year before the reference date, of the exposures that were non-defaulted exactly one year before the reference date and that defaulted during the year preceding the reference date, divided by the sum of the original exposures (pre conversion factor), measured exactly one year before the reference date, of the exposures that were non-defaulted exactly one year before the reference date.</p> <p>New exposures generated during the year preceding the reference date shall not be included, Exposures that defaulted and were cured again during the year preceding the reference date shall be included in both the numerator and the denominator. Multiple defaults of the same obligor shall be considered only once.</p> <p>This information shall be reported for portfolio IDs relating to “non-defaulted” exposures only.</p>
200	Default rate past		The weighted average of the default rates observed in the five years preceding the reference date shall be reported. The

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	5 years		<p>default rate definition referred to in column 190 shall apply. The weights to be used are the non-defaulted exposures used in the calculation of the default rate in accordance with column 190.</p> <p>If the institution is not able to calculate a default rate for the five years preceding the reference date, the institution shall develop a proxy using its longest history up to five years preceding the reference date and provide the documentation detailing the calculation to its competent authority.</p> <p>This information shall be reported for portfolio IDs relating to “non-defaulted” exposures only.</p>
210	Loss rate latest year		<p>The loss rate observed in the latest year shall be reported.</p> <p>For non-defaulted portfolios, the loss rate shall be the sum of credit risk adjustments and write-offs applied, within the year preceding the reference date, to exposures that were non-defaulted exactly one year before the reference date and which defaulted during the year preceding the reference date, divided by the sum of the EAD, measured exactly one year before the reference date, of the exposures that were non-defaulted exactly one year before the reference date and which defaulted during the year preceding the reference date.</p> <p>New exposures generated during the year preceding the reference date shall not be included. Exposures that defaulted and were cured again during the year preceding the reference date shall be included in the denominator of the loss rate and credit risk adjustments and write-offs on those exposures shall be considered in the numerator of the loss rate. Multiple defaults of the very same obligor shall be considered only once.</p> <p>For defaulted portfolios, the loss rate shall be the sum of (i) credit risk adjustments to exposures that were already in default exactly one year before the reference date in the respective portfolio and (ii) credit risk adjustments and write-offs applied within the year preceding the reference date for these exposures, divided by the sum of the EAD, measured exactly one year before the reference date, of the exposures that were defaulted exactly one year before the reference date.</p> <p>New defaults during the year preceding the reference date shall not be included. Exposures that cured again during the year preceding the reference date shall be included in the denominator of the loss rate and credit risk adjustments and write-offs on those exposures shall be included in the numerator of the loss rate. Multiple defaults of the very same obligor shall be included only once.</p>
220	Loss rate past 5 years		<p>The EAD-weighted average of the loss rates observed in the five years preceding the reference date shall be reported. The definition of loss rate referred to in column 210 shall apply.</p> <p>If the institution is not able to calculate a loss rate for the five years preceding the reference date, the institution shall develop a proxy using its longest history up to five years preceding the reference date and provide documentation detailing the calculation to its competent authority.</p>
250	RWA-		<p>Institutions shall calculate and report RWA- for the portfolios Corporate, Corporate SME, Retail SME and Retail secured by real estate at a total portfolio and a country level. These portfolios are defined in Annex I, template 103</p>

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			<p>with the following portfolio ID, respectively: CORP_ALL_0086_**_****_**_Rx0 SMEC_ALL_0106_**_****_**_Rx0 SMER_ALL_0106_**_****_**_Rx0 MORT_ALL_0094_**_****_**_Rx0</p> <p>RWA- shall be the hypothetical risk-weighted exposure amount, after applying the SME supporting factor, that results from the application of the PD- values instead of the institution's PD values, for each exposure. The remaining parameters needed in the computation shall not be subject to changes.</p> <p>PD- shall be based on a calculation performed separately for each obligor grade. The obligor grades as reported in column 005 of Template C 08.02 of Annex I of Regulation (EU) No 680/2014 (cf. Q&A 2016_2782) shall be used (see Annex II of Regulation (EU) No 680/2014, C 08.01 column 010 and C 08.02 for instructions).</p> <p>For each obligor grade, p^- shall be the smallest positive value satisfying the equation</p> $p^- + \Phi^{-1}(q) \cdot \sqrt{\frac{p^- \cdot (1 - p^-)}{n}} \geq DR_{1y}$ <p>where, Φ^{-1} = the inverse function of the standard normal (cumulative) distribution; q = the confidence level set at 90%; DR_{1y} = the case weighted default rate of the year preceding the reference date, i.e., the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the reference date and which defaulted during the latest year, divided by the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the reference date; n = the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the reference date.</p> <p>For each obligor, PD- shall be equal to p^-, where p^- shall be calculated in accordance with the above formula for the obligor grade assigned to the obligor.</p>
260	RWA+		<p>Institutions shall calculate and report RWA+ for the portfolios Corporate, Corporate SME, Retail SME and Retail secured by real estate at a total portfolio and a country level. These portfolios are defined in Annex I, template 103 with the following portfolio ID, respectively: CORP_ALL_0086_**_****_**_Rx0 SMEC_ALL_0106_**_****_**_Rx0</p>

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			<p>SMER_ALL_0106_**_****_**_Rx0 MORT_ALL_0094_**_****_**_Rx0</p> <p>RWA+ shall be the hypothetical risk-weighted exposure amount, after applying the SME supporting factor, that results from the application of the PD+ values instead of the institution's PD values, for each exposure. The remaining parameters needed in the computation shall not be subject to changes.</p> <p>PD+ shall be based on a calculation performed separately for each obligor grade. The obligor grades as reported in column 005 of Template C 08.02 of Annex I of Regulation (EU) No 680/2014 (cf. Q&A 2016_2782) shall be used (see Annex II of Regulation (EU) No 680/2014, C 08.01 column 010 and C 08.02 for instructions).</p> <p>For each obligor grade, p^+ shall be the largest positive value satisfying the equation</p> $p^+ - \Phi^{-1}(q) \cdot \sqrt{\frac{p^+ \cdot (1 - p^+)}{n}} \leq DR_{1y}$ <p>In this equation, Φ^{-1} = the inverse function of the standard normal (cumulative) distribution; q = the confidence level set at 90%; DR_{1y} = the case weighted default rate of the year preceding the reference date, i.e., the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the reference date and which defaulted during the latest year, divided by the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the reference date; n = the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the references date.</p> <p>For each obligor, PD+ shall be equal to p^+, where p^+ shall be calculated in accordance with the above formula for the obligor grade assigned to the obligor.</p>
270	RWA--		<p>Institutions shall calculate and report RWA-- for the portfolios Corporate, Corporate SME, Retail SME and Retail secured by real estate at a total portfolio and a country level. These portfolios are defined in Annex I, template 103 with the following portfolio ID, respectively: CORP_ALL_0086_**_****_**_Rx0 SMEC_ALL_0106_**_****_**_Rx0 SMER_ALL_0106_**_****_**_Rx0 MORT_ALL_0094_**_****_**_Rx0</p>

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			<p>RWA-- shall be the hypothetical risk-weighted exposure amount, after applying the SME supporting factor, that results from the application of the PD-- values instead of the institution's PD values, for each exposure. The remaining parameters needed in the computation shall not be subject to changes.</p> <p>PD-- shall be based on a calculation performed separately for each obligor grade. The obligor grades as reported in column 005 of Template C 08.02 of Annex I of Regulation (EU) No 680/2014 (cf. Q&A 2016_2782) shall be used (see Annex II of Regulation (EU) No 680/2014, C 08.01 column 010 and C 08.02 for instructions).</p> <p>For each obligor grade, p^{--} shall be the smallest positive value satisfying the equation</p> $p^{--} + \Phi^{-1}(q) \cdot \sqrt{\frac{p^{--} \cdot (1 - p^{--})}{n}} \geq DR_{5y}$ <p>where, Φ^{-1} = the inverse function of the standard normal (cumulative) distribution; q = the confidence level set at 90%; DR_{5y} = the default rate of the 5 latest years for the obligor grade, calculated as the simple average of five 1-year case-weighted default rates; n = the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the references date.</p> <p>For each obligor, PD-- shall be equal to p^{--}, where p^{--} shall be calculated in accordance with the above formula for the obligor grade assigned to the obligor.</p>
280	RWA++		<p>Institutions shall calculate and report RWA++ for the portfolios Corporate, Corporate SME, Retail SME and Retail secured by real estate at a total portfolio and a country level. These portfolios are defined in Annex I, template 103 with the following portfolio ID, respectively: CORP_ALL_0086_**_****_**_Rx0 SMEC_ALL_0106_**_****_**_Rx0 SMER_ALL_0106_**_****_**_Rx0 MORT_ALL_0094_**_****_**_Rx0</p> <p>RWA++ shall be the hypothetical risk-weighted exposure amount, after applying the SME supporting factor, that results from the application of the PD++ values instead of the institution's PD values, for each exposure. The remaining parameters needed in the computation shall not be subject to changes.</p>

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		<p>PD++ shall be based on a calculation performed separately for each obligor grade. The obligor grades as reported in column 005 of Template C 08.02 of Annex I of Regulation (EU) No 680/2014 (cf. Q&A 2016_2782) shall be used (see Annex II of Regulation (EU) No 680/2014, C 08.01 column 010 and C 08.02 for instructions).</p> <p>For each obligor grade, p^{++} shall be the largest positive value satisfying the equation</p> $p^{++} - \Phi^{-1}(q) \cdot \sqrt{\frac{p^{++} \cdot (1 - p^{++})}{n}} \leq DR_{5y}$ <p>where,</p> <p>Φ^{-1} = the inverse function of the standard normal (cumulative) distribution;</p> <p>q = the confidence level set at 90%;</p> <p>DR_{5y} = the default rate of the 5 latest years for the obligor grade, calculated as the simple average of five 1-year case-weighted default rates;</p> <p>n = the number of obligors that were not in default and assigned the obligor grade under consideration exactly one year before the references date.</p> <p>For each obligor, PD++ shall be equal to p^{++}, where p^{++} shall be calculated in accordance with the above formula for the obligor grade assigned to the obligor.</p>
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C 105.01 – Definition of internal models

Column	Label	Legal reference	Instructions
010	Internal model ID		The internal model ID assigned by the reporting institution shall be reported. This internal model ID is a row identifier that shall be unique for each row in the table.
020	Model name		The model name assigned by the reporting institution shall be reported.
030	IRBA Risk parameter		The IRBA risk parameter shall be one of the following: (a) PD; (b) LGD; (c) CCF.
040	EAD	Column 110 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The aggregate exposure value of the transactions in the scope of application of the specific model shall be reported.
050	EAD weighted average default rate for calibration		The EAD-weighted average of the annual default rates, if used in the calibration of the PD models, shall be reported. This information shall be completed only for PD models.
060	Case weighted average default rate for calibration		The case-weighted average of the annual default rates used in the calibration of the PD models shall be reported. This information shall be completed only for PD models.
070	Long-run PD		The central tendency used by the institution in the calibration of the models that incorporates any prudent adjustment to the simple case weighted average of the annual default rates used in the calibration of the PD models shall be reported. This information shall be completed only for PD models.
080	Cure rate defaulted asset		The cure rate defaulted asset shall be the percentage of defaulted outstanding that returns in 'non-defaulted' status over a 12 months period. An institution that does not calculate cure rates for a given model shall calculate a proxy for cure rates, in accordance with the definition provided. The institution shall report the use of a proxy to the competent authority. This information shall be completed only for LGD models.
090	Recovery rate for not cured defaults		The case-weighted average recovery rate for not cured defaults included in the time series used by the institution for the calibration of the LGD models on non-defaulted assets shall be reported. An institution that does not have a specific recovery rate for not cured defaults, due to an incomplete recovery

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			procedure, shall calculate a proxy taking into account the definition provided. The institution shall report the use of a proxy to the competent authority. This information shall be completed only for LGD models.
100	Recovery period for not cured defaults		<p>The case-weighted average length of the recovery period (from the start of the default status to the completion date of the recovery procedures) for the not cured defaults included in the time series used by the institution for the calibration of the LGD models on non-defaulted assets shall be reported. It shall be expressed in number of days.</p> <p>An institution that does not have a specific recovery period length for not cured defaults, due to an incomplete recovery procedure, shall calculate a proxy taking into account the definition provided. The institution shall report the use of a proxy to the competent authority. This information shall be completed only for LGD models.</p>
110	Joint decision	Article 20(a) of Regulation (EU) No 575/2013	The institution shall report whether or not a joint decision on prudential requirements does exist between the consolidating and the other (host) competent authority regarding the permission to use the IRB approach for the calculation of the prudential requirements for the exposures held by the subsidiaries of the institutions in the reported benchmarking portfolios.
120	Consolidating supervisor	Article 20 of Regulation (EU) No 575/2013	The country ISO code of the country of origin of the competent authority for the consolidated supervision of the institution using an IRB approach shall be reported.
130	RWA	Column 260 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The risk-weighted exposure amount after applying the SME supporting factor for all transactions in the scope of application of the specific model shall be reported.

C 105.02 – Mapping of internal models to portfolios

Column	Label	Legal reference	Instructions
010	Portfolio ID	Column 010 of templates 102 and 103	The code assigned by the EBA to the portfolio for which the institution reports the results of the calculation shall be reported.
020	Internal model ID	Column 010 of template 105.01	The internal model ID assigned by the reporting institution shall be reported.
030	EAD	Column 110 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU)	The exposure value of the transactions in the scope of application of the specific model (see column 020) for the specific portfolio (see column 010) shall be reported. Where all transactions of a given portfolio are treated with one specific model, the exposure value shall be identical to the amount reported for the same portfolio in column 110 of template 102 or 103.

EN
ANNEX IV

		No 680/2014	
040	RWA	Column 260 of template 8.1 of Annex 1 of Commission Implementing Regulation (EU) No 680/2014	The risk-weighted exposure amount after applying the SME supporting factor for the transactions in the scope of application of the specific model (see column 020) for the specific portfolio (see column 010) shall be reported. Where all transactions of a given portfolio are treated with one specific model, the amount shall be identical to the amount reported for the same portfolio in column 170 of template 102 or 103.

C 105.03 – Mapping of internal models to countries

Column	Label	Legal reference	Instructions
010	Internal model ID	Column 010 of template 105.01	The internal model ID assigned by the reporting institution shall be reported. Where one internal model ID is associated with several countries, separate rows shall be reported for each combination of 'Internal model ID' and 'Location of institution'. Columns 010 and 020 are a composite row identifier and together shall be unique for each row in the table.
020	Location of institution	Article 20 of Regulation (EU) No 575/2013	The country ISO code of the legal residence of each subsidiary where the IRB exposures reported for each benchmarking portfolio are booked shall be reported (irrespective of the existence of any permission granted by the host supervisor to apply an IRB approach).