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FOR PUBLICATION

UniCredit fully-fledged response to the EBA consultation on "Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures"

Introduction

At a time when internal models used by banks for measuring risk weighted assets (RWA) are exposed to the rigorous scrutiny by global as well as European regulators, UniCredit welcomes the EBA's workstream known as the "Future of the IRB Approach", which does not aim at basically withdrawing the use of internal models but rather at **smoothing the sources of variability in RWA** across banks to restore market trust. The EBA has indeed gathered consensus among European banks by recognizing the **validity of the internal modelling approach**, and we as UniCredit fully shares the view that unjustified variability in RWA should be removed. For this reason, since 2015 we are actively involved in the dialogue with the EBA and has appreciated this opportunity to provide a response also to the consultation on "Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures" that both due to the relevance of the topics discussed and its potential significant impact on our Group is of the utmost importance for us. Please consider that in addition to the answers to each of the 25 questions posed in the Consultation Paper we deemed also valuable to provide some additional comments on the proposed requirements even if not subject to specific questions. These are reported in the dedicated paragraph of this document called "Comments on proposed requirements not subject to EBA questions". The answers to the EBA questions are reported both in the EBA form and in this document in the paragraph "Answers to EBA Questions".

Main highlights

Overall UniCredit appreciates this Consultation Paper which has the merit to be highly constructive, clarifying several regulatory aspects and ensuring that different interpretations of regulatory requirements from banks as well as from supervisors do not lead to **unjustified variability of RWA**. Nonetheless, it is fundamental to emphasize that the RWA **variability** due to **differences between banks' portfolios, data historical series**, **risk management policies and processes and/or national legislations** is not only fully warranted but also ensures high quality models outputs that are suitable for a large use within banks' practices. Hence we exhort the EBA to firstly be cautious in addressing potential sources of variability, focusing merely on those which generate an unjustifiable RWA variance, and secondly to avoid overly convergent methodologies and practices which would excessively standardize banks' approaches with detrimental effects for their ability to manage risk. For instance we agree that the **lack of a common approach** to compute the **LGD discount rate** is a source of unjustified variability, but we deem that fixing a flat value for the add-on is not the right answer, because it does not allow to catch the **actual riskiness of the different portfolios** and to **get accurate LGD estimations**. Therefore, we deem that rather than setting an exact add-on value, its **underlying meaning and computation methods** should be homogenized through the GL. The RWA variability across institutions which would remain after applying the same computational procedures to banks' own specific data would be **completely justified** by institutions/countries peculiarities.

Moreover, we deem that the Guidelines introduce an **excessive complexity** in certain areas, especially also in light of a global **regulatory orientation towards an enhanced simplicity**. Our concerns are not related to the computational efforts, but rather to the risk that excessive complexity could introduce **biases** in the model estimates. This could be the case for instance of the requirement to include **all open defaults in LGD estimation**, regardless of the effective value added that they can bring to the estimates. As recognized by the EBA itself, this requirement would introduce estimates into an estimate, increasing the underlying model risk. To mitigate this risk it is necessary to strike a good **balance** between the need to take into account, for estimation purposes, **the wider possible set of available information** and the

need to ensure that all the information considered are relevant and significant. Another example of excessive complexity is detected with reference to the treatment required for **sold/disposed assets** in paragraph 150(d).

A potential issue has been also figured out with regard to **Margin of Conservatism (MoC)** requirements. Even though we agree that the deficiencies underlying the models have to be addressed, clearly documented and duly analyzed, it has to be considered that MoC application introduces biases in the final estimates. Hence, **MoC should be applied only** when identified **deficiencies** are expected to **have material impacts on estimates** soundness and **when no other solutions are possible**. Thus, we would recommend that **not representative** or **erroneous data** are excluded from LGD development sample (as allowed for PD), rather than asking for their inclusion and for the following compensation of the biases - that they inevitably introduce - through the application of adjustments and MoCs.
In this respect we deem critical to mention that should banks be disallowed to exclude non-representative data from LGD estimation, even in case of **non-conventional recovery processes massively disposed by institutions, like massive NPLs disposals,** this would undermine the achievement of one of the supervisors' priorities which is the enhancement of asset quality also through a reduction and a more active management of NPLs. Besides the loss banks might incur in, due to a sale price lower than loans book value, IRB entities would be impacted also via an increase in the LGD estimates, which might significantly disincentive them from engaging in these initiatives. For all the above mentioned points of concern further details and **our alternative proposals** are reported in the relevant answers to EBA questions and in the following section of this document.

A further point we would like to stress is that some of the requirements specified in the GL are **barely applicable or need some ad hoc considerations** for **specific portfolios** or **type of business** such as **Low Default Portfolios** and **Specialized Lending** (e.g. data collection/storing requirements, use of external data, tests required for triggering model re-estimation, re-calibration, re-development). **We encourage the EBA to admit tailored approaches for these kinds of portfolios where necessary**.

Moreover, we deem that it would be necessary, in defining the GL, to take into account the **interrelations with IFRS9**.

Finally, we acknowledged that even if the GL are aimed at **reducing unjustified RWA volatility**, and **not at increasing capital requirements**, some of the new prescriptions (e.g. MoC application for not representative data, no possibility to consider collaterals for some open defaults, interest in arrears treatment) would end up significantly pushing RWA up. Requiring banks to allocate more and more resources to capital would maybe make banks more resilient but would concurrently hamper their ability to lend to the economy. As far as European economy mostly relies on banks' credit as a source of financing this would have detrimental effects especially in a short time horizon. Not less importantly, UniCredit has well-founded concerns over the expected implementation date. It should be indeed taken into account that the application of the new standards (e.g. extensive MoC, LGD requirements) will likely result in **material model changes for all the models currently in place**, with the need for the Bank (and to some extent also for supervisors) to bear additional costs and make huge efforts to be ready for the 1 January 2021 roll out. Moreover, it should be considered that these GL are part of a wide ranging reforming wave which is affecting both the standardized and internal models at both EU and global level (e.g. Basel IV, new Definition of Default) with all EBA workstreams expected to be implemented by 2021. UniCredit has already deployed a number of resources to this aim, but banks' size and capacity should be considered when assessing the final deadline for implementation. In this respect, we urge the EBA to share with banks the timeline and discuss how the implementation could be managed in a more efficient way. With this regard, UniCredit deems that regardless of the final implementation date, Banks should be allowed to adopt a staggered approach foreseeing intermediate steps of pre-approval with the Supervisory Authorities.

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Answers to EBA Questions

Question 4.1: Do you agree with the proposed requirement with regard to the application of appropriate adjustments and margin of conservatism? Do you have any operational concern with respect to the proposed categorization?
Overall we deem that the requirements on the application of appropriate adjustments and margin of conservatism (MoC) are reasonable. However, there are some remarks that in our opinion would require clarification or should be more detailed, to make the application of MoC more effective.

Firstly, it should be considered that **not all models deficiencies** potentially requiring MoC according to the 4 categories (A, B, C and D) mentioned in the GL **are quantifiable or have real impacts** on model estimates quality. Therefore , we deem that a mandatory MoC application as per **paragraph 30** is not suitable for adequate risk estimation. This being said, UniCredit deems that the occurrence of one or more of the relevant triggers (as defined in the four categories) should instead result in a **transparent and adequately documented assessment on the necessity for a MoC application**. In other words, only **relevant** and **material gaps** should be addressed through a MoC.
Furthermore, the same deficiency could impact more than one MoC category (e.g. data quality issues could trigger higher uncertainty in the estimates); a proper treatment should be defined to avoid **double counting** of conservative effects, taking into account **possible correlation** among MoCs when applying them on top of risk parameters.
This would allow preventing **errors propagation** due to the fact that MoC includes '**estimates into the estimates'**, increasing the **model risk** and consequently **lowering the quality of final risk parameters**. This seems to us also consistent with **paragraph 32**, according to which *"Institutions should consider the overall impact of the identified deficiencies and the resulting MoC on the soundness of the model and **ensure that capital requirements are not distorted due to the necessity for excessive adjustments**"*).

Secondly, it should be considered that no GL has been provided for MoC quantifications. In principle we agree on this, since we deem that a certain margin of autonomy should be left to Institutions that should define MoC based on ad hoc assessments and analysis on real data. Nonetheless, UniCredit is concerned that different supervisors and institutions might have diverging opinions on the adequacy of the estimated MoC, weakening the effectiveness of the GL in terms of reduction of unjustifiable variability of RWAs. In this context, **it would be useful to add in the GL some methodological examples for MoC quantification**. In doing this, we deem fundamental that all the considerations above are taken into account and that the illustrative MoC are defined to ensure a balance between appropriate conservativeness and the need to limit biases on estimates. In this regard, we deem for instance, that the example reported at page 8 of the GL (i.e. asking for a MoC equal to the 90% confidence interval around the average of the new default rates) is too strict.

In light of these considerations, in order to avoid the use of the MoC is a source of additional variability, we deem **the MoC should be applied as a last resort measure only when strictly necessary**. Cases where the application of a MoC is deemed consistent, are for instance a change in the default definition that cannot be fully rebuilt in the past **and for which it cannot be reasonably demonstrated that the impact would be immaterial** or a significant reduction of data representativeness over the life of the model as detected during model monitoring depicted in chapter 9. Hence, where an **alternative treatment** could be adopted, this should be done. Below some **examples** are reported in this respect.

We deem for instance that the **inclusion of not representative data or data with quality issues in the development sample** should be avoided, to limit both model risk and unjustifiable variability of the estimates among banks, driven by different approaches adopted in defining the relevant adjustments. We would thus recommend that **the exclusion of not representative/erroneous data is allowed**, considering the exclusion as an **appropriate adjustment** whose objective is *"to achieve the possibly most accurate estimates"*. In any case **banks should clearly document the materiality of the exclusions**, justifying the underlying reasons, and assess whether a MoC is needed in light of the above reported reasoning.

A further example could be represented by **outdated data** (e.g. old financial statements relevant for PD

estimation). Indeed, we agree on the fact that they should be cautiously treated in the application phase (as stated by paragraph 186), but during the development phase they should be excluded not to introduce distortions.

Finally, we would appreciate to receive some clarification/additional information on the following points that could imply the inclusion of a MoC:

- with specific reference to **missing data**, it should be specified that only **not informative** missing (i.e. due to lack of information) should imply the application of MoC. Informative missing (i.e. those having an economical underlying meaning, e.g. no return from credit bureau for clients operating just with one bank) should be properly treated based on the economic and risk meaning, without the application of any MoC;
- regarding point 25(c)(i) and (ii), it should be clarified what the "**rank order estimation error**" and the "**estimation error in the calibration**" stand for. While an estimation error always exists, even though in some cases it could be small, according to paragraph34(b) "the **MoC** stemming from **Categories C** as referred to in paragraph 24 **is eliminated after the error is rectified** in all parts of the rating system that were affected". Based on these considerations:
    - we interpret the two estimation errors above mentioned as **strong misclassification** between **good and bad obligors** and between **DR and PD**, respectively, to be offset as an interim solution with MoC as long as more structured intervention are implemented;
    - we suggest to specify that **just significant** rank ordering and calibration estimation errors would imply the introduction of a MoC.

Question 5.1: Do you see any operational limitations with respect to the monitoring requirement proposed in paragraph 53?

Calculating one-year default rates at least on a quarterly basis does not present particular operational constraints, since we generally compute it for monitoring purposes. Nevertheless in some cases, and especially for Low Default Portfolios (LDPs), Default rates (DRs) can be very volatile, thus the outcomes must be carefully assessed and a change in the DR should not be automatically considered as a trigger for further actions.

Question 5.2 - Do you agree with the proposed policy for calculating observed average default rates? How do you treat short term contracts in this regard?

We agree with the general approach proposed for the calculation of the observed average default rates. However, we have a specific concern over the formula reported in the explanatory box at page 48: the **simple average** among one-year default rates seems to be the only approach available for the computation of long run average. Actually, we deem that in certain cases, where this is justified, different methodologies should be allowed. Below some examples are reported in this respect:

- weighted average with weights defined on the number of clients in each year of observation, which in our opinion could be a better option for portfolios such as LDPs, characterized by low numbers;
- weighted average with higher weights for recent periods consistently with art. 180(2)(e) of CRR, clarifying that "*an institution need not give equal importance to historic data if more recent data is a better predictor of loss rates*".

Furthermore, we would argue for the **non-overlapping** method, which, in our opinion, is simpler compared to the overlapping method overall ensuring at least the same level of reliability, and allowing a more efficient management of multiple defaults within each cohort (refer also to comments provided on paragraph 90 of Chapter 6). Nonetheless, we agree that choosing a fixed date for default rate computation could be affected by seasonal effects. In this respect we deem it would be appropriate to perform a **preliminary analysis** to understand whether significant seasonal effects exist and to take it into consideration when the relevant reference date is chosen.

As far as the **short term/terminated contracts** are concerned, we do not usually apply any particular treatment for customers who have only short term/terminated contracts in our models. Indeed we deem that such contracts should not be considered like a source of bias for yearly default rate computation, because they allow to represent the actual observed default rate of the institution, consistently with its portfolio composition. Moreover, the inclusion of short term contracts without any specific treatment is

consistent with the 1-year floor to the maturity in the supervisory formulas.

Question 5.3 - Are the requirements on determining the relevant historical observation periods sufficiently clear? Which adjustments (downward or upward), and due to which reasons, are currently applied to the average of observed default rates in order to estimate the long-run average default rate? If possible, please order those adjustments by materiality in terms of RWA.
We deem that some clarifications are needed on the following requirements:

- the rationale underlying paragraph 54 according to which observed average default rate "should be calculated **per rating grade or pool** and should **additionally** be calculated for the portfolio covered with the according PD Model **as well as for any relevant calibration segment**" is not clear. Indeed, we do not see any added value from duplicating the level of computation of the observed average of one-year default rates which should be defined according to the chosen approach of calibration (i.e. by rating grade, at portfolio level or by sub-segment);
- the concept of "**appropriate mix of favorable and unfavorable economic conditions**" reported in the "Explanatory box for consultation purposes" at page 50 should be clarified, especially taking into account that in the context of the ongoing revision of the IRB approach, the Basel Committee has proposed that the downturn has to cover at least 1/10 of the historical series used. We would suggest that EBA promotes since now the adoption of this approach to ensure consistency with the upcoming global standards, not to undermine the level playing field;
- we deem it should be clarified the rationale behind the need to compare the **adjusted long-run average default rates** and the observed average of the one-year default rates of **the most recent 5-years**, required in paragraph 63(a). Indeed, we deem that requiring a benchmarking with the 5-years default rate, even if only in case not all years are considered, could be not consistent with the concept of long run average and could bring to misleading conclusions. Indeed, in case **no structural break** is observed, having a long run average default rate lower, in certain moments, than the 5 years one is implicit in the inclusion of positive and negative economic periods. Hence, this kind of comparison should not bring to the application of margin of conservatism. Otherwise, if **structural breaks occur**, in our opinion it will be preferable, to shorten the time series rather than to keep the long run average and adding a MoC to correctly take into account the likely range of variability of DRs.

With regards to the second question, within the Group the approach most frequently adopted is to consider the **long run average default rate corresponding to the average of observed one-year default rates without any adjustment**, since the historical period **already captures the likely range of variability of DRs** as well as **downturn years**. In specific cases, where an adjustment is needed, this can be made either upward or downward. Upward adjustments are aimed at taking into account the uncertainty of the estimation which are for instance due to low number of observations/defaults (hence identifiable as a MoC). Downward adjustments are instead applied as a result of major changes of lending policies, where exposures originated in recent years are arguably much less risky than previous exposures. We deem that such adjustments should be allowed in specific cases and based on quantitative evidences.

Question 5.4: How do you take economic conditions into account in the design of your rating systems, in particular in terms of:
a. definition of risk drivers,
b. definition of the number of grades
c. definition of the long-run average of default rates?
Economic conditions are not a direct input to the rating models but changes to the economic environment affect the **obligors' information** considered in the models (e.g. obligors' financial statements, behavioral and qualitative information). On the other hand, estimates are **calibrated to long run average default rates** which tend to stabilize the average portfolio risk level. In light of these considerations, it can be inferred that our models respond to an **hybrid philosophy**.

Question 5.5: Do you have processes in place to monitor the rating philosophy over time? If yes, please describe them.
No processes are currently in place to monitor rating philosophy since the assessment of the level of

Through-The-Cycle (TTC)/Point-In-Time (PIT)-ness is made on a qualitative base.
Nevertheless, we deem that rating philosophy has a direct impact on RWA variability. It should be clarified to which extent this variability is deemed justifiable or whether an harmonization in this respect should be pursued (e.g. through a clearer definition of calibration sample characteristics in terms of time series to be considered). In this respect, we would recommend that the EBA clarifies in **paragraph 80(d)** that the sample should be as much as possible aligned to the current portfolio, tending at best to be exactly equal to it, which combined with the Central Tendency defined as a long run default rate would bring to a **more stable approach** allowing to achieve a **higher stability in estimates and RWA requirement**. We indeed see as potentially inconsistent the two requirements of having a calibration sample "comparable to the current portfolio" and at the same time "representative of the likely range of variability".

In any case, rating philosophy is a fundamental driver for model back-testing and maintenance, both in terms of tests to be performed and outcomes interpretation. For this reason, we deem that, in order to reduce unjustified variability, at least **common criteria to assess the TTC/PIT-ness of each model** should be identified.

Question 5.6: Do you have different rating philosophy approaches to different types of exposures? If yes, please describe them.
All our authorized IRB models follow a **hybrid philosophy**, with a different weight of PIT components depending on the importance of more cycle-sensitive information.
Indeed, we deem that an hybrid nature of models is unavoidable given the current regulatory requirements. On one hand they require stability in estimates and RWA together with the adoption of a long run perspective in the credit risk parameter quantification (i.e. calibration), on the other hand several articles of CRR, both on rating assignment process and model estimates, require that all relevant information are considered with a timely update implying that in a downturn (upturn) period both financial statement as well as behavioural and qualitative components tend to worsen (enhance) introducing a systemic risk component in addition to the pure idiosyncratic one.

Question 5.7: Would you expect that benchmarks for number of pools and grades and maximum PD levels (e.g. for exposures that are not sensitive to the economic cycle) could reduce unjustified variability?
In cases where punctual PDs are assigned, a benchmark for the **number of pools and grades** would not be relevant if the aim was to reduce unjustifiable RWAs variability. Rating grades are in fact used just for reporting as well as for business purposes in specific fields where the individual PD cannot be used. In contrast, in cases where average PDs are adopted, we deem that the definition of a common number of pools and grades could be a too strict requirement, since it would not allow taking into account specific portfolios composition and ratings distribution/concentration, which represent the main drivers for rating grades definition. In conclusion, **we do not believe that the number of rating grades is one of the major sources for RWA variability** and hence we do not deem that the proposal of a fixed number of rating classes is value adding in a context where both the usage of punctual and rating class PD is allowed.

As far as the opportunity to fix a **maximum PD level** is concerned, we agree that a common benchmark value would be recommendable in order to reduce model variability, in case the setup of a limit was required.

Question 6.1 : Do you agree with the proposed principles for the assessment of the representativeness of data?
Overall we agree with the proposed principles for the assessment of data representativeness, although there are some important remarks we want to raise.
We share the EBA's view on the importance of the representativeness of the development sample to a more recent portfolio, but within the GL we figured out an **inconsistency** between **paragraphs 99/110 and paragraph 111**. Indeed the formers would require that the development sample is representative of the application one, while the latter asks for the inclusion of all defaults, specifying that "*it is not possible to remove the observations that are not fully representative from the estimation sample. However, in this case institutions should apply adequate margin of conservatism to account for the weaknesses in data and,*

if possible, adjust the data to ensure greater representativeness". As anticipated in the answer 4.1, we think that the requirement of including non-representative data, applying adjustments to limit possible biases in the estimation and consequently a MoC, is not consistent with the aim of achieving robust LGD estimates. The introduction of judgmental adjustments could indeed increase both the estimation error and the discrepancies across different institutions. Therefore, we deem that it should be **allowed to exclude non-representative data** from the development sample based on **well supported** and **documented rationales**.
In this regard we deem that the paragraph 99 should at least **explicitly mention** some specific cases as **non-conventional recovery processes massively disposed by institutions** (such as massive NPLs disposals) as well as **mergers and acquisitions** authorised by ECB/NCAs, **as cases which can be excluded** since their inclusion would endanger the representativeness of the development sample. This kind of transactions are indeed typically not representative of business models of banks and their inclusion in the LGD development samples could distort on one hand the mechanic of the model, due to flat prices not accounting for differences in the disposed portfolio, and on the other hand the average observed loss level. This would have dramatic impacts on pricing as well, with unavoidable consequences on banks ability to lend to the economy. We furthermore deem critical to mention that should banks be disallowed to exclude non-representative data from LGD estimation, even in case of **non-conventional recovery processes massively disposed by institutions, like massive NPLs disposals,** this would undermine the achievement of one of the supervisors' priorities which is the enhancement of asset quality also through a reduction and a more active management of NPLs. Besides the loss banks might incur in, due to a sale price lower than loans book value, IRB entities would be impacted also via an increase in the LGD estimates, which might significantly disincentive them from engaging in these initiatives.
In case this was not possible, it should at least be clarified, e.g. **listing some examples,** that **non-conventional massive disposals**, **mergers and acquisitions** are typical cases to be dealt with through adjustments.

In this respect, according to CRR Article 179 (1)(d): "[...] *the population of exposures represented in the data used for estimation shall be comparable with those of the institution's exposures and standards. The economic or market conditions that underlie the data shall be relevant to current and foreseeable conditions*". Hence the possibility to exclude non-representative data should be clearly disciplined in the EBA Guidelines.
Moreover, we would highlight that disallowing for non-representative data exclusion in the LGD development sample would create a misalignment with the requirements set up for **PD estimates**, where exclusions from the reference data set for the purpose of model development are admitted, as clarified by paragraph 45(c)(iii).

Finally, according to paragraph 103(a), the comparison between the reference data set (composed by defaulted exposure, over various points in time) and the **current portfolio of non-defaulted exposures** could lead to undesirable results, since the two analyzed samples are inherently different in terms of characteristics of the relevant risk drivers. In our view it should be clarified that the lack of representativeness (i.e. distributions of risk drivers are different) solely due to intrinsic differences between defaulted and performing exposures is natural and should not lead to any action.

Question 6.2: Do you agree with the proposed treatment of additional drawings after default and interest and fees capitalized after the moment of default in the calculation of realized LGDs?
With regards to treatment of drawings after defaults, in our opinion they should be **included directly in the LGD computation instead of in the EAD**. This would have the following **advantages**:

- all the information for **EAD** estimation would be **available** at the date of default, **without the need to make assumptions** on possible future drawing after defaults;
- it is difficult to manage drawing after default in CCF in case of **multiple default**, since further drawings could be expected during the time span between the two default events (which could last up to 15 months according to the GL). This might increase a lot the **volatility of the CCFs**, and this is a relevant topic since the stabilization of the target CCF is one of the most onerous activities during modelling phase. It should be considered that also **Basel Committee** pays specific attention to this point[1];

[1] Refer to CD362 - Reducing variation in credit RWA

- additional drawings after default are usually **stored in LGD databases** and it is not always easy to **distinguish** drawings after defaults **from costs and other cash flows**. Treatment in the EAD implies higher operational complexity. Due to that operational burden, if allocation of drawings after default into the EAD is not carefully managed we could incur in a double counting of exposures;
- additional drawings after default can derive from a **regular workout process** and should thus be counted in **LGD**. This is particularly true for restructuring cases.
- Expected Loss calculation would remain unchanged.

In case it is confirmed that drawing after defaults have to be included in the EAD, it would be advisable allowing to fix a **limited period for drawing after defaults computation**, considering that most drawings after default occur close to the default event. This limited period should be defined to ensure a balance between value added to the estimation and computational effort. Allowing for this would be particularly relevant in case of long recovery processes.

For **interest in arrears capitalized after the default**, we see a risk of potential double counting with the discounting rate, and we deem appropriate from an economic point of view that discounting effects might be compensated by recoveries over capitalized interests. Indeed, the interests in arrears charged to the client are based on the reference market interest rate as a sort of cost, having a financial connotation also linked to the cost of time deriving from the missed payments. However, also the discount rate, which includes the risk free component based on market interest rates, includes the financial effect of time. We does deem appropriate the alternative solution outlined in the explanatory box, according to which an alternative approach could be not increasing the economic loss by the amount of fees or interests after default. We acknowledge that differences in rates might potentially lead to negative LGDs, however we deem that this **risk is already addressed by fixing a floor to zero to the observed LGD**.

Question 6.3: Do you agree with the proposed specification of discounting rate? Do you agree with the proposed level of the add-on over risk-free rate? Do you think that the value of the add-on could be differentiated by predefined categories? If so, which categories would you suggest?

We agree on the **general proposed specification** for discounting rate computation, i.e. **risk free + add-on**, but we deem that **alternative solutions** for the computation of these **two components** should be pursued in order to ensure **higher consistency of resulting LGD estimates**. For the EBA's consideration, we have below recapped our proposal:

- **risk-free component**: we deem that **the current risk free rates** should be considered instead of the ones at the moment of default as required in paragraph 122. In fact being **LGD performing** an estimate for the future possible loss, a **forward-looking** perspective should be adopted, rather than an historical one.
  Moreover, the usage of historical data would not be appropriate also in light of the **historical interest rate trend**, whose analysis highlights that before Euro introduction the risk free rate was characterized by high volatility.
  Also, using historical interest rates would include a lot of variability in the estimation in particular in the first years of the historical series, implying that the same nominal losses would be evaluated with a different LGD only because the default started in a different year.
  Based on this, we **propose** to use the **average risk free rate (i.e. 1-year EURIBOR) on the past 5 years, computed at the reference date for estimation**. The use of current data would allow managing the two aspects above mentioned, while the average would allow handling interest rates volatility by avoiding including market risk in LGD estimation.
- **add-on component**: we agree that the **lack of a common approach** to compute the add-on is currently a source of unjustified variability, but we deem that fixing a flat value does not allow catching the **actual riskiness of the portfolio** and **getting accurate LGD estimations**. Therefore, we deem that rather than setting a punctual add-on value, the EBA would be expected to homogenize the **underling meaning and computational form** within the GL. The **residual variability** across institutions, remained after applying the same computational procedure to the own specific data, would be **completely justified** by Institutions/countries peculiarities.
  In this respect we propose that the **add-on** reflects the **recovery rates volatility.** Indeed, the **risk premium** represents the **extra-remuneration** for **not risk-free assets**. The risk of an asset is generated by the volatility of its value, which is defined by its capability to generate cash flows. In the context of a defaulted asset this corresponds to its capability to **generate recoveries**, hence the risk premium (or **add-on**) should cover the **recoveries volatility**.

Once having defined the **add-on meaning**, **a common algorithm** to compute it could be defined. In this respect we propose the approach here described:

- the goal is to define a relationship which for a certain **level of risk** (represented by the **volatility of recoveries**) produces the corresponding **extra-return** (to be used as **add-on**);
- the first component of the relationship (i.e. volatility of recovery rates) can be derived based on the historical data used for LGD estimation. On the contrary, the second component (i.e. extra-return) is not available, since a liquid market for assets on which LGD is estimated does not exist;
- in light of this, the approach proposed **derives the relationship risk/return** above mentioned based on **market data** and then applies it to historical observed recoveries volatility in order to compute the corresponding return (i.e. the add-on).

From an **operational point of view** this is done through the following **steps**:

- selection of a sample of **market indexes**;
- inference (e.g. through an interpolation) of the relationship **risk/return** by comparing, for each index, the **volatility of the return** (representing the risk component) and the **relevant extra-return** (representing the return component). The use of market data allow to derive a **"fair" relationship**, valid at systemic level as a benchmark to be adopted;
- the **application** of such "fair" relationship to the **internal portfolio** allows to **translate the volatility of internal recoveries into an add-on** reflecting Institution portfolio characteristics.

As far as the second question is concerned, in case a flat add-on is confirmed, we deem that this should be **differentiated** e.g. by product type or obligor segment and **in any case in coherence with the model framework**.
Finally, with regards to the risk-free component, in case the use of historical interest rates should be confirmed, it should be clarified which risk free rate should be considered before Euro introduction.

Question 6.4: Do you agree with the proposed approach with regard to the specification of historical observation period for LGD estimation?
We agree on the exception of the requirement according to which "*elimination of any data that reflects an institution's internal experience would lead to a loss of valuable information and hence it was specified that all available internal data should be taken into account in the long-run average LGD*".
Indeed, we deem that also with respect to the definition of the historical observation period for LGD estimation, the reasoning described in question 6.1 about representativeness should apply. In other words, we agree that the historical series used should be as broad as possible, but **it should be allowed excluding not relevant years** (e.g. due to non-representativeness following structural breaks) as admitted for PD. The exclusions performed should be anyway clearly **documented and justified**, together with the relevant materiality and underlying reasoning and ensuring the representativeness of **likely range of variability of loss rate**.

Question 6.5: Do you agree with the proposed treatment of incomplete recovery processes in obtaining the long-run average LGD?
As stated in the GL in the 'explanatory box' at page 73 this requirement implies that the 'long-run average LGD' "will be a measure that **is not fully objective as it is already partly estimated**". We would stress that this is a **crucial point** to keep into account in order to avoid that the requirement to include all open defaults leads to biased and unreliable estimates.
We indeed deem that, even though it makes sense to include **open cases**, the GL should specify that **only defaults adding real value to the estimates**, i.e. those with a sufficient recovery period available such to be actually informative, **should be considered**. This could be achieved by defining a **minimum set of conditions** or a **minimum recovery period**, in addition to the maximum one already foreseen in the GL. In our view, the minimum recovery period should be defined taking into account the maximum period of the recovery process as an input: if the maximum period of the recovery process is 2 years on one sample and 10 years on another one, also the minimum time horizons should be different in order to include some more cases that add value to the overall estimation process. Moreover, only **open collateral realizations**

with a first collected dataset of proceeds or costs should be considered, excluding the cases without any information of realisation process at the time of estimation. The reason is that customers without any collateral realization proceeds/costs can return to the non-defaulted portfolio before executing the collateral.

Furthermore, no specific GL have been provided on how to infer future not yet observed recoveries, and this could leave room for different interpretations across institutions becoming source of unjustified variability. In this regard, it could be useful to **provide** in the GL **some examples on recoveries inference**. In this context, it should be taken into account that the overall proposal relies on the **strong assumption that closed processes are fully representative of incomplete ones**, that cannot be always taken for granted. In particular, inferring future recoveries based on the historical ones could lead to over or underestimate the loss depending on the economic phase at the time of the estimation. The transactions migrated to the in-default status during a crisis period will show lower recoveries compared to the ones observed in similar cases and in similar time span but in a positive economic phase. If to a certain extent this is expected, part of the gap could be justified by the different distribution of recoveries over time, since a typical consequence of downturn conditions is the increase in the length of the recovery process. We would recommend that the GL are integrated with some methodological examples for the quantification of **not biased recoveries**.

Moreover, with regard to **paragraph 138(a)**, defining the treatment for exposures which are beyond the maximum period of the recovery process, we deem that the possibility to **estimate future recoveries stemming from the sale of the existing collateral not yet exercised should be admitted** and specified in the GL. Indeed, even though these exposures could potentially be riskier, and this should be taken into account when estimating the **collateral value**, disallowing these esteems would bring to **excessively conservative and unrealistic LGD estimates**.

Furthermore, we notice that **paragraph 138(e) could be misleading.** Indeed, **it seems related to all open cases, implicitly conveying the incorrect message** that longer duration and less recoveries are expected on an open default just because it is open, which has no economic rationale: there is no reason why the open default would lead to recover less than a similar closed one, except when recoveries already observed are lower than the average recovery observed over the same period of time for the similar closed cases. Hence, we encourage the EBA to better clarify this concept.

Question 6.6: Do you agree with the proposed principles on the treatment of collaterals in the LGD estimation?

Overall we agree with the proposed principles except for the following remarks:

- **Paragraph 149(b)** requires that in case the exposure was secured by only a part of the value of the collateral, the estimation should be based on the total value and total sale price of the collateral. Even though agreeable in principle, we highlight that under certain circumstances this information could be not available. In these cases to use of the known partial value should be allowed.
- With regards to **Paragraph 149(f)** it is not clear **why only decreases** in collateral value should be considered for the LGD estimation. A strong change in market values could indeed lead to **distortions in the realisation proceeds rates** if the results of realisation were set in relation to the **market values at or before the default date**. In particular, we deem that this requirement, not being symmetric, **could be not enough prudential**, as described by the following example:

  Case 1
  - collateral value at default is 100,
  - it increases until 120 at time of realisation,
  - recovery is 60.

  According to a symmetric approach, recovery rate corresponds to 60/120 = 50%, whereas according to the approach proposed in the CP, recovery rate corresponds to 60/100 = 60%.

  Case 2
  - collateral value at default is 100,
  - it decreases until 80 at time of realisation,
  - recovery is 60.

According to a symmetric approach, recovery rate corresponds to 60/80 = 75%, whereas according to the approach proposed in the CP, recovery rate corresponds to 60/80 = 75%.

Moreover, we deem fundamental to ensure consistency between **paragraphs 149(f) and 96** which asks the Institutions to "collect and store in the RDS the information on the most recent evaluation of the collateral **before the moment of default".** In fact, we deem that **a univocal and symmetric approach** should be in any case granted. Hence, it should be clarified which approach, between the two arising from the requirements above, should be followed in the estimation of collateral value, i.e.:

- collateral has to be always assessed (regardless the direction of changes in its market value) at the date of recovery realization (**paragraph 149(f)**);
- collateral has to be assessed only at the date of default or before (if needed due to distortions), without taking into account future changes in collateral market value (**paragraph 96**).

Question 6.7: Do you agree with the proposed treatment of repossessions of collaterals? Do you think that the value of recovery should be updated in the RDS after the final sale of the repossessed collateral?

Unless the repossession is aimed at own institution use or benefit, for instance through renting, we deem that only the moment of the asset sale should be relevant, rather than the one of repossession. This would make the collateral valuation less subjective, since the repossession value has to be estimated while the sell price is an objective value.

Question 6.8: Do you think that additional guidance is necessary with regard to specification of the downturn adjustment? If yes, what would be your proposed approach?

We would definitely suggest that additional guidance is provided in order to avoid that the adoption of different approaches in the industry contradicts the aim to reduce the unjustified variability of the relevant outcomes. We would expect that further GL in this respect will be provided in the dedicated CP currently under definition, covering at least the following minimum set of topics:

- **criteria** to identify the **downturn period**
- **factors** to be considered to compute it
- whether calibration of LGDs to downturn conditions should be based on **recoveries realized** during this period or on **defaults identified** in the downturn period
- whether downturn corrections are expected to be based on observed recovery experience only or be explicitly related to macro-economic scenario in a "**stressed LGD**" framework
- whether a **minimum downturn add-on** is required in any case, even though quantitative analysis show there is no relationship between macroeconomic downturn and recoveries. If this is the case, further guidance for the determination of this value is required.

With regards to the approach, below some proposals are reported:

- only **macroeconomic factors (e.g. GDP) where a common relationship between economic factor and economic environment** is proven should be in the focus of the analysis. This would ensure that the corresponding results could be interpreted in an appropriate manner. E.g. the interpretation of the relationship between interest rates and economic environment in context of Downturn LGD is difficult;
- we deem that **calibration of LGDs to downturn** conditions **should be based on recoveries** realized during the downturn period. As a matter of fact, by reasoning on the **defaults** identified in the downturn period, counterparties not significantly affected by the downturn could be selected as representative of the downturn phase, where we are interpreting "defaults identified" as "clients entered in default" in the downturn period;
- the downturn component should be quantified with regard to the **overall LGD** and applied in the same way to secured and unsecured LGD. Moreover, to quantify the downturn effect the basis should be the **average amount of recoveries detected on downturn period** in comparison with the average on the whole period of analysis, ceteris paribus.

Question 7.1: Do you agree with the proposed approach to the ELBE and LGD in-default specification?

Do you have any operational concerns with respect to these requirements? Do you think there are any further specificities of ELBE and LGD in-default that are not covered in this chapter?
Overall we agree, however it should be clarified, also with some examples, which are the **expected sources of additional unexpected loss** (specified at paragraph 184(b)(iii)) considering that:

- the recovery rate variability due to negative macroeconomic conditions is already addressed via the **Downturn component**
- the volatility stemming from deficiencies/potential estimation errors listed in paragraph 4.4 is typically covered with the estimate of the **MoC**
- the volatility of recoveries is to some extent already covered by the **risk premium of the discount** rate (refer to the answer on question 6.3)

In light of these considerations, we deem it should be specified that the **additional unexpected loss component** should be **rare** and only related to **peculiar cases**. If this should not be the case, we would see a potential overlapping among the three required components, which would result in excessive conservatism.

Question 7.2: Do you agree with the proposed reference date definition? Do you currently use the reference date approach in your ELBE and LGD in-default estimation?
Overall we agree with the proposed approach for reference dates definition.
Within the UniCredit Group, the mostly widely used approach for LGD in-default and ELBE estimation defines reference dates based on the vintage of the defaulted exposure. In case of secured/unsecured model, the vintage approach is typically applied just to the unsecured LGD, since the estimated haircut is kept constant until the recovery occurs.

Question 7.3: Do you agree with the proposed approach with regard to the treatment of incomplete recovery processes for the purpose of estimating LGD in-default and ELBE?
We agree with the proposed approach.

Question 7.4: Which approach do you use to reflect current economic circumstances for ELBE estimation purposes?
Currently ELBE is defined as the regulatory LGD with the exclusion of the downturn component.

Question 7.5: Do you currently use specific credit risk adjustments as ELBE estimate or as a possible reason for overriding the ELBE estimates? If so how?
Specific credit risk adjustments are generally not used to estimate or override ELBE also because for a large share of the portfolio the provisions are set based on LGD in default model through proper corrections (e.g. exclusion of downturn effect, exclusion of cost component).

Question 8.1: Do you see operational issues with respect to the proposed requirements for additional conservatism in the application of risk parameter estimates?
We deem the requirements on application of appropriate adjustments and margin of conservatism reasonable.

Question 9.1: Do you agree with the proposed principles for the annual review of risk parameters?
We deem that a **structured process** and relevant **rules** are necessary to adequately maintain models driving their re-development, re-estimation and re-calibration. In particular, in light of the heterogeneity of triggers that should be considered to have a complete overview of the model status and consequently of the complexity of scenarios which can arise, institutions should **have in place a dedicated process** taking into account the **breached triggers**, the relevant **severity** and **materiality**, the **reasons** which have brought to the breach them, the **regulatory context** as well as the **materiality of the model** within the Group. All these **quantitative** and **qualitative** elements are **necessary to consistently define the specific actions to be undertaken**. Based on this, we suggest modifying paragraph 200(c) asking for the "***a dedicated and structured process*** *to manage adverse results in any of the analyses*" rather than

"***predefined actions*** *to be taken in case of adverse results in any of the analyses".*

Furthermore, in light of the requirements set out in the paragraphs 198-203, we would suggest amending paragraph 204, which requires to define a **"*regular cycle for full review of the rating systems****, taking into consideration their materiality, covering all aspects in development, estimation of risk parameters and, where applicable, of model components…*". In fact, we deem that the process of model monitoring/maintenance as per paragraphs 198-203 represents the best way to drive decisions on model updates, allowing to detect, assess and address possible model issues on an ongoing basis over the life of the model. In other words, we deem that to be really effective the **review of the models should be event-driven rather than pre-defined based on a regular cycle**.

Question 10.1: Do you agree with the clarifications proposed in the draft GL with regard to the calculation of IRB shortfall or excess?

We agree with the proposal which is already in line with the approach currently used, because:

- IRB excess on non-defaulted portfolio can be used to cover any IRB shortfall from the overall defaulted portfolio. The opposite scenario is not allowed;
- when the calculation referred to in Article 159 of Regulation (EU) No 575/2013 results in an IRB excess for both the defaulted and the non-defaulted portfolio, the sum of those two IRB excesses should be considered and added back to Tier 2 in accordance with the limit referred to in Article 62(d) of Regulation (EU) No 575/2013. In this regard, we specify that the cap equal to 0.06% of RWA is computed with reference to total IRB RWA;
- partial write-offs are not included in the calculation of general and specific credit risk adjustments, in line with EBA Q&A 2014_1064. However, as per Article 166(1) of Regulation (EU) No 575/2013, the calculation of the expected loss amount for the application of Articles 158 and 159 of Regulation (EU) No 575/2013 is based on the exposure value gross of value adjustments but net of write-offs. Indeed in the LGD model the EAD is gross of write-off, but then this value is applied to an EAD that is net of write-offs for EL computation.

Question 11.1: How material would be in your view the impact of the proposed guidelines on your rating systems? How many of your models do you expect to require material changes that will have to be approved by the competent authority?

We expect that the application of the new standards will potentially results in a **material model change for all models currently in place**, implying **huge efforts/costs for the Group as well as for Supervisors** which will have to manage all the Material model changes by 2021. The more impacting requirements are those on LGD estimation and the ones on MoC adoption, in light of what commented in the relevant sections.

In this respect, we urge the EBA to share with banks the timeline and discuss how the implementation could be managed in a more efficient way. With this regard, UniCredit deems that regardless of the final implementation date, Banks should be allowed to adopt a staggered approach foreseeing intermediate steps of pre-approval with the Supervisory Authorities.

Comments on proposed requirements not subject to EBA questions

Chapter 4: General estimation requirements

Paragraphs 15 and 37
According to the following paragraphs:
15. Exposures covered by the same rating system should be treated similarly by the institution in terms of risk management, decision making and credit approval process and should be assigned to a common obligor rating scale in accordance with Article 170(1) point (b) of Regulation (EU) No 575/2013 where applicable.
37. Exposures covered by one PD Model should be managed homogeneously by the institution in terms of risk management, decision making and credit approval process.
we understand that there is a strict requirement of having an homogeneous approach on process/business side for all customers rated through the same PD model.
Even though we deem **modeling and business/process segmentation are strictly interconnected**, **a perfect correspondence does not necessarily exist.** For instance, from an internal processes/business perspective it can be reasonable to adopt different rules considering the **intrinsic complexity in counterparties management**. In this respect a treatment differentiated by **exposure amount** is often observed (as also foreseen by CRR art 147.5(a)(ii)). However, the same distinction, exposure-based, would not be advisable for the risk modelling segmentation since this could introduce unintended volatility on PD assignment. Indeed, from a **risk modelling point of view** all the clients having **comparable source of risk** can receive the same segment, with possible relevant peculiarities treated through **specific model sub-segmentations**.
A typical example is represented by the Small Business segment which, being an intermediate segment between retail and corporate counterparties, is by definition composed by heterogeneous type of clients (ranging from freelancers to SME corporate) and hence it is subject to all the considerations above mentioned.
Moreover, there are some cases where other customer's characteristics, such as belonging to a Group, could be relevant for business segmentation (e.g. Small Business clients belonging to Corporate Groups could be treated like Corporate).
Finally, it has to be taken into account that **business segmentation is structurally subject to a higher volatility compared to modeling segmentation**. In some case there might be the need for a quick update of the first, while a change of the latter would imply an application to the Supervisor for a material model change and thus a delayed implementation. Moreover, if following a change in 'decision making and credit approval process', a new model had to be set up, the new processes should be **constructed back in the past** to determine the long run average default rate. This would be overly complicated and not feasible from an operational standpoint.

Summarizing, we generally agree with the principle described in paragraphs 15 and 37 **if and only if** the "**similarly**" (paragraph 15) and "**homogenously**" (paragraph 37) can be interpreted in line with all the arguments raised above, i.e. leaving the **possibility for justified misalignments between risk and business/process segmentation**. We anyway deem this concept should be better clarified in the GL.

An additional point of attention we would like to mention is referred to the following specification provided at page 7 of the CP, according to which "as the information is available for **business clients** and for **natural persons** is fundamentally different, **these should not be covered by the same rating system**". In this respect we would like to stress that in several cases it is useful to cover business clients and natural persons in one rating system due to their **homogeneity in risk drivers**. This is the case for example of freelancer and full-liability single-person company (e.g. craft): the first is a natural person, the second is a company but no differences in source of risk is detected. Hence, to cover them with different rating systems would not be neither efficient nor effective.

Chapter 5: PD estimation

Paragraph 38
It should be clarified how the requirement (according to which each and every client should be rated) should be read in accordance with paragraph 50 (where clients without rating at the start of relevant observation period are admitted). Our interpretation is that all the clients should be rated. In case some clients remained unrated, they should receive a rating proxy.

Paragraph 39(b)
It should be clarified what "other IT-Systems" stands for.

Paragraph 42
We agree on the need to document all data cleansing, but the requirement under point (d) is considered too burdensome and not value adding. It is hence suggested to admit the possibility of providing evidence on the filters applied (i.e. reasons and impacts) not at client but rather at cluster level, where clusters could be determined based on the reason for exclusion. For each cluster the number of clients excluded should be specified.

Paragraph 44(b)
It should be clarified what "lack of homogeneous pools of exposures" stands for.

Paragraph 45(c)
The requirement to analyze all quantitative and qualitative characteristics that could relate to default is in our opinion too burdensome without providing high added value. Moreover, this seems to be in contrast with what reported in paragraph 45(c)(iii), which is only referring to “key characteristics”.

Paragraph 45(c)(i)
We deem that representativeness of "recovery standards" should not be relevant for PD estimation. Hence, this reference should be deleted.

Paragraph 45(c)(ii)
We deem that it should be better clarified what is meant by “mapping from one set of characteristics to the other”.

Paragraph 49
The paragraph provides some clarifications on how to treat obligors subject to override, ex-post adjustments and credit risk mitigation in case the one-year default rate is computed by rating grade or pool. In general, we deem that the inclusion/exclusion of specific types of counterparties in the different PD estimation phases (i.e. development, long run average computation, calibration) can be a source of unjustified variability across institutions. Hence, we would recommend that the GL **clarify how the populations relevant in the different phases of PD computation should be determined** and we exhort the EBA to take duly into consideration our **proposal** reported below.
In order to define a common treatment we propose to identify the macro-categories of obligors which can be relevant in the different estimation phases and to define a common treatment:

Macro category of Obligors	Development sample	Long run average default rate	Calibration sample	Comment
Performing obligors, with credit exposure (drawn and/or limit)	included	included	included	
Obligors with outdated information/rating	excluded	included	excluded	
Not representative obligors	excluded	excluded	excluded	
Obligors with erroneous input data	excluded	included	excluded	

Obligors belonging to Groups, inheriting the rating from the sponsor	Full liability Group considered as unique risk unit	Full liability Group considered as unique risk unit	Full liability Group considered as unique risk unit	
Obligors belonging to Groups, not inheriting the rating from the sponsor	Included	included	included	
Obligors subject to override	Included	included	included	
Obligors subject to substitution effects	included	included	included	
Obligors with not material exposure	included	included	included	with possible dedicated segregation allowed
Obligors subject to ex-post conservative adjustments (e.g. warning signals)	included	included	included	with possible dedicated segregation allowed
Obligors wrongly assigned to the considered rating model	excluded	excluded	excluded	
Obligors wrongly included in the data set of defaults and which did not default with the meaning of default (i.e. technical defaults)	included	included	included	considered as performing clients

Finally, the GL at page 10, specify that "While the general calculation of a one-year default rate is already outlined in the CRR and the RTS on IRB assessment methodology, the draft GL clarify this calculation for a number of specific situations. In particular, the denominator should contain the obligors of the considered model or calibration segment with any credit obligation at the beginning of the observation period. Where **obligors whose obligations stem solely from non-credit products** fall under the scope of application of the considered model and are treated in accordance with the institution's internal default definition, then these **should form a separate pool** in the rating system not to bias the default rate of obligors with credit facilities. Similarly, with regard to **obligors or facilities with just committed but undrawn credit lines** these **might have to be treated in a separate pool** in the rating system to avoid lowering unduly the default rate of drawn credit lines".
With this regard, we agree that to separate specific clusters of clients **should be allowed** and taken into account when estimating a PD model, but we deem that this **should not be a mandatory requirement**. In fact, the opportunity to separate certain type of clients has to be **duly assessed based on the relevant materiality** and **counterparties characteristics**. For instance, with regard to the clients with just committed but undrawn credit lines it should be considered that at the origination such obligors do not have a drawn amount but to segregate them in a separate cluster could be distorting, since this status is only temporary. Thus, we deem that an **ad hoc assessment** aimed at understanding the reasons underlying certain phenomena has to be performed **before defining whether to segregate or not certain clients**. This should be clarified in the GL.

Paragraph 80(d)
As already highlighted in the answer 5.5 we see as potentially inconsistent the two requirements of having a calibration sample "comparable to the current portfolio" and at the same time "representative of the likely range of variability". We would recommend that the EBA clarifies in the GL that the sample should be as much as possible aligned to the current portfolio, tending at best to be exactly equal to it, which combined with the Central Tendency defined as a long run default rate would bring to a **more stable approach** allowing to achieve a **higher stability in estimates and RWA requirement**

Paragraphs 87 and 88(b)
We see a potential inconsistency between paragraph 87 asking for **sub-segmentation** for calibration purposes and paragraph 88(b) according to which "**calibration doesn't change the rank order**". If segmentation is applied, the rank ordering of the whole population naturally changes. We deem that these requirements should be better clarified.

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Chapter 6: LGD estimation

Paragraph 89 and 113

Based on some specifications of the paragraphs 89 and 113 (i.e. for paragraph 89: "*For the purpose of LGD estimation institutions should treat each defaulted facility as a distinct default observation, ..*" ; for paragraph 113: "*institutions should calculate the economic loss realised on an instrument (i.e. defaulted facility)...*") it could be derived that LGD has to be estimated at facility level only. With this regard, since the recovery process is generally managed at obligor level, we deem that these requirements should be modified making clear the possibility to estimate LGD by obligor rather than by facility. This consideration is valid for LGD in general, hence both LGD performing and LGD in-default.

Paragraph 90

The requirement about multiple default treatment should be clarified. As a matter of fact, the rule currently provided in the GL implies that an exposure is considered constantly defaulted for LGD purposes if it is moved again in default status within 15 months from the first default classification (3 months probation period + 12 months).

This requirement is concerning due to the followings:

- it introduces a **misalignment between** default detection for **PD and LGD** estimation;
- it raises potential issues on **how to treat new information that become available during the [15] months** where the client is in performing status but classified as default for LGD computation. For instance, how should additional collaterals acquired in this phase be treated? How should additional drawings occurring in this phase be considered?

In order to overcome these issues we suggest that **multiple defaults** are identified **according to the same rules both for PD and LGD models**. In other words, this means that the paragraph 90 should be updated asking that multiple defaults are treated **within each cohort** to ensure consistency between default for PD and LGD computation (i.e. considering 12 months from the reference date for estimation).

Paragraphs 93(c)(d) and 143

It should be clarified what is meant by "**at least within the year before default**", i.e. if it implies the use of a single observation date (default – 1y, if available, or shorter, if a full year is not available) or of multiple observation dates (e.g. each month end during the year before default) or even different observation dates for different factors. Since the second and especially the third ones would add excessive complexity to the estimation, we suggest that the first option is adopted being the only (reasonably) feasible one. Moreover, we deem it should be clarified that the request to use data "within the year before" should be **limited** to those cases where the information at the default date could be **distorted**.

Finally, at page 14 of the CP it is specified that "In order to reflect the full level of loss it is proposed that institutions should look into costs not only after the moment of default **but also before that date**". We deem that this request is not appropriate. Indeed, we do not see why costs before the default date should be relevant for LGD estimation.

Paragraphs 95 and 96

Some of the requirements set out in paragraph 95 can imply high IT effort to retrieve/store the required information especially on historical data.

The areas on which the main gaps are identified are the followings:

- even if each change of debit/credit balance is collected for each loan, the purpose of change is often not registered, hence it could be difficult to distinguish for instance between drawing after defaults, interest in arrears and fees capitalized after the default;
- in various subparagraphs, exact amounts and timing of different cost and recovery components are required. An alternative acceptable approach should be to use month-end balance values to calculate net cash flows realized during each month since default. Being able to break up the costs into different types (when for the final estimation they are anyway summed up) and discounting the cash flows with a daily instead of a monthly granularity does not seem to contribute to obtain a better model, while extra effort might be generated in data collection and management;
- collect factors and drivers for loss one year before the default date can imply high effort, and it is not trivial to decide which point should be taken as a reference. This leaves also room for interpretation and could create deviations among banks (refer to comments on article 93 and 143, above);

- data collection of the most recent evaluation of collateral before the moment of default (before decrease of credit quality) means a huge adjustment of the data collection, potentially requiring a case by case assessment which could not be sustainable.

Paragraph 128(d)
For the avoidance of doubts, it should be explicitly stated that "all internal data" is to be interpreted in the context of the Definition of Default (DoD) paper, i.e. if a default is arguably incorrect/technical, it has to be excluded from the sample.

Paragraph 130
Consistently with the comment provided on paragraph 54 for PD, the rational underlying the requirement according to which the long-run average LGD should be calculated separately for each facility grade or pool and also at the level of portfolio covered by the LGD model is not clear and we do not see real value added from this. Indeed, we deem that the level of computation of the long-run average LGD should be defined in a unique way according to the adopted estimation approach (e.g. by pool or at portfolio level).

Paragraph 150(a)
We highlight that the information required by the paragraph could be not available.

Paragraph 150(d)
We deem that the solution currently proposed to "determine which part of the price received for the sold obligations was related to the existing collateral" is not feasible without applying strong proxies, which would force the adoption of MoC. Therefore an alternative approach should be defined, e.g. not to consider the disposed assets in the estimation phase but just in the calibration phase.
In any case, the price of disposal is influenced by not credit related components, and hence a dedicated framework to disentangle it should be introduced in the EBA GL. Moreover, as mentioned in question 6.1., we deem that in special cases, such as **non-conventional recovery processes massively disposed by institutions** (such as NPLs disposals) it should be allowed to exclude them from the estimation sample.

LGD methodological framework
The CP seems to be oriented towards a secured/unsecured approach. In general we agree with it, but as long as the LGD estimate takes adequately into account both **secured and unsecured positions**, the guidelines should not be biased towards a specific modelling strategy. Moreover, it should be considered that there are some cases where an overall approach should be advisable rather than a secured/unsecured one (e.g. countries where the execution of mortgages is not performed directly through an execution procedure, but it is in charge of the client through the selling of the asset; in such cases, since there is not a real execution procedure, the relevant recoveries are not available to the bank, thus they cannot be used to estimate a secured LGD).
Finally, we deem that the GL should explicitly mention in chapter 6 the possibility to estimate **a model considering the Danger Rate components** (i.e. migration among default status, e.g. past-due and UTP)**.** This would be consistent with sub-paragraphs 165(b) and (c) referred to LGD in-default, that allow for an event-trigger definition which implicitly includes a concept of **migration among default statuses**.

Chapter 7: Estimation of risk parameters for defaulted exposures

Paragraph 170
With regards to the requirement according to which "the information on recoveries realised so far and on time in-default may be taken into account either directly, as risk drivers, or indirectly, in setting the reference dates for estimation purposes", it should be clarified what "indirectly" stands for, i.e. which are the methods to indirectly take into account recoveries. Indeed, if they are not treated as a risk driver (e.g. including them only in the EAD) how is it possible to derive if they influence the risk of the obligor?

Paragraph 171
It should be clarified how "the expected length of the recovery process" should be taken into account for risk drivers identification. How it should be quantified, i.e. based on which input the length of the recovery process should be inferred? Moreover, this requirement seems inconsistent with the prescription according

to which "incomplete recovery processes should be used only for those reference dates beyond which factual recovery and costs are observed".

Chapter 8: Application of risk parameters

Paragraph 193
We deem that the introduction of policies aimed at l**imiting the number of upgrades stemming from override of outputs** is reasonable for processes where a certain level of automatism in override management is foreseen, while this could be not beneficial in case the override are assigned according to processes which require the involvement of specific structures or internal dedicated approval bodies.

For this reason, we deem that it is left to institutions' discretion **to define when it is appropriate to limit the number of upgrades based on the specific models features and override reasons**. Please find below some examples (referred to Low Default Portfolios) in which such a limit would bring to a worsening in the process of rating assignment:

- **use of override to assess extraordinary operations** (e.g. companies' mergers): in this case, the process underlying the relevant model foresees that the counterparty rating is firstly calculated without considering quantitative data (i.e. financial statements) through the standard process, but assigning a very conservative value producing a prudential rating. This represents only the basis for the following override, through which a punctual assessment of quantitative information is performed by the experts. In this case, the override usually acts as ad hoc assessment to derive a more reliable risk evaluation, and thus limitations would not be appropriate;
- **use of override to take into account the Government support in the rating assignment**: since the strength of the support can significantly vary case by case, and it can imply very different behaviors of the counterparty benefiting from the support, also in this case we do not see as appropriate the definition of limits to upgrades.

In both cases the introduction of limits to override could bring to a change in the process underlying the rating assignment that could result in a less efficient approach.

As far as **override of inputs** is concerned, we would deem useful that additional clarifications are provided on how they have to be interpreted: namely if either an update of model inputs (e.g. change on single financial statement items due to errors detected) or an override on single PD components (e.g. update of the financial rating due to interim financial statements providing important information) should be performed. In case the former is the correct interpretation, we do not see any room for setting up limits to introduced corrections, while in the latter case the same comments reported above are valid.

Chapter 9: Re-development, re-estimation and re-calibration of internal models

Paragraph 202(a)
With regard to the last requirement (i.e. *"Where institutions identify significant deficiencies in terms of the representativeness of the **dataset used to estimate risk parameters** or where the model's discriminatory power, as referred to in point (b), is deteriorating, they should perform the representativeness analysis as described in the first subparagraph **also for the dataset used in model development**"*) it should be clarified what "dataset used to estimate risk parameters" and "dataset used in model development" stand for. In our opinion, the two as synonyms.

Paragraph 202(b)(i)
Performing the analysis on the subset with and without delinquency days is not always deemed appropriate, especially if the delinquency days are incorporated in the risk drivers of the model (like most of the behavioural score models). In addition, for specific portfolios the subsets' differences could be too small to produce statistically meaningful results. We would suggest revising the example, e.g. mentioning the size for companies.

Paragraph 202(b)(ii)

In our opinion the benefit from a comparison with regard to the whole portfolio without any adjustments and exclusions is not clear, as those adjustments and exclusions are usually implemented in order to avoid biased, non- reliable results. We would thus suggest that this point is revised requiring to carry out the analysis on the whole portfolio after adjustments and exclusions.

Paragraph 202(c)
It is suggested to change the wording of the sentence "analysis of predictive power of the model" in "analysis of calibration", because the test described at point (i) refer to calibration parameters (i.e. long run average default rate and long run average LGD or downturn LGD).

Paragraph 202(c) (ii)
The paragraph asks that the back-testing analysis is performed for each rating grade or pool. We deem it should be clarified that the back-testing should be performed at the level chosen for calibration (i.e. rating grade, overall portfolio or sub-segment).

CONTACT PEOPLE

Please find below the list of the key people involved in this response, whose contribution made possible to coordinate and provide UniCredit answers and contributions to this Consultation. Several other areas/experts have been involved alongside the UniCredit Group (in particular, Group Credit Risk Processes And Information Flow, Group Risk Data Office and the UniCredit and the European network of Group Models Methodologies & Standards and Regional Support), but are not listed below.

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