MEMORANDUM

Date 2018-11-07   FI Ref.18-20169

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New requirements for institutions using the IRB approach

Summary

Finansinspektionen (FI) is encouraging institutions that apply the IRB approach to analyse their rating systems to ensure that these systems meet forthcoming new requirements. Under the new requirements, Swedish institutions will need to change their rating methods. Such changes require FI's approval.

The regulations for the IRB approach are going to be amended in a number of areas. The change work is being headed by the European Banking Authority (EBA) according to the Capital Requirements Regulation (CRR)[1].

The overall goal is to put into place clearer regulatory requirements; requirements that are fair and comparable between institutions.

In this memorandum, FI describes important areas where the regulation is being clarified. The memorandum also discusses FI's expectations for how the institutions should implement the methodology changes that are expected once the regulations are amended. The aim is to ensure that adaptations to the new requirements are implemented efficiently, transparently and uniformly.

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[1] Regulation (EU) No 575/2013 of the European Parliament and of the Council of 26 June 2013 on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/201.

Table of Contents

1. Background and purpose

The IRB approach in general has achieved the goal of more risk-sensitive capital requirements and given institutions incentives to develop and refine their processes for credit risk management and risk measurement. The European Banking Authority (EBA) took this position in its discussion paper EBA/DP/2015/01 dated 4 March 2015.

FI shares the EBA's position on this matter. The CRR allows considerable flexibility with regard to risk measurements and the design of rating systems within the IRB approach, which has made it difficult to compare institutions' capital requirements. Because this lack of comparability has led to doubts regarding the reliability of the IRB approach, FI welcomes the EBA's overview of the regulations for the IRB approach and has been an active participant in this work.

To facilitate comparisons between institutions, the EBA has now limited the opportunities for interpretation in its guidelines and regulatory technical standards by clarifying the requirements in the CRR. The EBA has done this by defining central terms and introducing new terms into the IRB approach's taxonomy.

FI considers the regulatory overview to support FI's prioritised supervision work to make Swedish institutions' rating systems more fair and consistent. The overall ambition of the ongoing regulatory overview is to harmonise definitions and methods for risk estimation within the IRB approach and thus reduce unjustified variation between the institutions' risk weights. FI also sees the results from the overview as an important step in the continuous work to ensure that the institutions follow the rules for the IRB approach.

The aim of this memorandum is to highlight the parts of the EBA's regulatory overview that in FI's assessment will have a significant impact on the IRB approach for institutions under FI's supervision. The focus here will be on the areas where FI believes the institutions will need to make the significant changes, but firms are expected to comply with the regulation in its entirety.

Some of the technical standards and guidelines referred to in this document have not yet been adopted. The guidelines and regulatory technical standards that refer to LGD estimations appropriate for economic downturns (EBA/CP/2018/07 and EBA/CP/2018/08) were only available as a consultation paper at the time this document was written. However, the assumption has been made that the regulations mentioned in this memorandum which have not yet been adopted will not undergo any material revisions.

Main areas in this memorandum

Specification of the rating system

In its overview, the EBA has aimed to maintain the flexibility of the methods and methodology used in IRB modelling. To reduce the unjustified variation in risk weights and ensure comparability between jurisdictions and institutions, the EBA has defined central terms and the overall taxonomy for the rating system, including terms such as *type of exposure, calibration segment, modelling* and *estimation of risk parameters*.

The IRB approach allows institutions with different internal processes for risk management to apply internal estimates to the calculation of risk-weighted exposure amounts for credit risk. FI therefore welcomes the EBA's clarifications and considers a clearer taxonomy to ensure uniform treatment and allow for a more meaningful comparison of risk weights between institutions. Particularly important in this respect are a clearly defined and limited rating system and the application of calibration segments.

Definition of default

In accordance with the CRR, a credit obligation is always considered to be in default if a significant part of the obligation is more than 90 days past due. In EBA/GL/2016/07 and Commission Delegated Regulation (EU) 2018/171, the EBA has established thresholds for what should be taken into consideration when determining what constitutes a significant part of a credit obligation. This means that institutions applying the IRB approach should consider these thresholds and thus revise their internal definitions of default.

Margins of conservatism

In accordance with the CRR's requirements, institutions should add an appropriate margin of conservatism to their estimates to consider any uncertainty deriving from known estimation errors. EBA/GL/2017/16, *Guidelines for PD estimates, LGD estimates and the management of exposures in default*, states that margins of conservatism should be added to the institution's best risk parameter estimate, which has been adjusted for known bias. The margin of conservatism is divided into three additive components. These categories should consider known data and method errors (Category A), changes in underwriting standards, the definition of default, etc. (Category B), and general estimation errors (Category C). For this purpose, institutions should prepare a methodological framework that must be applied to all risk parameters the institution uses to calculate risk-weighted exposures amounts for credit risk.

PD estimates

The EBA has clarified that institutions, in order to determine long-run default rates for PD estimates, should consider a period of time that spans a reasonable mix of good and bad years as well as a periods with significantly elevated default rates. For Swedish exposures, this means that an institution should typically include the recession years of the 1990s, and at least one out of five years should be a bad year.

LGD estimates

To estimate LGD, the EBA has established a number of clarification requirements that refer to the calculation of long-run LGD, the calculation of economic loss, collateral management, multiple default events and the discounting of costs and cash flows.

To harmonise the methods the institutions use to calculate LGD estimates appropriate for economic downturns, a method is introduced to estimate and identify an economic downturn. To ensure that the period that is analysed includes sufficiently difficult economic recessions, the data that is used to identify economic downturns should include the economic crisis from the 1990s. If an institution's internal loss data does not include downturn periods identified in accordance with the method mentioned above, the institution should use extrapolation or haircut methodologies in accordance with the requirements of the regulation.

Rating philosophy and migration management

For PD and LGD, institutions should give particular consideration in their model calibration to how the model's estimates are affected by changes in the economy and the economic climate. Depending on which risk drivers are included in a model, changes in the portfolio's realised model outcome caused by systemic risk variation will be reflected through either one or a combination of the following changes:

1. Migrations across risk classes.
2. Changes in annually realised model outcome per risk grade.

This dynamic must be clearly described and considered when parameter estimates are calibrated so as to avoid unreasonable cyclical variation.

2. The EBA's regulatory work

In February 2016, the EBA published an opinion (EBA/Op/2016/01) on general principles and timelines for the implementation of the authority's regulatory review of the IRB approach with the aim of informing supervisory authorities and institutions about forthcoming regulatory reviews.

The review, through the implementation of new regulatory technical standards and guidelines (Level 2 and Level 3 regulation, respectively), aims to reduce undesired variability in risk weights and estimated risk parameters.

The work with the regulatory review has been broken down into four phases:

1. Regulatory technical standards on the supervision of the IRB Approach[2]
2. Guidelines and regulatory technical standards on the definition of default[3]
3. Guidelines and regulatory technical standards on risk parameter estimation and treatment of defaulted exposures[4]
4. Credit risk reduction[5].

Several of the regulatory technical standards and guidelines decided by the EBA will have a significant influence on how Swedish institutions apply the IRB approach. Institutions that have authorisation from a competent authority to apply the IRB approach are expected to comply with the new regulatory requirements no later than at the end of 2020.

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[2] EBA/RTS/2016/03 final draft published 21 July 2016.
[3] EBA/RTS/2016/06, adopted as Commission Delegated Regulation (EU) 2018/171.
  EBA/GL/2016/07 Guidelines on the application of the definition of default.
[4] EBA/GL/2017/16 Guidelines on PD and LGD estimation and treatment of defaulted exposures,
  EBA/CP/2018/07 Second consultation on RTS on estimation and identification of an economic downturn in IRB modelling,
  EBA/CP/2018/08 Consultation Paper on guidelines for the estimation of LGD appropriate for an economic downturn.
[5] Ongoing work. No draft published.

3. Documentation

All methods and models used by institutions as part of the IRB approach should be documented to make it possible for a qualified third party to independently understand the assumptions, limitations and use and be able to recreate their development and implementation pursuant to Article 175 of the CRR. Article 32 of EBA/RTS/2016/03 describes in more detail which areas the documentation must cover.

Completeness of the documentation

When a competent authority assesses whether an institution has documented in full the design, operational details and the grounds for its rating system, the authority should verify that the documentation covers the following areas:

a) Degree of suitability for the rating system and the models used within the risk classification system, taking into consideration the characteristics of the portfolio;

b) A description of the data sources and the practice for adjusting and excluding data;

c) Definitions of default and loss;

d) Methodological choices;

e) Technical model specifications;

f) The models' weaknesses and limitations and any factors that mitigate the consequences of them;

g) Results that show that the model implementation has been successful and error-free from an IT perspective; and

h) A self-assessment of whether the institution fulfils the requirements on the IRB approach laid down in Part Three, Title II, Chapter 3, Section 6 of the CRR.

Articles 32.2–32.9 of the above-mentioned regulatory technical standards describe how competent authorities should verify that the requirements in points a-h above are met. FI expects the institutions' documentation in many areas to become both more extensive and more detailed in order to meet these requirements.

4. Definition of default

Pursuant to Article 178(6) of the CRR, the EBA has stated in the final draft of regulatory technical standards on the materiality threshold for credit obligations past due (EBA/RTS/2016/06) the conditions that apply when a competent authority should determine the threshold that is referred to in Article 178(2)(d). These conditions steer in both absolute and relative terms the materiality of a credit obligation that is referred to in Article 178(1)(b).

In accordance with the EBA's conditions, FI has established the following absolute and relative thresholds that institutions under its supervision should apply:

– Absolute materiality threshold for household exposures: SEK 1,000;

– Absolute materiality threshold for other exposures: SEK 5,000;

– Relative materiality threshold for all exposures: 1 per cent[6].

When both the relative and absolute thresholds are exceeded for 90 consecutive days, the credit obligations should be considered to be past due in accordance with Article 178(1)(b).

If an institution applies more restrictive default thresholds than those proposed by FI, this should be stated in the institution's definition of default in accordance with Article 178(1)(a). This definition should be in line with the bank's risk measurement and appropriate given the type of exposure covered by the rating system in question. FI expects the institution to be able to show that the chosen definition does not result in an unjustified high percentage of defaulted exposures returning to non-defaulted status.

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[6] The relative component should be expressed as a percentage that reflects the past due credit obligation's share of the total amount for all exposures in the balance sheet that the institution, the institution's parent company and its subsidiaries hold to the debtor with the exception of equity exposures.

5. General estimation requirements

A condition for an institution to apply the IRB approach is that the institution meets the general requirements of the regulation for estimation. EBA/GL/2017/16, *Guidelines on PD estimation, LGD estimation and the treatment of defaulted exposures*, clarifies the CRR's requirements in the following areas:

– Principles for specifying the range of application of the rating systems
– Data requirements
– Human judgement in estimation of risk parameters
– Treatment of deficiencies and margins of conservatism

FI has chosen in this memorandum to focus specifically on the clarifications related to the requirements of the CRR on specification of the rating system and application of margins of conservatism.

5.1 Principles for specifying the range of application of the rating systems

The requirements in the Level 2 and Level 3 regulations on modelling of risk parameters within the IRB approach are based on the models' role as subsets of *the rating system*. The rating system is defined in Article 142(1) of the CRR as "all of the methods, processes, controls, data collection and IT systems that support the assessment of credit risk, the assignment of exposures to rating grades or pools, and the quantification of default and loss estimates that have been developed for a certain type of exposures."

The same article defines *type of exposures* as "a group of homogeneously managed exposures which are formed by a certain type of facilities and which may be limited to a single entity or a single sub-set of entities within a group provided that the same type of exposures is managed differently in other entities of the group."

These terms are clarified in more detail in paragraphs 13 and 14 of EBA/GL/2017/16. With regard to exposures within a rating system, the EBA lays forth that all exposures should be attributable to common obligor and facility rating scales. For the definition of *type of exposures*, the EBA clarifies that the term *treated similarly* refers to risk management, decision making and the credit approval process.

In addition to the above, the EBA has also introduced a list of terms in paragraph 8 of EBA/GL/2017/16. Among these terms, FI would like to highlight in particular *calibration segment*, which refers to subsets where there is a need for separate risk quantification. Calibration segments can thus be viewed as risk-differentiated characteristics that are considered in the risk quantification step of the model development. Calibration segments, for

example, may be needed if there are different types of products or exposures in different countries.

FI expects institutions under its supervision to ensure that all rating systems meet the principles and apply the taxonomy established by the EBA. In accordance with Article 144(1)(e) of the CRR, the institutions must document the considerations and choices that served as a basis for the rating systems' design, methods, models and calibration segments. This documentation should include all characteristics considered in the choice of calibration segments, including analytical results that served as a basis for the segments' inclusion or exclusion.

5.2 Treatment of deficiencies and margins of conservatism

Treatment of deficiencies

Paragraph 36 of EBA/GL/2017/16 lays down that institutions should identify deficiencies that could lead to a bias in the quantification of the institution's risk parameters or to uncertainty in the estimates not being fully captured by the general estimation error. These deficiencies are categorised as follows:

– Category A: Identified data and methodological deficiencies; and
– Category B: Relevant changes to underwriting standards, risk appetite, collection and recovery policies and any other source of additional uncertainty.

In accordance with paragraph 38 of EBA/GL/2017/16, institutions should take these deficiencies into consideration and compensate for them by to the greatest extent possible adjusting their estimates in an appropriate manner to achieve more accurate estimates (best estimate). Institutions should document the deficiencies and the methods used to apply appropriate adjustments.

Margin of conservatism

In accordance with Article 179(1)(f) and Article 180(1)(e) of the CRR, institutions should add to their estimates a margin of conservatism for all expected estimation errors and changes in the rating system or underwriting standards. For this purpose, institutions should adopt a framework for quantification, documentation and monitoring of estimation errors.

In accordance with paragraph 42 of EBA/GL/2017/16, the final margin of conservatism should reflect the uncertainty in the following categories:

– Category A: Uncertainty related to data and methodological deficiencies;

- Category B: Uncertainty related to changes in institutions' underwriting standards, risk appetite, collection and recovery policies and any other source of additional uncertainty; and
- Category C: The general estimation error.

The margins of conservatism attributable to Categories A and B should correspond to the deficiencies in Categories A and B, respectively.
In accordance with paragraph 47 of EBA/GL/2017/16, the following applies to the margins of conservatism:

- Margins of conservatism attributable to Category C, in accordance with point a, should always be greater than zero;
- Margins of conservatism attributable to Categories A and B should consider the uncertainty in the institution's best estimates arising from identified deficiencies. These margins of conservatism should always be greater than or equal to zero; and
- The margins of conservatism in the three categories are estimated individually. The total margin of conservatism for a risk parameter is quantified as the sum of the margins of conservatism for the three categories.

FI expects institutions to thoroughly document margins of conservatism, identified deficiencies and appropriate adjustments. Methods, reasoning and calculations should be provided. Qualitative assessment should be justified and supported. Institutions are furthermore expected to dedicate special attention to margins of conservatism and appropriate adjustments when estimating long-run PD, for example when extrapolating series of default data and estimating long-run LGD and LGD appropriate for an economic downturn.

6. PD estimates

Paragraph 5 of the EBA's guidelines EBA/GL/2017/16 specify methodological considerations that IRB institutions are expected to apply when rating obligors and exposures and calibrating PD estimates. The guidelines on PD estimates establish conditions for calculating default rates, conditions for calibrating PD estimates and how institutions should ensure that the applied methods for risk differentiation and risk quantification are mutually compatible. In this memorandum, FI would like to highlight in particular the clarifications that refer to philosophies for risk differentiation and risk quantification and its practices for assessing the mix of good and bad years referred to in paragraph 83.

When institutions create PD models to calculate long-run default rates, they should ensure that the time series that serves as a basis for this calculation reflects the likely ranges of variability for one-year default rates in accordance with paragraph 83. This range of variability, according to the same paragraph, should be determined per type of exposure.

To develop assignment methodologies for PD; institutions should chose a rating philosophy in accordance with paragraph 66 of EBA/GL/2017/16. When selecting the method for risk quantification and calibration, the institution should consider the rating philosophy and how it dynamically affects migrations and the outcome of the PD parameter. The institution should assess the effect of the calibration method on the behaviour of the PD estimate over time in accordance with paragraph 93.

When calculating long-run default rates, an institution should meet the requirements on an appropriate mix of good and bad years per type of exposure in accordance with paragraph 83. FI expects institutions to ensure that the time series of one-year default rates applied to the calculation of long-run default rates also meets these requirements for each calibration segment. FI presents its view on an appropriate mix of good and bad years and the upper limit for the probable range of variability for one-year default rates in the memorandum "Finansinspektionens tillsyn över bankernas beräkningar av riskvikter för företagsexponeringar 2016-05-24" (FI Ref. 15-13020).

Regarding identification of good and bad years, FI expects the following:

1. A bad year is characterised by a significant increase in the default rate. The assessment of what constitutes a "significant increase in the default rate" includes both absolute and relative changes in the default rates.
2. A significant increase in the default rate as per point 1) is defined by at least one relevant economic indicator for the type of exposure or the

calibration segment. The institution is thus expected for this purpose to be able to demonstrate how it distinguishes between idiosyncratic and systematic risk.

3. Good years are defined as the observation years that are in the likely range of variability and are not identified as bad years according to points 1) and 2).

4. An institution should analyse and account for whether its internal data covers the likely range of variability in accordance with the expectation presented by FI in Memorandum FI Ref. 15-13020. If the internal data is not sufficient, the institution should include default rates in its time series for observation years outside of the institution's data set. These should be estimated using a method appropriate for the purpose.

The institution's methods for identification of bad years should be well-documented. The documentation should specify which economic indicators were tested and which analysis serves as a basis for the institution's final choice of economic indicators.

FI furthermore expects the institution's calibration method to result in the limitation of expected cyclical variations in the parameter outcome, which is described as the rating philosophy, with regard to PD estimates at the calibration segment level.

7. LGD estimates

The areas that are affected the most by the forthcoming requirements on LGD are

- LGD estimates for defaulted exposures and EL_{BE};
- Treatment of recoveries and the duration of the recovery process;
- Treatment of risk drivers;
- Multiple defaults;
- Treatment of collateral;
- Calculation of economic loss and realised LGD; and
- Estimation of LGD for economic downturn.

In addition to highlighting the requirements in the above-mentioned areas, FI would also like to develop and convey in this memorandum its practices for LGD estimates according to the CRR and the EBA's guidelines and regulatory technical standards.

General requirements

The EBA clarifies in EBA/GL/2017/16 that institutions which have received permission from a competent authority to use their own LGD estimates should base these estimates on internal loss and recovery data. Where an institution, when calculating LGD for household exposures or purchased corporate receivables in accordance with Article 161(2), bases its estimates on realised losses and appropriate PD estimates, the terms *loss* and *PD estimate* should agree with the provisions in the above-mentioned guidelines.

When estimating LGD according to paragraph 107 of EBA/GL/2017/16, institutions, in their calculation of realised LGD, should consider all defaults for the period of time covering the reference data set as defined in paragraph 8. When calculating the long-run average LGD, institutions should consider both closed defaults, where the relevant exposure was cured or where the recovery process was closed, as well as incomplete defaults with open recovery processes. When classifying recovery processes, institutions should determine a maximum recovery period for each type of exposure, after which a default and the associated recovery process is considered to be closed. This maximum recovery period should be decided and documented based on the institution's observed recovery patterns.

For past due exposures with open recovery processes, the institution should consider all realised costs. The institution should also estimate future costs and recoveries in accordance with paragraph 159 of EBA/GL/2017/16.

Paragraph 16 of EBA/CP/2018/8 establishes regarding the second sentence of Article 181(1)(b) of the CRR[7], that applied LGD per calibration segment should not be sensitive to migrations resulting from changes in business cycles. FI expects institutions to adjust their estimates at the calibration segment level to counteract and limit cyclical variations in LGD estimates. The aggregate number-weighted LGD effects that arise due to migrations between risk grades, given unchanged idiosyncratic risk, should thus be prevented through countercyclical adjustments of LGD estimates at the grade level. If an institution applies LGD models in which collateral values are included as risk drivers and these values fluctuate with the business cycle, the institution should regularly ensure that the fluctuations in the economic cycle do not affect the LGD estimates at the calibration segment level.

LGD in-default and EL$_{BE}$

When estimating LGD for defaulted exposures (LGD in-default), institutions should assess all information that can affect the exposure size, for example time in default, realised costs and realised recoveries. In the event such information is crucial for the final exposure size, this information should be considered when estimating LGD in-default. These requirements are regulated in Chapters 7.2 and 7.3 of EBA/GL/2017/16.

To apply EL$_{BE}$ in accordance with Article 181(1)(h) of the CRR, Chapter 7.3.2 of EBA/GL/2017/16 lays down that institutions should calculate EL$_{BE}$ as LGD in-default, excluding downturn adjustments and margins of conservatism.

Multiple defaults

For reclassification of defaulted exposures to non-default status, institutions should apply as a minimum a nine-month ex-post dependence period for defaults. An exposure that defaults within the established period should thus be considered defaulted during the entire amount of time that has passed since the earlier default event.

This ex post dependence period, together with the minimum three-month curing period that should be applied ex ante to defaulted exposures in accordance with paragraph 71 of EBA/GL/2016/07, entails that all default events for an exposure in a period of at least twelve months are treated as one default when developing the model for LGD.

Treatment of collateral

In accordance with paragraph 116 of EBA/GL/2017/16, when the repossession of collateral entails that the collateral is recorded as an asset on the institution's

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[7] "To the extent a rating system is expected to deliver realised LGDs at a constant level by grade or pool over time, institutions should make adjustments to their estimates of risk parameters by grade or pool to limit the capital impact of an economic downturn."

balance sheet at the same time as the obligation of the obligor is reduced, institutions should consider this as recovery originating from collateral. The repossessed value should thus be determined as the lower of the amounts at which the collateral was recorded as an asset on the balance sheet and by which the obligation of the obligor was reduced. In order to conservatively estimate the value of the asset when calculating economic loss, the institution should also apply a haircut to the repossessed value.

Economic loss

For exposures in default, institutions should calculate economic loss in the calculation of LGD as the sum of EAD, direct and indirect costs and credit utilised after default in accordance with paragraph 132(a) of EBA/GL/2017/16 less recoveries in accordance with paragraph 132(b). Recoveries, credit utilised after default and costs are discounted using EURIBOR + 5 per cent for exposures in EUR and STIBOR + 5 per cent for exposures in SEK in accordance with paragraph 143. Interest and fees capitalised after the exposure has defaulted, in accordance with paragraph 137, should not be considered a part of the exposure amount referred to in paragraph 132(a). All incoming cash flows, however, should be included as recoveries in accordance with paragraph 132(b).

For more conservative treatment of exposures that return to non-default status, it is determined that institutions should add an artificial cash flow to the economic loss instead of actual recoveries. The artificial cash flow should consist of outstanding amounts, including interest and fees in accordance with paragraph 132(a), and be discounted from the date the exposure returns to non-default status to the date of default.

Calculation of long-run LGD

EBA/GL/2017/16 clarifies that institutions should estimate long-run LGD as an arithmetic average of realised LGD values. Long-run LGD is calculated by grade and aggregated for all calibration segments.

Estimation of LGD appropriate for economic downturn

To promote consistent methods for institutions' LGD estimates that are appropriate for economic downturn, the EBA, in its consultation EBA/CP/2018/07, has defined *economic downturn* as a three-dimensional object consisting of

1. Nature (Article 2). The nature of the downturn is determined per type of exposure by the economic indicators specified in Article 2.
2. Severity (Article 3). The severity of the economic downturn is determined for every economic indicator as each indicator's worst (depending on the indicator, highest or lowest) value.

3. Duration (Article 4). The duration of the downturn is determined by the severity over a 12-month period, unless otherwise specified in Article 4.

FI expects, under the condition that the EBA's draft regulatory technical standard do not change significantly, that institutions, for exposures to Swedish obligors, should analyse the economic indicators in Article 2 for a period longer than the minimum of 20 years laid forth in Article 3(1)(c) of EBA/CP/2018/07. To ensure that the analysed times series includes sufficiently severe economic downturns, it is FI's assessment that the time series should include the economic crisis of the 1990s, meaning that the time series should be analysed from the 1990s or earlier and onward.

For each downturn identified under EBA/CP/2018/08, the institutions should introduce an impact analysis and compare downturn and long-run LGD estimates at just as granular a calibration level as the institution used for its long-run estimate. For the mentioned impact analysis downturn estimation, the EBA has specified three methods, the suitability of which is determined by the institution's access to internal loss data for the periods identified in accordance with EBA/CP/2018/07 and relevant external indicators:

– Type 1 methodologies: Impact analysis and downturn estimates based on internal loss data
– Type 2 methodologies: Impact analysis and downturn estimates based on
  a) Haircut methodologies: estimates from adjustment of the LGD model's risk drivers/model parameters. Assumes that at least one of the indicators specified in Article 2 for the type of exposure in question is included in the model as a risk driver in direct, indirect or transformed form.
  b) Extrapolation methodologies: estimates from extrapolation of confirmed correlation between an economic indicator and realised LGD values, risk drivers or other model parameters.
– Type 3 methodologies: Other methods to estimate downward-adjusted LGD when there is no relevant internal data and economic indicators.

To fulfil the requirement set out in Article 181(1)(b) of the CRR, the institution, pursuant to Article 21 of EBA/CP/2018/17, should compare its downward-adjusted estimates to its long-run average estimate and pursuant to Article 15 choose as the calibration target the downturn that results in the highest average LGD for the calibration segment in question.

8. Process for implementation

FI makes the assessment that Swedish institutions will need to change their rating system as a result of the amended rules, and significant changes require FI's approval. These adaptations, which should be completed by year-end 2020, are expected to require significant resources from both institutions and competent authorities.

FI would like to evaluate applications related to the above-mentioned changes and adaptations in parallel to ensure equal treatment and the possibility of coordinated implementation.

FI challenges institutions that apply the IRB approach to implement the changes in two stages:

1. The adaptation of the IRB approach to the regulation's taxonomy and the change in the definition of default
2. Changes to PD and LGD estimates and other changes.

Step 1

To ensure correct implementation of necessary changes as a result of the amendments to the rules, FI expects institutions to conduct a complete review of the taxonomy, definition of default and structure for margins of conservatism. This review should be conducted before beginning the work on estimating risk parameters to ensure that the specification of the rating system is in line with the CRR's requirement and EBA/GL/2017/16.

Institutions are expected to submit an application for a change in the definition of default before year-end 2018. FI intends to assess the applications during H1 2019. Approved definitions of default can be implemented directly and are not dependent on Stage 2.

Step 2

The institutions should rate changes to the PD and LGD estimates and other changes as significant or non-significant in accordance with Commission Delegated Regulation (EU) 529/2014. Significant changes should be approved by competent authorities.

To enable an overall assessment of the effect on the institutions' risk-weighted assets and capital requirements, FI would like the application of the above-mentioned changes to occur simultaneously on 1 January 2021 for all institutions.

FI will maintain an ongoing dialogue with affect institution about the process for the implementation of necessary changes.

Changes implemented before 2021

Institutions that would like to implement changes to rating systems or apply new methods or models within the framework of the IRB approach before 1 January 2021 should consider all guidelines and regulatory technical standards at the time the application is adopted by the EBA and the Commission. Institutions that due to deficiencies in existing methods or models are implementing changes to comply with the requirements of the CRR should thus ensure that the methods referred to in the application comply with all requirements laid down in the adopted Level 2 and Level 3 regulations.