EBA/RTS/2022/02

21 March 2022

Final Report

Draft Regulatory Technical Standards

on requirements that an internal methodology or external sources used under the internal default risk model are to fulfil for estimating default probabilities and losses given default under Article 325bp(12) of Regulation (EU) No 575/2013 (Capital Requirements Regulation)

Contents

1. Executive summary

Regulation (EU) No 575/2013, i.e. the Capital Requirements Regulation (CRR), has been amended by Regulation (EU) No 2020/876 (revised CRR), which introduces into EU legislation, inter alia, the revised Basel framework for minimum capital requirements for market risk.

Institutions using an alternative internal model approach (IMA) to compute own funds requirements for market risk and holding positions in traded debt and equity instruments in trading desks covered by the IMA permission are required to compute an additional default risk capital (DRC) requirement, i.e. an additional own funds requirement using an internal default risk model.

One of the requirements to be met under the internal default risk model entails institutions being capable of modelling the default of individual issuers, as well as the simultaneous default of multiple issuers, and computing the impact of these defaults on the market values of the positions that are included in the scope of this model.

In order to simulate the default of issuers under the internal default risk model, institutions need to estimate the probabilities of default (PDs) of these issuers in accordance with the requirements set out in paragraph 5 of Article 325bp of the CRR. In particular, institutions that have not been granted permission to estimate PDs in accordance with Section 1 of Chapter 3 of Title II of Part Three (permission to use the IRB approach) are required to develop an internal methodology or use external sources to estimate PDs for DRC purposes. In addition, as clarified in Q&A 2021_5856, institutions that have been granted permission to use the IRB approach but do not have an available IRB PD estimate for a particular issuer covered under the internal default risk model may also use an internal methodology or external sources to estimate the PD for that issuer for DRC purposes.

Similarly, in order to simulate the default of issuers under the internal default risk model, institutions need to estimate the relevant loss given default (LGD) in accordance with the requirements set out in paragraph 6 of Article 325bp of the CRR. In particular, institutions that have not been granted permission to estimate default probabilities in accordance with Section 1 of Chapter 3 of Title II of Part Three (permission to use the IRB approach) are required to develop an internal methodology or use external sources to estimate LGDs for DRC purposes. In addition, as clarified in Q&A 2021_5856, institutions that have been granted permission to use the IRB approach but do not have an available IRB LGD estimate for a particular position covered under the internal default risk model may also use an internal methodology or external sources to estimate the LGD for that position for DRC purposes.

These draft regulatory technical standards (RTS) specify the requirements that an institution's internal methodology or external sources are to fulfil for estimating default probabilities and losses given default in accordance with point (e) of Article 325bp(5) and point (d) of Article 325bp(6).

With respect to the requirements that an internal methodology needs to satisfy in order to estimate PDs and LGDs under the DRC, these draft RTS clarify that they should encompass all the

requirements applicable to the corresponding IRB approach (i.e. the requirements set out in Section 1 of Chapter 3 of Title II of Part Three of the CRR). In addition, the draft RTS also envisage the possibility for institutions to use 'fallback' PD and LGD values under such an internal methodology. In this sense, the draft RTS set out alternative requirements ensuring that conservative 'fallback' PDs and LGDs are obtained and specify the conditions under which these 'fallback' PDs and LGDs can be produced and used. Where different parts of an institution's internal methodology are used to produce PDs and LGDs for different issuers and positions, these parts should either meet the requirements applicable to the corresponding IRB approach or meet the alternative requirements for 'fallback' PDs and LGDs.

With respect to the external sources, institutions are required, on the basis of these sources, to produce estimates of PDs and LGDs that are appropriate having regard to the institution's portfolio and that are validated on a periodic basis. In addition, where more than one external source is used, a hierarchy of sources shall be established in order to ensure the overall consistency of their use. Furthermore, the RTS ensure that the methodology employed to derive the PDs and LGDs from the external sources is conceptually sound.

On 22 July 2020, the EBA published a consultation paper[1] (CP) on which these draft RTS are based. Two responses to the CP were received, both of which were non-confidential and were published on the EBA website. A summary of the non-confidential responses, along with the EBA analysis of these responses, is included at the end of this document. The EBA considered the feedback provided by these respondents in finalising these RTS.

The draft RTS represent a deliverable of the second phase of the EBA roadmap for the new market and counterparty credit risk approaches published on 27 June 2019[2]. They constitute a further contribution to a smooth and harmonised implementation of the Fundamental Review of the Trading Book (FRTB) international standards in the EU.

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[1]
https://www.eba.europa.eu/sites/default/documents/files/document_library/Publications/Consultations/2020/CP%20on%20draft%20RTS%20on%20PDs%20and%20LGDs%20for%20default%20risk%20model%20under%20the%20IMA/897254/CP%20draft%20RTS%20on%20PDs%20and%20LGDs%20for%20default%20risk%20model%20under%20the%20IMA.pdf

[2]   https://eba.europa.eu/sites/default/documents/files/documents/10180/2844544/ab272ad0-f256-4d70-9563-376e1d772feb/EBA%20roadmap%20for%20the%20new%20market%20and%20counterparty%20credit%20risk%20approaches.pdf

2. Background and rationale

In January 2019, the Basel Committee on Banking Supervision (BCBS) finalised and published standards on 'Minimum capital requirements for market risk'[3]. The text replaces the previous minimum capital requirements for market risk in the global regulatory framework, which are implemented in the EU via Regulation (EU) No 575/2013 (CRR).

Regulation (EU) No 2020/876 (revised CRR), amending the CRR, has implemented the new market risk framework provided by the BCBS standards into EU legislation as a reporting requirement in a first step.

A key requirement for institutions using an alternative internal model to compute own funds requirements for market risk consists of additionally computing own funds requirements using an internal default risk model for their positions in traded debt and equity instruments as set out in Article 325bl of the CRR.

In order to simulate the default of issuers under the internal default risk model, institutions need to estimate the relevant default probabilities (PDs) and losses given default (LGDs) in accordance with the requirements set out in paragraphs 5 and 6 of Article 325bp, respectively. In particular, institutions that have been granted permission to use the IRB approach in accordance with Section 1 of Chapter 3 of Title II of Part Three are required to use their available IRB PD and LGD estimates in the internal default risk model, while institutions that have not been granted such permission or do not have available IRB estimates are required to develop an internal methodology or use external sources to calculate these estimates. In this context, Q&A 2021_5856[4] clarifies that points 5(d) and 6(c) of Article 325bp should be read as follows:

a) where an institution has an available IRB PD estimate for the issuer of a trading book position under the internal default risk model, the institution shall also use this PD estimate in the context of the DRC. Similarly, where the LGD estimate of a position is available under the IRB approach, the institution shall also use this LGD estimate in the DRC context;

b) where the PD or LGD estimates of this issuer and position are not available under the IRB approach, the institution can either:

    (i). use the IRB approach to produce these estimates (provided that the institution complies with the requirements set out in Section 1 of Chapter 3 of Title II of the CRR for that issuer and position);

    (ii). use one of the approaches set out in Article 325bp(5)(e) and Article 325bp(6)(d) of the CRR, i.e. its internal methodology or external sources.

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[3] Minimum capital requirements for market risk, January 2019 (rev. February 2019)
[4] https://www.eba.europa.eu/single-rule-book-qa/qna/view/publicId/2021_5856

2.1 Requirements for an institution's internal methodology under the DRC

2.1.1 IRB requirements

Article 325bp of the CRR introduces a precise hierarchy for sources of PD and LGD estimates to be used under the DRC. In particular, Article 325bp of the CRR requires institutions to use, ahead of all other sources, PDs or LGDs estimated under the IRB approach, where such estimates are available.

In drafting these RTS, the EBA acknowledged the priority assigned by the CRR to the IRB methodology over any other methodology that could be developed to derive own PD and LGD estimates. As a result, it follows that any internal methodology used under the DRC would have to be equivalent to the requirements prescribed in the IRB approach, as also indicated in paragraphs MAR33.37 and MAR33.38 of the Basel text. Therefore, the draft RTS specify that the requirements for an internal methodology under the DRC should encompass all the requirements of the IRB approach, i.e. those set out in Section 1 of Chapter 3 of Title 2 of Part Three of the CRR.

The respondents to the CP highlighted that the use of the IRB requirements in the context of DRC may lead to model design inconsistencies and may be impractical in some cases. In relation to the latter point, the respondents mentioned that a) the daily turnover in trading may result in adding new issuers to the IRB rating process on a continuous basis, which may be operationally burdensome, and b) some data inputs required in the IRB approach are not necessarily available for trading book issuers that do not have a credit relationship with the bank – to address this, the respondents suggested introducing the possibility to develop a 'fallback' approach into the RTS under the institution's internal methodology, which allows PDs and LGDs to be estimated where neither an IRB-based internal methodology nor external sources are available.

On the one hand, the EBA acknowledges the feedback received on the issues regarding the use of the IRB requirements in the context of the DRC. On the other hand, the EBA recognises that setting out requirements for the internal methodology that are aligned with the IRB requirements enables a level playing field to be maintained between institutions that have developed an IRB approach and institutions that have not. On the basis of these considerations, the EBA has decided to maintain the requirements for an internal methodology under the DRC as the requirements for the IRB approach, as proposed in the CP. However, in order to address the concerns expressed, the EBA believes that institutions should be allowed to produce 'fallback' PDs and LGDs where neither an IRB-based internal methodology nor external sources are available. Hence an additional set of requirements on 'fallback' PDs and LGDs is included in these draft RTS.

An institution's internal methodology may consist of different parts, addressed to cover different issuers and positions. One or more parts of the institution's internal methodology may be dedicated to covering these issuers and positions to which 'fallback' PDs and LGDs should be assigned. Hence the additional set of requirements on 'fallback' PDs and LGDs is targeted towards the parts of the internal methodology covering the issuers and positions to which 'fallback' PDs and LGDs are assigned. As a consequence, the institution's internal methodology, or its different parts, should either meet the IRB requirements or the alternative set of requirements on 'fallback' PDs and LGDs.

2.1.2 Requirements for 'fallback' PDs and LGDs produced under the institution's internal methodology

As mentioned above, the respondents to the CP highlighted that, where neither external sources nor an IRB-like internal methodology are available for producing PD and LGD estimates, a 'fallback' approach such as the one currently used in the internal incremental default and migration risk (IRC) model and mentioned in the market risk chapter of the 'ECB guide to internal models'[5] should be used.

The EBA, considering the feedback received, recognises that for some issuers and positions neither IRB nor external estimates would be available for estimating PDs and LGDs. Therefore, the EBA believes that institutions should be allowed to produce 'fallback' PD and LGD estimates for these issuers and positions.

In particular, these draft RTS precisely identify the cases where 'fallback' PD and LGD estimates may be produced under the institution's internal methodology for specific issuers or positions, setting out the following conditions:

    a)   no external sources are available for estimating a PD for a specific issuer or an LGD for a specific position;

    b)   the use of an internal methodology that meets the IRB requirements is not feasible due to a lack of input data for that issuer or position, or is disproportionate in relation to the materiality or the holding period (on the basis of the trading strategy adopted);

    c)   the use of 'fallback' PD and LGD estimates is not excessive in relation to the overall scope of the internal default risk model.

In relation to point c), the draft RTS clarify how institutions should assess whether the use of 'fallback' PD and LGD estimates is or is not excessive. Institutions are firstly required to compute the following ratio 'm' (separately for PDs and LGDs)

$$m = \frac{DRC(full\ scope) - DRC(other\ methodologies\ and\ external\ sources)}{DRC(full\ scope)}$$

where:

DRC(full scope) = the own funds requirements for default risk calculated on the full scope of trading book positions under the internal default risk model; and

DRC(other methodologies and external sources) = the own funds requirements for default risk calculated exclusively in relation to the trading book positions for which PDs (or LGDs, respectively) are not estimated by means of the 'fallback' approach.

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[5]

https://www.bankingsupervision.europa.eu/ecb/pub/pdf/ssm.guidetointernalmodels_consolidated_201910~97fd49fb08.en.pdf

Secondly, institutions should assess whether the resulting value 'm' is above or below 10%. If the value 'm' is below or equal to 10%, then the use of 'fallback' PD (or LGD, respectively) estimates is not considered excessive. If the value 'm' is above 10%, the draft RTS require institutions to conduct specific additional steps to ensure that the use of 'fallback' PD (or LGD, respectively) estimates is not excessive. In particular, they should investigate whether additional data sources are available and use them in order to restore 'm' to a value which is below or equal to 10%. In addition, and in relation to 'fallback' PDs only, they should conduct a sensitivity analysis and scenario analysis to assess the qualitative and quantitative reasonableness of the 'fallback' approach. For the purpose of conducting the sensitivity analysis, they should assess the sensitivity of the own funds requirements calculated in accordance with Article 325bn(1) of the CRR in relation to all trading book positions referred to in Article 325bl by assigning to the issuers currently covered under the 'fallback' approach one rating grade higher than, and one rating grade lower than, the one used for meeting the requirements on 'fallback' PDs mentioned below.

In order to take into account changes in the scope of the internal default risk model or in the availability of external or internal sources to estimate PDs and LGDs, the conditions a) to c) mentioned above should be reassessed on a quarterly basis.

Requirements for 'fallback' PDs

The EBA view is that the 'fallback' PD and LGD estimates should be appropriately conservative given that they are supposed to be used only where reliable PD and LGD estimates cannot be obtained due to the lack of adequate data (i.e. where no external sources or data inputs for IRB modelling are available). Hence the EBA considers it appropriate to set minimum floors for PD and LGD estimates, ensuring a minimum level of conservatism while allowing institutions to still provide a meaningful differentiation of risk above these levels.

With regard to the choice of floor levels, the feedback received from respondents to the CP suggested considering the provisions laid down in the 'ECB guide to internal models'. Given that these provisions aim to ensure an appropriately conservative treatment, the EBA has considered these provisions suitable to be included in these draft RTS. Furthermore, aligning these draft RTS with the guidance already affecting institutions that are directly supervised by the ECB should help several institutions in the transition from the current framework to the FRTB.

Therefore, the draft RTS require 'fallback' PD estimates to be assigned to a certain issuer to be equal to or higher than the higher of the following:

i) the highest PD assigned to investment grade issuers of positions under the scope of the institution's internal default risk model and for which PDs are not estimated by means of the 'fallback' approach;

ii) the equally weighted average of PDs assigned to issuers of positions under the scope of the institution's internal default risk model for which PDs are not estimated by means of the 'fallback' approach.

For the purpose of point ii), institutions may exclude defaulted issuers when calculating the equally weighted average of PDs, provided that they can ensure that the PDs estimated by means of the 'fallback' approach are not applied to defaulted issuers.

As mentioned above, the EBA has considered setting minimum floors for 'fallback' PDs to ensure that such estimates are appropriately conservative. However, the EBA feels that such minimum floors ensure a conservative estimate only where the 'fallback' PDs are applied to issuers for which own funds requirements increase as values of PDs rise.

As a result, in order to ensure that the 'fallback' PDs obtained are appropriately conservative for all the issuers and positions under the scope of the internal default risk model, these draft RTS specify that 'fallback' PDs applied to issuers for which own funds requirements decrease with increasing values of PDs should be equal to or lower than the equally weighted average of PDs assigned to issuers of positions under the scope of the institution's internal default risk model for which PDs are not estimated by means of the 'fallback' approach – i.e. the limit mentioned under point ii) above should be understood as a cap rather than a floor.

Requirements for 'fallback' LGDs

The draft RTS require 'fallback' LGD estimates assigned to a certain position to be equal to or higher than the following:

 i) 75% for subordinated debt positions;

 ii) 45% for senior unsecured debt positions;

 iii) 11.25% for covered bonds positions;

 iv) 25% for any other positions.

The above floor levels are broadly aligned with the LGD values set out in Article 161 of the CRR and used in the F-IRB approach.

In order to ensure that the 'fallback' LGDs obtained are appropriately conservative for all the issuers and positions under the scope of the internal default risk model, these draft RTS specify that for 'fallback' LGDs applied to positions for which own funds requirements decrease with increasing values of LGDs, the limits mentioned above should be understood as caps rather than floors.

2.2 Requirements for external sources under the DRC

The CRR envisages the use of external sources to estimate the PDs and LGDs to be used under the DRC. In a number of cases, PD and LGD estimates stemming from external sources are the only ones readily available at short notice to institutions. These RTS specify the requirements that external sources are to fulfil for their use in the internal default risk model, reflecting similar qualitative requirements as those applicable to an internal methodology.

External sources should provide estimates of PDs and LGDs that are validated on a periodic basis for their use in the internal default risk model in order to ensure that they are appropriate with respect to the institution's portfolio.

In the event that multiple external sources are used by an institution for the purpose of the DRC, the institution should provide a hierarchy of such sources to ensure the overall consistency of PD and LGD estimates used in the internal default risk model.

In addition, and in relation to PDs only, the methodology used to obtain PD estimates from external sources should be conceptually sound and should meet the following minimum requirements (before the application of the 0.03% floor set out in Article 325bp(5)(a) of the CRR):

a) the methodology, based on the obligor grade scale used (which can also be a continuous one), should provide PD estimates corresponding to the applicable time horizon referred to in Article 325bp(5)(b) of the CRR and:

   i) that are considered accurate for all obligor grades on the basis of an analysis of their expected range of estimation errors;

   ii) that are consistent across obligor grades;

   iii) which ensure a meaningful differentiation of risk and strictly increase as the creditworthiness of an obligor decreases;

   iv) which are not set to zero for an obligor grade exclusively on the basis that no defaults have been observed in the past for that obligor grade;

b) where the methodology does not derive PD estimates in combination with current market prices, the institution should analyse any differences it observes between these estimates and PD estimates that are derived in combination with current market prices.

2.3 Documentation requirements

In accordance with Article 325bp(11) of the CRR, institutions shall document their internal default risk model to ensure transparency vis-à-vis competent authorities in respect of their correlation assumptions and other modelling assumptions used.

These draft RTS set out further details on how the general documentation requirement should be applied in the particular case of the institution's internal methodology and external sources being used for estimating PDs and LGDs for DRC purposes. This will provide assistance to competent authorities when assessing compliance with the requirements set out in the draft RTS.

With respect to the institution's internal methodology, these draft RTS set out documentation requirements only in relation to the 'fallback' approach used under the internal methodology. This is because the relevant IRB requirements already encompass the documentation that should be produced by institutions. The EBA therefore believes that no further specification in these draft RTS should be necessary.

In relation to the 'fallback' approach used under the internal methodology for producing PD and LGD estimates, institutions should specify the following in their documentation:

a) that no external sources are available for estimating PDs and LGDs for issuers and positions to which 'fallback' PDs and LGDs are assigned;

b) that the use of an internal methodology that meets the IRB requirements would not be feasible due to a lack of input data, or it would be disproportionate in relation to the materiality or the holding period in line with the trading strategy adopted for the issuers and positions to which 'fallback' PDs and LGDs are assigned;

c) the values of the 'm' ratio mentioned above, calculated quarterly.

With respect to external sources, institutions are required to keep up to date an inventory of the external data sources used for estimating PDs and LGDs. This inventory should include the following:

a) a description of the methodologies used to obtain PDs and LGDs from external sources;

b) in relation to PDs only, documentation and the underlying rationale for differences that have already been observed by institutions between the terms, information or assumptions in the methodology used to estimate PDs from external sources and the terms, information or assumptions in the methodology used to estimate PDs in accounting for expected credit losses;

c) the results of the validation performed on PDs and LGDs estimated from external sources;

d) the hierarchy of the sources used.

In addition, as part of the description of the methodologies used (point a) above), institutions should highlight any differences between PDs and LGDs estimated from external sources and PDs and LGDs used for internal risk management purposes if these differences do not arise simply because of the application of the specific requirements set out in Article 325bp(5) and (6) of the CRR.

3. Draft regulatory technical standards on requirements that an internal methodology or external sources used under the internal default risk model are to fulfil for estimating default probabilities and losses given default under Article 325bp(12) of Regulation (EU) No 575/2013 (Capital Requirements Regulation)

EUROPEAN
COMMISSION

Brussels, XXX
[…](2022) XXX draft

COMMISSION DELEGATED REGULATION (EU) …/...

of XXX

supplementing Regulation (EU) No 575/2013 of the European Parliament and of the Council with regard to regulatory technical standards on requirements that an internal methodology or external sources used under the internal default risk model are to fulfil for estimating default probabilities and losses given default under Article 325bp(12) of Regulation (EU) No 575/2013

(Text with EEA relevance)

THE EUROPEAN COMMISSION,

Having regard to the Treaty on the Functioning of the European Union,

Having regard to Regulation (EU) No 575/2013 of 26 June 2013 of the European Parliament and of the Council on prudential requirements for credit institutions and investment firms and amending Regulation (EU) No 648/2012[6], and in particular the third subparagraph of Article 325bp(12) thereof,

Whereas:

(1)   The requirement to use the IRB methodology, where permitted, to derive default probabilities and losses given default, provided by Article 325bp(5)(d) and (6)(c) of Regulation (EU) No 575/2013, respectively, should limit the discrepancy in the level of own funds requirements for default risk for a position depending on whether it is assigned to the trading book or the non-trading book, and hence the potential regulatory arbitrage that could be thus created. To further ensure a level playing field across institutions in the Union, this Regulation should specify the requirements that an institution's internal methodology or external sources are to fulfil for estimating default probabilities and losses given default under the internal default risk model.

(2)   While Articles 325bp(5)(e) and (6)(d) of Regulation (EU) No 575/2013 allow institutions to use an internal methodology or external sources to derive default probabilities and losses given default, cases can be envisaged where institutions can neither rely on the use of external sources of data nor meet all the requirements set out in Section 1 of Chapter 3 of Title 2 of Regulation (EU) No 575/2013 due to the lack of input data . This is true in relation to the estimation of both default probabilities and losses given default. In such cases, where resorting to the use of an internal methodology is inevitable, it is necessary, in relation to such cases only, that this Regulation also sets out specific requirements in respect of the estimation of default probabilities and losses given default that the institution's internal methodologies, or parts of them, should meet. These requirements should be specified with a view to ensuring prudent outcomes, while, at the same time, meeting the specific needs in terms of timeliness and flexibility which such cases require. In order to ensure that the internal methodology subject to these specific requirements is used only where necessary, this Regulation should clarify the conditions under which the internal methodology subject to these specific requirements may be used. The purpose of these conditions is to assess that no other sources are available for estimating default probabilities and losses given default and that the amount of issuers and positions covered by the internal methodology subject to specific requirements is not excessive. These assessments should be performed frequently enough to take into account potential changes that may occur, also considering the frequency with which the own funds requirements for market risk are reported.

(3)   Institutions should be allowed to develop internal methodologies for the estimation of default probabilities and losses given default which consist of different parts to cover different issuers and positions. Where different parts of an institution's internal methodology are developed to cover different issuers and positions, these parts should either meet the requirements set out in Section 1 of Chapter 3 of Title 2 of Regulation (EU) No 575/2013, or the specific requirements as mentioned above.

(4)   In order to ensure that the risk of default of individual issuers is sufficiently capitalised, the estimates of default probabilities and losses given default based on an internal methodology, or a part of it, fulfilling the specific requirements mentioned above, should be sufficiently

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conservative, having regard to other methodologies and sources used by the institution. To this end, as part of the specific requirements this Regulation should clarify the conditions under which the estimates are sufficiently conservative, including by means of setting out limits to the values that the estimates of default probabilities and losses given default may assume. Such requirements should be defined in line with the requirements that Regulation (EU) No 575/2013 sets out in relation to the estimation of default probabilities and losses given default.

(5) Where institutions use external sources to estimate default probabilities and losses given default, the estimates produced should be periodically reviewed as part of the validation of the internal default risk model in order to ensure that these estimates remain appropriate for the institution's portfolio. Where more than one external source is used, a hierarchy of sources should be established in order to ensure the overall consistency of their use in the internal default risk model. In addition, where institutions use external sources to estimate default probabilities, given that a number of steps and procedures may be undertaken before producing the actual estimates of default probabilities, this Regulation should set out requirements in order to ensure that the methodology used to produce default probability estimates from external sources is conceptually sound. In particular, a methodology used to produce default probability estimates from external sources should be considered conceptually sound where accurate and consistent estimates are produced and these estimates are not biased in any fashion.

(6) Article 325bp(11) of Regulation (EU) No 575/2013 requires documentation by institutions of their correlation assumptions and other modelling assumptions used in their internal default risk models. In order to assist competent authorities in ensuring compliance with this Regulation, it is necessary to set out further details of how this general documentation requirement should be applied in the particular case of the internal methodology and external sources used by institutions for estimating default probabilities and losses given default in accordance with Article 325bp(5)(e) and 325bp(6)(d) of that Regulation.

(7) This Regulation is based on the draft regulatory technical standards submitted to the Commission by the European Banking Authority.

(8) The European Banking Authority has conducted open public consultations on the draft regulatory technical standards on which this Regulation is based, analysed the potential related costs and benefits, and requested the advice of the Banking Stakeholder Group established in accordance with Article 37 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council[7],

HAS ADOPTED THIS REGULATION:

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[7] Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC (OJ L 331, 15.12.2020, p. 12)

SECTION 1

REQUIREMENTS THAT AN INSTITUTION'S INTERNAL METHODOLOGY OR EXTERNAL SOURCES ARE TO FULFIL FOR ESTIMATING DEFAULT PROBABILITIES

Article 1

Requirements that an institution's internal methodology is to fulfil for estimating default probabilities

1. An internal methodology used by an institution for estimating default probabilities for the purposes of Article 325bp(5), point (e) of Regulation (EU) No 575/2013 shall fulfil the requirements set out in paragraph 3 or, where the conditions in paragraph 4 are met, shall fulfil the requirements set out in paragraphs 5 and 6, as applicable.

2. Where different parts of the institution's internal methodology are used to estimate default probabilities for different issuers, these parts shall either fulfil the requirements in paragraph 3 or, where the conditions in paragraph 4 are met, shall fulfil the requirements in paragraphs 5 and 6, as applicable.

3. An institution's internal methodology, or a part of it, shall fulfil all the requirements of the approach set out in Section 1 of Chapter 3 of Title II of Regulation (EU) No 575/2013 to estimate default probabilities for the purposes of Article 325bp(5), point (e) of that Regulation.

4. By way of derogation from paragraph 3, the requirements that an institution's internal methodology, or a part of it, is to fulfil for estimating default probabilities for the purposes of Article 325bp(5), point (e) of Regulation (EU) No 575/2013 shall be those set out in paragraphs 5 and 6, as applicable, where all of the following conditions are met on a quarterly basis for a given issuer:

  (a) no external sources fulfilling the requirements referred to in Article 2 are available for estimating default probabilities for that issuer;

  (b) at least one of the following conditions is met:

   (i) the use of an internal methodology, or a part of it, fulfilling the requirements of paragraph 3 is not feasible due to a lack of input data for that issuer;

   (ii) the use of an internal methodology, or a part of it, fulfilling the requirements of paragraph 3 is disproportionate in relation to the materiality or the holding period of the relevant positions for that issuer, based on the trading strategy adopted for such positions;

  (c) and, either of the following conditions is met:

   (i) the value of 'm' calculated in accordance with the formula set out in paragraph 7 is lower than or equal to 10%;

(ii) the value of 'm' calculated in accordance with the formula set out in paragraph 7 is higher than 10%, and the institution carries out both of the following:

a. the institution investigates whether additional data sources are available and uses them in order to reduce the value of 'm' calculated in accordance with the formula set out in paragraph 7 to a value which is lower than or equal to 10%;

b. the institution conducts sensitivity analysis and scenario analysis to assess the qualitative and quantitative reasonableness of the internal methodology, or a part of it. For the purpose of conducting the sensitivity analysis, the institution shall assess the sensitivity of the own funds requirements calculated in accordance with Article 325bn(1) of Regulation (EU) No 575/2013 in relation to all trading book positions referred to in Article 325bl of that Regulation by assigning to the issuers currently covered by the internal methodology, or a part of it, fulfilling the requirements of paragraphs 5 and 6, as applicable, one rating grade higher than and one rating grade lower than the one used to fulfil the requirements referred to in paragraphs 5 and 6.

5. Where the conditions of paragraph 4 are met, an institution's internal methodology, or a part of it, shall assign to an issuer an estimate of default probability which is equal to or higher than the maximum of the following values:

(a) the highest default probability assigned to investment grade issuers of positions under the scope of the institution's internal default risk model and for which default probabilities are not estimated by means of the internal methodology, or a part of it, fulfilling the requirements of this paragraph or of paragraph 6;

(b) the equally weighted average of default probabilities assigned to issuers of positions under the scope of the institution's internal default risk model and for which default probabilities are not estimated by means of the internal methodology, or a part of it, fulfilling the requirements of this paragraph or of paragraph 6. Institutions may exclude defaulted issuers when calculating the equally weighted average of default probabilities where they can ensure that the default probability estimated by means of the internal methodology, or a part of it, fulfilling the requirements of this paragraph or of paragraph 5, is not applied to defaulted issuers.

6. By way of derogation from paragraph 5, where the conditions of paragraph 4 are met and the own funds requirements for default risk decrease as values of default probability assigned to a given issuer increase, an institution's internal methodology, or a part of it, shall assign to that issuer an estimate of default probability which is equal to or lower than the value calculated in accordance with paragraph 5, point (b).

7. For the purposes of paragraph 4, point (c), institutions shall calculate the value of 'm' as follows:

$$m = \frac{\text{DRC(full scope)} - \text{DRC(other methodologies and external sources)}}{\text{DRC(full scope)}},$$

where:

DRC(full scope) = the own funds requirements calculated in accordance with Article 325bn(1) of Regulation (EU) No 575/2013 on the full scope of trading book positions referred to in Article 325bl of that Regulation;

DRC(other methodologies and external sources) = the own funds requirements calculated in accordance with Article 325bn(1) of that Regulation relating exclusively to the trading book positions referred to in Article 325bl of that Regulation for which default probabilities are not estimated by means of the internal methodology, or a part of it, fulfilling the requirements of paragraphs 5 or 6, as applicable.

Article 2

Requirements that an institution's external sources are to fulfil for estimating default probabilities

1. The requirements that an institution's external sources are to fulfil for estimating default probabilities for the purposes of Article 325bp(5), point (e) of Regulation (EU) No 575/2013 shall be all of the following:

   (a) the estimates of default probabilities are validated on a periodic basis for their use in the internal default risk model in accordance with Article 325bp(7) and 325bj(2) of Regulation (EU) No 575/2013 to ensure that they remain appropriate for the institution's portfolio;

   (b) the estimates of default probabilities are obtained from external sources by employing a methodology that is conceptually sound and that fulfils the minimum requirements set out in paragraph 2;

   (c) where more than one external source is used, a hierarchy of sources is established in order to ensure the overall consistency of default probability estimates used in the internal default risk model.

2. The methodology shall fulfil the minimum requirements referred to in paragraph 1, point (b), where all of the following conditions are met before the application of the floor referred to in Article 325bp(5), point (a) of Regulation (EU) No 575/2013:

(a) the methodology, based on the obligor grade scale used, where that scale could also be continuous, shall provide estimates of default probabilities corresponding to the applicable time horizon referred to in Article 325bp(5), point (b) of Regulation (EU) No 575/2013 that meet all the following conditions:

    (i)   they are considered accurate for all obligor grades having analysed their expected range of estimation errors;

    (ii) they are consistent across obligor grades;

    (iii) they provide a meaningful differentiation of risk and strictly increase as the creditworthiness of the obligor decreases;

    (iv) their values are not set to zero for an obligor grade solely on the basis that no defaults have been observed in the past for that obligor grade.

(b) where the methodology's estimates of default probabilities are not derived in combination with current market prices, institutions analyse any differences they observe between these estimates and estimates that are derived in combination with current market prices, as referred to in Article 325bp(5), point (c) of Regulation (EU) No 575/2013.

SECTION 2

REQUIREMENTS THAT AN INSTITUTION'S INTERNAL METHODOLOGY OR EXTERNAL SOURCES ARE TO FULFIL FOR ESTIMATING LOSSES GIVEN DEFAULT

Article 3

Requirements that an institution's internal methodology is to fulfil for estimating losses given default

1. An internal methodology used by an institution for estimating losses given default for the purposes of Article 325bp(6) point (d) of Regulation (EU) No 575/2013 shall fulfil the requirements set out in paragraph 3 or, where the conditions in paragraph 4 are met, shall fulfil the requirements set out in paragraphs 5 and 6, as applicable.

2. Where different parts of the institution's internal methodology are used to estimate losses given default for different types of exposures, these parts shall either fulfil the requirements in paragraph 3 or, where the conditions in paragraph 4 are met, shall fulfil the requirements in paragraphs 5 and 6, as applicable.

3. An institution's internal methodology, or a part of it, shall fulfil all the requirements of the approach set out in Section 1 of Chapter 3 of Title II of Regulation (EU) No 575/2013 to estimate losses given default for the purposes of Article 325bp(6), point (d) of that Regulation.

4. By way of derogation from paragraph 3, the requirements that an institution's internal methodology, or a part of it, is to fulfil for estimating losses given default for the purposes of Article 325bp(6), point (d) of Regulation (EU) No 575/2013 shall be those set out in paragraphs 5 and 6, as applicable, where all of the following conditions are met on a quarterly basis in relation to a given position:

    (a) no external sources fulfilling the requirements referred to in Article 4 are available for estimating losses given default for that position;

    (b) at least one of the following conditions is met:

        (i) the use of an internal methodology, or a part of it, fulfilling the requirements of paragraph 3 is not feasible due to a lack of input data for that position;

        (ii) the use of an internal methodology, or a part of it, fulfilling the requirements of paragraph 3 is disproportionate in relation to the materiality or the holding period of that position, based on the trading strategy adopted for that position.

    (c) and either of the following conditions is met:

        (i) the value of 'm' calculated in accordance with the formula set out in paragraph 7 is lower than or equal to 10%;

        (ii) the value of 'm' calculated in accordance with the formula set out in paragraph 7 is higher than 10%, and the institution investigates whether additional data sources are available and uses them in order to reduce the value of 'm' calculated in accordance with the formula set out in paragraph 7 to a value which is lower than or equal to 10%.

5. Where the conditions of paragraph 4 are met, an institution's internal methodology, or a part of it, shall assign to a position an estimate of loss given default which is equal to or higher than the following:

    (a) 75% for subordinated debt positions;

    (b) 45% for senior unsecured debt positions;

    (c) 11.25% for covered bond positions;

    (d) 25% for any other positions.

6. By way of derogation from paragraph 5, where the conditions of paragraph 4 are met and the own funds requirements for default risk decrease as the values of loss given default assigned to

a given position increase, an institution's internal methodology, or a part of it, shall assign to that position an estimate of loss given default which is equal to or lower than the values set out in points (a) to (d) of paragraph 5, as applicable.

7. For the purposes of paragraph 4, point (c), institutions shall calculate the value of 'm' in accordance with the formula set out in Article 2(7), where the term DRC(other methodologies and external sources) is replaced by the following:

DRC(other methodologies and external sources) = the own funds requirements calculated in accordance with Article 325bn(1) of that Regulation relating exclusively to the trading book positions referred to in Article 325bl of that Regulation for which losses given default are not estimated by means of the internal methodology, or a part of it, fulfilling the requirements of paragraphs 5 or 6, as applicable.

Article 4

Requirements that an institution's external sources are to fulfil for estimating losses given default

The requirements that an institution's external sources are to fulfil for estimating losses given default for the purposes of Article 325bp(6), point (d) of Regulation (EU) No 575/2013 shall be all of the following:

(a) the estimates of losses given default are validated on a periodic basis for their use in the internal default risk model in accordance with Article 325bp(7) and 325bj(2) of Regulation (EU) No 575/2013 to ensure that they remain appropriate for the institution's portfolio;

(b) where more than one external source is used, a hierarchy of sources is established in order to ensure the overall consistency of loss given default estimates used in the internal default risk model.

SECTION 3

DOCUMENTATION REQUIREMENTS THAT AN INSTITUTION'S INTERNAL METHODOLOGY OR EXTERNAL SOURCES ARE TO FULFIL FOR ESTIMATING DEFAULT PROBABILITIES AND LOSSES GIVEN DEFAULT

Article 5

Documentation requirements

1. Where an institution's internal methodology, or a part of it, meets the conditions of Article 1(4) or Article 3(4), institutions shall document all of the following in relation to all the issuers and positions covered under these Articles:

(a) that no external sources fulfilling the requirements referred to in Article 2 or Article 4, as relevant, are available for estimating default probabilities for these issuers and losses given default for these positions, respectively;

(b) that the use of an internal methodology fulfilling the requirements of Article 1(3) for estimating default probabilities for these issuers, or Article 3(3) for estimating losses given default for these positions, respectively, would not be feasible due to a lack of input data, or that it would be disproportionate in relation to the materiality or the holding period in line with the trading strategy adopted for these issuers or positions;

(c) the values of 'm', calculated in accordance with Article 1(7) and Article 3(7).

2. Institutions shall keep up to date an inventory of the external data sources used for the purposes of Articles 2 and 4, which shall include all of the following:

(a) a description of the methodologies used to obtain default probabilities from external sources in accordance with Article 2(1), points (a) and (b). Where the estimates of default probabilities differ from those used in the institution's internal risk management methodologies and these differences are not due to the specific requirements set out in Article 325bp(5) of Regulation (EU) No 575/2013, these differences shall be part of the description of the methodologies;

(b) documentation and underlying rationale where an institution has identified different terms, information or assumptions in accounting for expected credit losses and the default probabilities from external sources for exposures under the internal default risk model for the purpose of ensuring sound credit risk management, as approved by senior management;

(c) a description of the methodologies used to obtain losses given default from external sources in accordance with Article 4, point (a). Where the estimates of losses given default differ from those used in the institution's internal risk management methodologies and these differences are not due to the specific requirements set out in Article 325bp(6) of Regulation (EU) No 575/2013, these differences shall be part of the description of the methodologies;

(d) the results of the validation performed in accordance with Article 2(1), point (a), and Article 4, point (a);

(e) the hierarchy of the sources used in accordance with Article 2(1), point (c), and Article 4, point (b).

Article 6

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Brussels,

For the Commission
The President

[For the Commission
On behalf of the President]

4. Accompanying documents

4.1 Draft cost-benefit analysis/impact assessment

Article 325bp of the CRR requires the EBA to develop draft RTS specifying the requirements that an institution's internal methodology or external sources are to fulfil for estimating default probabilities and losses given default.

Article 10(1) of Regulation (EU) No 1093/2010 (EBA Regulation) specifies that any RTS developed by the EBA should be accompanied by an analysis of 'the potential related costs and benefits'. This analysis should provide an overview of the findings regarding the problem to be dealt with, the solutions proposed and the potential impact of these options.

This section presents the cost-benefit analysis of the main policy options included in the draft RTS. Given the nature and scope of the draft RTS, the analysis is high-level and qualitative in nature.

A. Problem identification and baseline scenario

The revised CRR introduces the alternative IMA for market risk as part of the transposition into EU legislation of the Basel standards on 'minimum capital requirements for market risk'. The capital requirements under the alternative IMA comprise three components: a) the capital requirements for modellable risk factors (expected shortfall measure); b) the capital requirements for non-modellable risk factors (stress scenario risk measure); and c) the DRC requirement.

The DRC requirement aims to capture the default risk for positions in traded debt and equity instruments included in IMA trading desks. Institutions are required to compute this capital requirement using an internal default risk model. To simulate the default of issuers in the internal default risk model, estimates of the PDs and LGDs of the issuers and issuances of these trading positions are needed.

These estimates shall comply with the requirements set out in paragraphs 5 and 6 of Article 325bp of the CRR. On the one hand, institutions that have been granted permission to use the IRB approach are required to use the methodology set out therein to calculate PD and LGD estimates, where those IRB estimates are available. On the other hand, institutions with no IRB permission are required to develop an internal methodology or use external sources to estimate PDs and LGDs.

The EBA is mandated to develop draft RTS specifying the requirements that an institution's internal methodology or external sources are to fulfil for estimating PDs and LGDs for DRC purposes.

The lack of common requirements could result in the inconsistent application of the internal default risk model across institutions, undermining the calibration of the DRC requirements. Given that

institutions may use different types of methodologies and/or external sources, it is important to set minimum requirements to ensure that the PD and LGD estimates used in the internal default risk model are appropriate for the intended use.

B. Policy objectives

The specific objective of the draft RTS is to establish common requirements for the internal methodology or external sources that institutions need to fulfil for estimating PDs and LGDs for the internal default risk model. These requirements aim to ensure that the PD and LGD estimates are appropriate and consistent across institutions.

Generally, the draft RTS aim to create a level playing field, promote the convergence of institutions' practices and enhance the comparability of own funds requirements across the EU.

C. Options considered, cost-benefit analysis and preferred options

This section presents the main policy options discussed during the development of the draft RTS, the costs and benefits of these options, as well as the preferred options retained in the draft RTS.

Requirements for an institution's internal methodology

Paragraphs 5(e) and 6(d) of Article 325bp of the CRR envisage the possibility for an institution to develop an internal methodology to estimate PDs and LGDs for DRC purposes. Under paragraph 12 of Article 325bp, the EBA is mandated to develop draft RTS to specify the requirements that such an internal methodology is to fulfil. Three different options are considered for the specification of those requirements:

Option 1a: set out particular requirements for the institution's internal methodology;

Option 1b: align the requirements of the institution's internal methodology with the CRR requirements for the IRB approach;

Option 1c: set out two sets of requirements, one aligned with the CRR requirements for the IRB approach and one encompassing the possibility for institutions to produce 'fallback' PD and LGD estimates.

Option 1b acknowledges the key role and great importance attributed in the CRR to the IRB approach for the derivation of own estimates of PDs or LGD. In addition, it is in line with the Basel standards, which require institutions to compute PDs and LGD using a methodology consistent with the IRB methodology, where IRB estimates are not available. However, meeting all these requirements may be operationally burdensome and in some cases disproportionate in the context of DRC. Option 1a may alleviate some of the operational concerns but could lead to the inconsistent treatment of default risk between the trading book and banking book positions.

In light of such considerations, option 1b has been put forward for consultation.

The respondents to the consultation expressed concerns about aligning the requirements of the internal methodology with the IRB approach. In particular, they feel that the use of the IRB requirements in the context of DRC requirements may lead to model design inconsistencies and may be impractical in some cases (e.g. some data inputs required in the IRB approach are not necessarily available for trading book issuers that do not have a credit relationship with the bank). Moreover, they note that the daily turnover in trading may result in adding new issuers to the IRB rating process on a continuous basis, which could be operationally burdensome. Finally, the respondents suggest introducing a 'fallback' internal methodology that enables PDs and LGDs to be estimated where neither an IRB-based internal methodology nor external sources are available.

Taking into account the feedback received, but also noting the key role assigned to the IRB requirements by the CRR for estimating PDs and LGDs, the EBA has decided to consider Option 1c in the final draft RTS. This option, while on the one hand maintaining the alignment with IRB requirements as the default approach, on the other hand also allows the industry's concerns to be addressed, introducing into the draft RTS the possibility for institutions to produce 'fallback' PDs and LGDs in specific cases, i.e. in cases where no external sources are available for estimating PDs and LGDs and the use of the internal methodology, or a part of it, fulfilling the IRB requirements is not feasible due to a lack of input data or is disproportionate in relation to the materiality or the holding period of the relevant position.

Option 1c has been retained.

'Fallback' internal methodology

As mentioned above, institutions should be allowed to produce 'fallback' PD and LGD estimates under their internal methodology where no external sources are available or use of the internal methodology, or a part of it, based on the IRB requirements is not feasible due to a lack of input data or is disproportionate in relation to the materiality or the holding period of the relevant position.

a. Setting floors for PD and LGD estimates

The EBA has considered the following options for setting out the requirements on estimating 'fallback' PDs and LGDs:

Option 2a: set minimum floors for PD and LGD estimates;

Option 2b: do not set minimum floors for PD and LGD estimates.

The EBA view is that the 'fallback' PD and LGD estimates should be appropriately conservative given that they may be used only where reliable PD and LGD estimates cannot be obtained due to the lack of adequate data (i.e. where no external sources or data inputs for IRB modelling are available).

Option 2a proposes setting minimum floors for PD and LGD estimates. In this way, a minimum level of conservatism is ensured, while institutions can still provide a meaningful differentiation of risk

above these levels. On the other hand, Option 2b, which does not consider any floors, has the drawback that institutions may obtain overly optimistic PD and LGD estimates for issuers and positions about which they have little information. Moreover, it may undermine the creation of a level playing field.

Option 2a has been retained.

b.   Floor levels for PD and LGD estimates

As discussed under Option 2, the EBA has considered it appropriate to set minimum floors for PD and LGD estimates under the 'fallback' internal methodology.

For PDs, the estimates assigned to an issuer should be equal to or higher than the higher of the following:

  (i).   the highest default probability assigned to investment grade issuers of positions under the scope of the institution's internal default risk model and for which default probabilities are not estimated by means of the 'fallback' approach;

  (ii).   the equally weighted average of default probabilities assigned to issuers of positions under the scope of the institution's internal default risk model and for which default probabilities are not estimated by means of the 'fallback' approach. Institutions may exclude defaulted issuers when calculating the equally weighted average of default probabilities, where they can ensure that the default probabilities estimated by means of the 'fallback' approach are not applied to defaulted issuers;

The choice of the above floor levels takes into consideration current practices employed for IRC requirements. In particular, in accordance with the 'ECB guide to internal models' (more specifically, in accordance with the section dedicated to the methodology for IRC models), similar requirements need to be fulfilled for PD 'fallback' values. Therefore, the EBA expects such requirements to be aligned, to a large extent, with current industry practices.

The floor under point (i) ensures that the PD values do not fall below the highest PD applied to investment grade issuers. In this way, given the lack of data for applying the IRB methodology and thus properly assigning a rating to the issuer, the requirements take a conservative stance and do not allow the issuer to be assigned a lower PD than that of other investment grade issuers.

The floor under point (ii) ensures that the 'fallback' PD values do not fall below the (average) PD level calculated for issuers of positions under the scope of the institution's internal default risk model and for which default probabilities are not estimated by means of the 'fallback' approach. In this way, the requirements use, as a 'proxy', the average PD of the remaining issuers, where either the IRB methodology, the internal methodology or the external ratings were used, to serve as a floor.

For LGDs, the estimates assigned to a position shall be equal to or higher than the following:

(i). 75% for subordinated debt positions;

(ii). 45% for senior unsecured debt positions;

(iii). 11.25% for covered bond positions;

(iv). 25% for positions relating to any other product.

The above floor levels are aligned with the LGD values used in the F-IRB approach under Article 161 of the CRR. In this way, the requirements ensure a level playing field between the 'fallback' internal methodology, where there are no proper data to estimate LGDs, and other methodologies covered under the CRR, like the F-IRB, where the aforementioned LGD values are fixed.

c. Treatment of issuers and positions for which own funds requirements decrease as values of PDs and LGDs increase

As discussed under Option 2, the EBA has considered it appropriate to set minimum floors for PD and LGD estimates under the 'fallback' approach. However, the EBA has considered whether these limits ensure a conservative treatment of all positions included under the scope of the internal default risk model and for which PDs and LGDs are estimated by means of the 'fallback' approach. In particular, consideration has been given to how the treatment applies to issuers and positions for which own funds requirements decrease as values of PDs and LGDs increase. The EBA has considered the following two options:

Option 3a: apply the same requirements to all issuers and positions under the scope of the internal default risk model and to which 'fallback' PDs and LGDs are applied;

Option 3b: apply a differentiated treatment to issuers and positions for which own funds requirements decrease as values of PDs and LGDs increase and to which 'fallback' PDs and LGDs are applied.

As mentioned above, the EBA view is that the 'fallback' PD and LGD estimates should be appropriately conservative in all cases. Setting floors for 'fallback' PD and LGD values applied to issuers and positions for which own funds requirements decrease as values of PDs and LGDs increase is not considered sufficiently conservative, hence a differentiated treatment should be envisaged. In particular, the EBA believes that for 'fallback' PD and LGD values applied to issuers and positions for which own funds requirements decrease as values of PDs and LGDs increase, the limits mentioned above (point (ii) for PDs and points (i) to (iv) for LGDs) should be understood as caps rather than floors. In this way, a minimum level of conservatism is also ensured for these issuers and positions.

Option 3b has been retained.

Requirements on the methodology used to obtain PDs from external sources

The EBA acknowledges the high importance of external sources in estimating PDs for market risk purposes (also highlighted in the feedback received in the consultation). However, the EBA notes that in many cases the data provided by external sources need to be processed through a methodology in order to obtain PD values to be used in the internal default risk model. Hence the EBA has considered whether further specification of the requirements on the methodology used to produce PD values from external sources is needed.

Option 4a: do not specify further the requirements on the methodology used to obtain PD values from external sources;

Option 4b: further specify the requirements on the methodology used to obtain PD values from external sources.

The EBA believes that the methodology used for estimating PDs from external sources should be conceptually sound and should fulfil certain minimum requirements in terms of the estimates' accuracy, consistency and meaningfulness. The EBA understands that this is also in line with the broad CRR requirements, which envisage conceptual soundness and reasonable accuracy as elements of the internal risk measurement model used for the purposes of market risk. Hence the EBA has decided to further develop the requirements set out for estimating PDs from external sources in line with the direction of travel set out in the CRR.

Option 4b has been retained.

4.2   Feedback on the public consultation

The EBA publicly consulted on the draft proposal contained in this paper.

The consultation period lasted for three months and ended on 22 October 2020. Two responses were received, which were both published on the EBA website.

This paper presents a summary of the key points and other comments arising from the consultation, the analysis and discussion triggered by these comments and the actions taken to address them if deemed necessary.

Where similar comments were made by different respondents or the same entity repeated its comments in response to different questions, those comments and the corresponding EBA analysis are included in the section of this paper where EBA considers them most appropriate.

Changes to the draft RTS have been incorporated as a result of the responses received during the public consultation.

Summary of key issues and the EBA's response

In the feedback table that follows, the EBA has summarised the comments received and explains which responses have – and have not – led to changes and the reasons for this.

As part of the general comments, respondents expressed various concerns about using the IRB approach for market risk purposes given that such an approach is built and designed for banking book activities. As a consequence of this, respondents touched on several points in relation to the main challenges and most time-consuming steps involved in using the IRB approach for assigning PDs and LGDs to a trading book of issuers and instruments where no IRB PDs and LGDs are available (e.g. the time needed to rate an issuer under the IRB approach is longer than one week for 70% of the participants to a survey conducted by one of the respondents and might be longer than a month for 30% of the participants).

In relation to a possible approach to be considered until PDs and LGDs are calculated under the IRB approach, respondents remarked that, in many cases, the use of external sources could be the best alternative. However, where external sources are not available, respondents suggested that a 'fallback' approach such as the one mentioned in the market risk chapter of the 'ECB guide to internal models' should be used.

For the current IRC charge, according to the feedback provided by one respondent, 54% of the institutions use external sources for estimating PDs, 26% IRB data and 20% either a 'fallback' approach or other methodologies. For LGD, the respondents highlighted in their feedback some differences between IRB LGD estimates, used in the banking book, and LGD estimates used in the trading book for IRC. In particular, IRB LGDs take into account the fact that defaulted assets in the banking book are typically kept until the liquidation process has terminated, while IRC LGD are

reflective of the fact that in the trading book institutions generally prefer to sell the defaulted instruments.

Considering the feedback received, the EBA has decided to amend the approach proposed in the CP. In particular, the EBA recognises that, in some cases, neither IRB nor external estimates would be available. Therefore, the EBA view is that institutions should be allowed to produce 'fallback' PD and LGD estimates under those specific circumstances, and it amended the final draft RTS, setting out requirements for producing such 'fallback' estimates under the institutions' internal methodologies.

In addition, the EBA has decided to further develop the requirements set out for estimating PDs from external sources. In particular, the methodology used for estimating PDs from external sources should be conceptually sound and should fulfil certain minimum requirements in terms of the estimates' accuracy, consistency and meaningfulness.

Finally, the EBA has noted the operational burden and time needed to generate PD and LGD estimates under the IRB approach for new issuers, which could pose challenges in the context of trading book dynamics. However, the EBA acknowledges that Q&A 2021_5856 provides additional guidance on the scope of application of Article 325bp(5)(d) and 325bp(6)(c) of the CRR, clarifying that institutions are required to use IRB PD and LGD estimates only where they are already available. Hence the EBA believes that no further clarification needs to be provided via these RTS.

Summary of responses to the consultation and the EBA's analysis

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
General comments			
	The respondents express various concerns about using the IRB approach for market risk purposes given that the approach is built and designed for banking book activities. Such use could lead to model design inconsistencies in some cases and could be impractical in a number of others (e.g. the IRB approach requires data inputs that are not necessarily available for all trading book issuers within the scope of the DRC).	The EBA takes note of the concerns expressed by the respondents.	
	For the purpose of the current IRC charge, PDs for trading book issuers are derived from both external and internal sources. As highlighted by the respondents, institutions' current practice is to heavily rely on external data for assigning PDs to their current population of IRC issuers. Therefore, respondents request the EBA to allow the use of external sources without constraint of time for IMA DRC purposes, i.e. if an external rating exists and can be shown to be relevant for the institution's portfolio, there should be no condition that prescribes that its use be solely temporary.	In particular, the EBA acknowledges that public external sources and market data might provide more timely estimates for PDs and LGDs than the IRB approach, recognising that their use in the DRC model could be beneficial. In addition, the EBA recognises that, in some cases, neither IRB nor external estimates would be available. Therefore, the EBA considers that institutions should be allowed to produce 'fallback' PD and LGD estimates under these specific circumstances, and that the draft RTS should set out requirements for producing these 'fallback' estimates under an institution's internal methodology.	Amendments to Article 1(1) and 2(1) of the CP draft RTS (Article 1 and 3 of the final draft RTS) in order to include requirements on 'fallback' PD and LGD estimation.
	The respondent also underlines that a level playing field issue could be created with other jurisdictions if institutions are not allowed to use external ratings and LGDs without a time constraint.		

Comments	Summary of responses received	EBA analysis	Amendments to the proposals

Finally, the respondents urge the EBA to envisage a 'fallback' internal methodology to be allowed for issuers and positions where neither external nor internal sources are available.

Responses to questions in Consultation Paper EBA/CP/2020/12

Question 1. What would you consider to be the main challenges and most time consuming steps involved in using the IRB approach to be able to assign a PD and a LGD to a trading book issuer and the corresponding financial instrument, where such issuer is covered by the existing IRB permission, but no PD or LGD is immediately available under the IRB approach (i.e. they need to be assigned based on the existing IRB approach)? Based on this assessment, please indicate how much time you expect is needed for an IRB approach to assign a PD and a LGD to a specific trading book issuer.	One respondent notes that the IRB approach has been built and designed for banking book activities i.e. in the context of holding the assets to maturity. The use of IRB outputs in a trading book context in the DRC model could thus lead to inconsistencies with the IRB model design. The respondent expresses concerns about the volume of new issuers and positions to be covered and the related operational costs. In particular, the respondent notes that the turnover in trading could mean adding new issuers to the IRB rating process on a daily basis, which is considered difficult in the banking book credit quality assessment processes, potentially requiring more qualified staff. The respondent provides some figures of a survey, with the following key results: • the time needed to rate an issuer under IRB is longer than one week for 70% of the participants to the survey, and for 30% of the participants it may be longer than a month in some cases;	The EBA notes that, according to the feedback received, the operational burden and time needed to generate the estimates under the IRB approach for new issuers could pose challenges in the context of trading book dynamics. However, the EBA notes that, in accordance with Article 325bp(5)(d) and 325bp(6)(c) of the CRR and Q&A 2021_5856, institutions are required to use IRB PD and LGD estimates only where they are already available, i.e. only where the institution has a non-trading book position for which it uses the IRB approach at the time of calculation to estimate the corresponding PD and LGD. In addition, the EBA acknowledges that external sources would be an appropriate source in the event that the IRB approach were not applicable.	Removal of recitals (1) and (2) of the CP draft RTS, considering that clarification on the scope of application of Article 325bp(5)(d) and 325bp(6)(c) of the CRR is already provided via Q&A 2021_5856.

Comments	Summary of responses received	EBA analysis	Amendments to the proposals
	• for most of the DRC models, equity issuers will make up the majority of issuers to be covered; • for about half of the DRC models there would be more than 10,000 eligible issuers; • for most of the DRC models, the current coverage of equity issuers with IRB estimates is less than 25%. The respondent states that the scarcity of data is a challenge in using the IRB approach, as publicly available information on companies is often limited to the local regulatory minimum and thus insufficient for its use in IRB models. Without an existing credit relationship, it would be difficult to rate a trading book issuer using the IRB approach. In these cases, external ratings by credit rating agencies would be more appropriate and their use should not be restricted in time. One respondent notes that PD and LGD estimates from external sources would in many cases be the only estimates available for issuers under the DRC model, and institutions should be allowed to temporarily use such external sources, including those with an IRB permission covering relevant exposure classes and rating systems. In addition, the respondent mentions some potential operational challenges:		

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	• it is burdensome to obtain PD estimates using the IRB approach for all issuers in the DRC model; • it might be challenging in terms of processes to switch between IRB and external sources for PDs or LGDs depending on the availability, in particular when IRB values are not available anymore. The respondent also highlights that market data are usually timelier than IRB approach PDs or LGDs, and, as a consequence, the DRC model would use either more timely external data or more obsolete IRB approach PDs or LGDs.		
Question 2. What possible approach – other than the use of external sources as proposed in these RTS – could be considered until a PD and a LGD are calculated under the IRB approach for such issuer and financial instrument?	One respondent notes that, for some trading book issuers, institutions may neither be able to employ the IRB approach, as it requires inputs which are not necessarily available for all trading book issuers within the scope of the DRC model, nor have the external rating or PD data. The respondent provides the results of a survey and states that, for most of the DRC models, fewer than 50% of the equity issuers would be covered by external rating or PD data. The respondent notes that the CP does not address the case where neither an IRB rating nor external data are available, expressing the concern that no PD could be assigned in such a case. The respondent suggests that these draft RTS should envisage the	The EBA understands that there is a need to ensure that the final draft RTS cover all cases. In particular, an approach should also be envisaged for those issuers and instruments where neither a methodology in line with the IRB requirements is applicable, nor external data are readily available. Therefore, as mentioned above, the EBA believes that institutions should be allowed to produce 'fallback' PD and LGD estimates under specific circumstances, and that the final draft RTS should set out requirements for producing these 'fallback' estimates under the institutions' internal methodologies. As suggested by respondents, the EBA takes note that the requirements on 'fallback' PDs specified in the	Amendments to Article 1(1) and 2(1) of the CP draft RTS (Article 1 and 3 of the final draft RTS) in order to include requirements on 'fallback' PD and LGD estimation.

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	possibility of using a 'fallback' approach such as the one mentioned in the market risk chapter of the 'ECB guide to internal models'. One respondent states that the use of external sources could be the best alternative where IRB PD or LGD estimates are not available, remarking that public sources are usually timely and suitable for market risk measurement purposes.	'ECB guide to internal models' can be considered suitable for covering such cases.	
Question 3. Could you please describe how PDs are determined for the purpose of the current IRC charge (Article 372 and following of the CRR)? Please specify, whether PDs are derived from internal sources and/or derived from external sources and what the predominant source (internal or external) currently is?	One respondent states that only external sources are used for the determination of PDs for IRC charges (in particular Moody's 1-year transition matrix annually published and split into sovereign and corporate/financial). One respondent provides the results of a survey and states that 54% of the surveyed banks use external sources and 26% IRB data, with 20% using either a 'fallback' approach or other methodologies. Furthermore, the respondent highlights that the scope of IRC excludes most equities, thus 90% of surveyed banks reports that they do not integrate equity positions into the IRC charge.	The EBA takes note of the current practices of institutions, which use mainly external sources of data. Recognising the importance of external sources in PD estimation, the EBA has decided to further develop the corresponding requirements to ensure that the methodology used for estimating PDs from external sources is conceptually sound and fulfils certain minimum requirements in terms of the estimates' accuracy, consistency and meaningfulness. The EBA also acknowledges that the different scope of application of the DRC compared to the IRC may pose challenges to institutions.	Amendments to Article 1(2) of the CP draft RTS (Article 2 of the final draft RTS) in order to specify requirements on the methodology used to estimate PDs from external sources.
Question 4. What are your views with respect to alternative internal methodologies (i.e. IRB equivalent, but different from the approach proposed here) that could be developed to derive PDs under these RTS?	One respondent states that the use of external sources to estimate PD values should be the preferred solution. Nevertheless, the respondent acknowledges that this solution may not always be feasible. One respondent believes that the use of external ratings, subject to conditions, should be allowed on a permanent basis also for issuer/issuances within the IRB perimeter when no	The EBA acknowledges that external sources are an appropriate source for estimating PDs in the event that the IRB approach is not applicable. In addition, as mentioned above, the EBA view is that institutions should be allowed to produce 'fallback' PD estimates under specific circumstances, and that the final draft RTS should set out requirements for	Amendments to Article 1(1) of the CP draft RTS (Article 1 of the final draft RTS) in order to include requirements on 'fallback' PD estimation, and

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Are there any particular aspects and issues regarding trading book dynamics that you would like to highlight?	internal rating is available. Furthermore, they suggest envisaging a 'fallback' approach such as the one envisaged in the 'ECB guide to internal models'.	producing those 'fallback' estimates under the institutions' internal methodologies. The EBA also notes that, pursuant to Article 325bp(5)(d) and 325bp(6)(c) of the CRR and Q&A 2021_5856, institutions are required to use IRB PD estimates only where they are already available. Finally, as mentioned above, the EBA has decided to further develop the requirements set out for estimating PDs from external sources.	amendments to Article 1(2) of the CP draft RTS (Article 2 of the final draft RTS) in order to specify requirements on the methodology used to estimate PDs from external sources.
Question 5. Could you please describe how LGDs are determined for the purpose of the current IRC charge (Article 372 and following of the CRR)? Please specify, whether LGDs are derived from internal sources and/or derived from external sources and what the predominant source (internal or external) currently is?	One respondent points out the following main difference between trading and banking book LGDs: • trading book: defaulted positions in the trading book are unwound; • banking book: defaulted positions are kept until the recovery process is concluded (thus, LGD=1-recovery rate). The respondent comments that the JTD of positions subject to the IRC is calculated as the P&L impact of the positions following an issuer's instantaneous default at a given level of LGD. For this, preferably, LGD values are derived from the market. These market LGDs are generally derived from front office quotations for credit securities and derivatives, and therefore from internal sources. For IRC, however, a dedicated LGD calibration might be used for some positions by applying either	The EBA recognises that a significant number of institutions apply internal LGD estimates. In addition, either static values or external data are used for estimating LGD values.	No amendments are needed.

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	external or internal data depending on the type of position.		
	The respondent provides some figures from a survey:		
	• 50% of participants to the survey derive LGD directly from front office quotes;		
	• 20% of participants use external data;		
	• 20% of participants use a dedicated IRC LGD.		
	One respondent states that, for the current IRC charge, static LGD values are used. These depend on the seniority of issues and are set as follows:		
	• 80% for subordinated;		
	• 60% for senior.		
	Thus, as per PDs, the respondent only applies external sources.		
Question 6. What are your views with respect to alternative internal methodologies (i.e. IRB equivalent, but different from the approach proposed here) that could be developed to derive LGDs under these RTS? Are there any particular aspects and issues regarding trading	One respondent summarises some of the properties of LGD estimates in the trading and banking books as follows: Banking book/IRB: • defaulted assets are kept until the liquidation process has terminated; • thus, losses are estimated as the discounted recovered amount at the end	The EBA takes note of the properties of LGD estimates in the trading and banking books. In particular, the EBA notes that, in accordance with Article 325bn(1)(b) of the CRR, the potential loss referred to in Article 325bn(1)(a) means a direct or indirect loss in the market value of a position which was caused by the default of the issuers and which is incremental to any losses already taken into account in the current valuation of the position. Further, the EBA	Amendments to Article 2(1) of the CP draft RTS (Article 3 of the final draft RTS) in order to include requirements on 'fallback' LGD estimation.

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book dynamics that you would like to highlight?	of the liquidation process. This is referred to as LGD estimates on ultimate losses. Trading book: • in general, institutions prefer to sell the defaulted issues; • thus, losses are better estimated as the losses resulting from the sale of the defaulted issues shortly after default Hence, the respondent states that it should be clarified that the 'potential losses in the market value of the portfolio' (Art. 325bn(1)(a) of the CRR) equate to the change in value of the portfolio following the default of one or more issuers over the period of time necessary to sell the affected positions in the market. In addition, the respondent mentions that external providers often publicise both an ultimate LGD and a 30-day LGD (losses incurred 30 days after default), with the latter generally preferable when available. The ultimate LGD should be used in the following cases: • if the ability to sell the positions shortly after default is doubtful; • if a bank decides to keep defaulted positions until the end of the liquidation process;	understands that, pursuant to Art. 325bn(1)(b), an LGD equal to 100% is prescribed for equity positions. The EBA acknowledges that external sources would be an appropriate source for estimating LGDs in the event that the IRB approach is not applicable. In addition, as mentioned above, the EBA view is that institutions should be allowed to produce 'fallback' LGD estimates under specific circumstances and that the final draft RTS should set out requirements for producing those 'fallback' estimates under the institutions' internal methodologies. Finally, the EBA notes that, in accordance with Article 325bp(5)(d) and 325bp(6)(c) of the CRR and Q&A 2021_5856, institutions are required to use IRB LGD estimates only where they are already available.	

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	• if the ultimate LGD is the only internal LGD data available. One respondent refers to the corresponding answer on PD: as a premise for the use of alternative internal methodologies, the use of external sources should be deemed preferable.		
Question 7. Do you have any additional comments on the general approach?	One respondent observes that not being able to use external ratings and LGDs without a time constraint and failing to have a 'fallback' methodology would make DRC IMA unworkable and may create a significant level playing field issue with regard to other jurisdictions. One respondent states that the 3 basis points floor for PDs on sovereign issuers might be removed since it is overly conservative; it will make market-making activities on sovereign debt uneconomic and is not risk-sensitive (AAA rated positions would be theoretically similar to BBB rated ones). According to the institution, the floor should not be higher than 1 bp. In addition, the respondent cites the absence of a level playing field between IMA and SA, stating that SA are more incentivising than IMA, especially for portfolios concentrated on high-rated and short-term positions due to the adjustments considered in SA (scaling by a fraction of a year and the rescaling factor for positions of the highest credit quality), but not in IMA.	The EBA acknowledges the operational complexity of having time constraints to obtain PDs and LGDs from external sources where IRB estimates are not available. However, as mentioned above, the EBA notes that, in accordance with Article 325bp(5)(d) and 325bp(6)(c) of the CRR and Q&A 2021_5856, institutions are required to use IRB PD and LGD estimates only where they are already available. The EBA also appreciates that the definition of an alternative ('fallback') approach under an institution's internal methodology would be relevant for estimating PDs and LGDs where no data are available from either IRB or external sources. Regarding the 3 basis points floor for PDs, established in Art. 325bp(5)(a) of the CRR, and the differences between the DRC under SA and IMA, the EBA considers both issues out of the scope of these RTS.	Amendments to Article 1(1) and 2(1) of the CP draft RTS (Article 1 and 3 of the final draft RTS) in order to include requirements on 'fallback' PD and LGD estimation.