



The European Banking Authority 20 Avenue André Prothin 92400 Courbevoie France

Subject: Public consultation: 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 default¹

The International Swaps and Derivatives Association ('ISDA') and the Association for Financial Markets in Europe ('AFME'), the 'Joint Associations' and their members ('the Industry') welcome the opportunity to comment on the EBA's Consultative Document on the technical standards on the requirements of the internal default risk model to estimate default probabilities and losses given default.

The Industry appreciates the EBA's efforts in developing regulatory standards on the sources used to develop default probabilities and losses given default and the EBA's commitment to providing channels of communication with the industry that has benefited the development of a robust market risk technical standards. The industry is confident that the present consultation and the constructive feedback we provide in this comment letter will also help the EBA's decision-making process.

With regards to this consultation, the industry has concerns about using the Internal rating-based approach (IRBA), which has been built and designed for Banking Book activities. Utilising the approach for market risk could lead to model design inconsistencies. For example, the IRBA requires data inputs that are not necessarily available for all trading book issuers in the scope of the Default Risk Charge (DRC) under Internal Models Approach (IMA).

For the purpose of the current IRC charge, PDs for trading book issuers are derived from both external and internal sources. As the industry is heavily relying on external data for their current population of IRC issuers in order to assign a PD, we urge the EBA to allow the use of external sources without constraint of time for IMA DRC. This means that, if an external rating exists and can be shown to be relevant for the bank's portfolio, there should be no condition that prescribes that its use be solely temporary.

A significant level playing field issue could be created with other jurisdictions if banks are not allowed to use external ratings and LGDs without a time constraint (and failing this to utilize a fallback methodology), as the DRC IMA would be much more burdensome to maintain for European banks, especially if other jurisdictions do not apply similar time constraints.

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





Finally, any recommendations expressed in this response are supported by the results of an industry survey, which can be found in the annex. However, we have provided where appropriate the content of the survey in the body of this response.

We thank you in advance for your consideration and please do not hesitate to contact the undersigned associations with questions or if you would like to discuss our recommendations further. We remain committed to assisting policymakers in achieving the objectives of this important RTS.

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Individual questions in the consultation

Q1. 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.

Response:

Internal rating-based approach (IRBA) has been built and designed for Banking Book activities in the context of holding the assets to maturity. Using such models in a trading book market risk context could lead to model design inconsistencies with the way the model is used and with the underlying trading intent.

The extension of the use of these models to the issuers in Trading Book will introduce unprecedented challenges and make the DRC IMA unworkable. Such an approach does not seem completely justified as Trading Book activities (Equity or Credit) do not intent to deal with long-term credit risk similarly to 'hold to maturity' banking book activity:

- ➢ Volume issue:
 - 1. By essence, the rotation of Trading Book issuers held in the books is much more frequent than in Banking Book. Adding new issuers to internal rating process on a day-to-day basis would not be manageable within the banking book credit quality assessment processes and by credit experts assigned to assess credit quality of long-term lending.

When it is possible to assign an IRB PD, industry conducted a survey to assess the operational burden if a bank would have to rate a single DRC IMA issuer under IRB. Based on the results of the survey, 70% of the respondents stated that it would take more than 1 week to assign an IRB PD to a DRC IMA issuer not currently rated under IRB in the banking book and 30% of the respondents stated that it may take even more than one month in some cases. The industry is concerned that there would be a lack of skilled staff to endure such volume of issuer PDs.

- 2. The survey conducted by the industry underlines the volume issue expected as compared to the current IRC metric:
 - only 10% of participants currently integrate the equity sub-portfolio within the IRC;
 - the DRC IMA is focused on Equity sub-portfolio, 80% of participants underlined that more than 60% of their DRC IMA trading book issuers are equities;
 - more than 50% of participants have more than 10 000 issuers eligible to the DRC IMA, which is by far higher than both the current IRC scope.

Therefore, we conclude that the challenge to integrate equity sub-portfolios within DRC IMA is significant for the industry. As-of-date more than 80% of survey participants under IRB have less than 25% of their current equity sub-portfolio covered by IRB ratings or PD.





Therefore, the mandatory integration of the equity sub-portfolio within the DRC IMA is a significant challenge in terms of number of issuers compared to the current IRC, the volume of issuers implied is not commensurate when using IRB models and would cause a heavy operational burden in the maintenance of DRC IMA.

- Lack of data:
 - 3. 50% of industry survey participants highlighted the impracticality of rating each trading book issuer due to lack of data. Indeed, IRB models mainly rely on data coming from the commercial relationship between the bank and the considered entity. Publicly available information on companies is often limited to the local regulatory minimum and thus insufficient for use in IRB models. Therefore, without existing credit relationship and banking book exposure, it will be difficult to rate a Trading Book issuer based on IRB methodologies.

At least in such cases, rating agencies appear to be more legitimate route as they do have a relationship with the companies they are mandated to rate. Thus, if an external rating exists and can be shown to be relevant for the bank's portfolio, it should be available to be used in DRC IMA without constraint of time. In addition, banks usually use external sources for their trading activities when there is no IRB rating available (please see question 3 regarding IRC for more details).

4. The case where the bank is not able to provide an internal rating due to lack of data or no external data source is available is not addressed in this draft RTS (please see question 2 for more details). At least in these cases, banks should be allowed to rely on a fallback approach as the one proposed by the ECB in its guide for the targeted review of internal models (TRIM).

Recommendation

The industry proposal is to allow the use of external sources without constraint of time (i.e. no condition that makes its use solely temporary) and to propose a fallback approach for issuers without external nor internal rating data to provide an accurate rating.

Q2. 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?

Response:

As detailed above in our answer to question 1, for some trading book issuers, institutions cannot assign internal PD. Internal rating-based approaches require inputs to rate or assign PD for a given issuer which are not necessarily available for all trading book issuers in the scope of DRC IMA.

The same issue appears when dealing with external data. The industry underlines that it does not always encompass the whole scope of DRC IMA issuers. To illustrate this, more than 70% of industry survey participants, have less than 50% of their trading book equity sub-portfolio covered by external ratings or PD.

The current draft RTS does not propose a fallback approach to fill this gap. The industry is concerned that a significant part of its trading book issuers within the scope of DRC IMA would not be mapped to a PD with the current draft RTS and proposes to enrich the methodology with a fallback approach when no internal nor external rating or PD can be assigned to an issuer in DRC IMA.





In addition, the ECB has addressed this issue in the guide for the targeted review of internal models by assigning a fall-back PD to the issuers captured in IRC. This type of approach would allow to mitigate this issue.

Recommendation

A fall-back approach for issuers without external nor internal ratings should be allowed.

Q3. 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?

Response:

For the purpose of the current IRC charge, PDs for trading book issuers are derived with a combination of external sources, internal sources and a fall-back approach. Most of the industry has similar approach when deriving PD for the purpose of IRC charge. Indeed, 90% of industry survey participants assign a rating to the IRC issuer before using a mapping table between ratings and PD.

Institutions have policies and processes in place that hierarchized these sources allowing a full coverage of the IRC issuers scope.

As detailed in the below chart, the industry survey shows that more than 50% of the participants use external data for their current population of IRC issuers in order to assign a PD, underlining a clear preference of using external data compared to IRB data.



Indeed, when possible, the majority of the industry assigns an external rating for each trading book issuer in scope of the model. The PD for that position is derived based on the rating and the long-term average default rates published by major rating agencies.





Nonetheless, the IRC will be replaced by the DRC IMA. One of the main structural modifications will be the mandatory inclusion of the equity scope of issuers eligible in the metric. Most of banks IRC metrics include only credit positions while DRC IMA encompasses both credit and equity positions: 90% of industry survey participants confirm they do not integrate equity positions within current IRC.

Therefore, the scope of this metric in terms of number of issuers might be significantly smaller than the DRC IMA for banks not including equity positions in IRC and with a significant Equity business.

Moreover, issuers of credit positions are more subject to PD and rating estimations due to the essence of credit securities and derivatives markets than issuers operating only in Equities.

Q4. 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? Are there any particular aspects and issues regarding trading book dynamics that you would like to highlight?

Response:

As explained in our response to questions Q1 and Q2, we feel necessary that:

- On the IRB perimeter, the use of external rating is authorised (conditions apply) if no internal rating is available, on a permanent basis
- On both the IRB perimeter and the non-IRB perimeter, a fall-back approach may be used much like the one depicted in TRIM Market risk chapter, section 6.5.4

When using external sources, the mapping of external ratings to probabilities of default shall be documented and shall meet some requirements. We assume that, to that effect, added guidance will be provided by the RTS mandated in CRR2 Article 325az(8)(b), which unfortunately is expected only by mid-2024.

Q5. 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?

Response:

The Jump-to-default (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. In a trading book context, using the LGD derived from the market is often seen as a natural way to assess the P&L impact of an issuer defaulting. Indeed, when this type of event occurs in the trading book, the bank generally unwinds the defaulted positions rather than holds them until the end of the recovery process (as would often be the case in the banking book leading to the IRBA LGD defined as the ultimate LGD, i.e. one minus the discounted recovery rate at the end of the recovery process).

Moreover, in line with the above elements, the ECB underlined in article 164 (section dedicated to default risk within the IRC model) of the TRIM guide issued in October 2019 that "the ECB considers that the market value change following the default of an issuer should be calculated as the difference between the current market value of the position and the expected market value subsequent to default".

These market LGDs are generally derived from front-office quotation on credit securities and derivatives, and therefore from internal sources.





However, for some positions a dedicated LGD calibration might be used, generally this scope is more constraint in the IRC. On these positions the data used can be external or internal depending on the type of position.

This is illustrated by the below chart derived from the industry survey which underlines that 50% of participants derive LGD directly from Front Office quotes, 20% use external data and 20% dedicated IRC LGD (using a specific calibration).







Q6. 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 book dynamics that you would like to highlight?

Response:

As noted above, trading book dynamics mean that, in the event of default, banks generally prefer selling the defaulted issues rather than keeping them until the liquidation process has terminated, several years thereafter. Hence, for trading book positions, losses are better estimated as the losses resulting from the selling of the defaulted issues shortly after default than from the discounted recovered amount at the end of the liquidation process (the ultimate losses).

We therefore are of the view that it should be clarified that the "potential losses in the market value of the portfolio" [CRR2 325bn(1)(a)] is the change of value of the portfolio following the default of one or several issuers over the period of time necessary for selling the affected positions in the market.

In credit risk, losses are the difference between the price before default and the discounted recovered price at the end of the liquidation process. As a result, IRB LGDs are ultimate loss estimates. Nevertheless, as explained above, often the losses actually experienced in the trading book can be derived through short term LGDs which can be obtained directly from market prices. When available, depending on internal modelling capabilities, short-term LGD supplemented by market LGD may be preferred if they meet the bank's default exposures management practices. It is therefore our view that, the use of the IRB approach mandated by CRR2 article 325bp(5)(c) has to be understood as the use of IRB methodologies rather than the direct use of IRB data for the estimation of LGDs in the market risk context.

When using external sources, they often publicize two types of LGDs: an ultimate LGD as well as a 30 day LGD (losses incurred 30 days after default). Consistently with the above, we believe that 30 days LGDs shall be preferable when they are available.

Notwithstanding the above, there may be specific cases where the ability to sell the positions shortly after default is doubtful or where a bank decides to keep defaulted positions until the end of the liquidation process. In such specific cases, or when ultimate LGD is the only internal LGD data available, a bank may choose ultimate LGD in lieu of the LGD measured as the losses of the position current market value less the position expected market value shortly after the default event.

Finally, losses implied by market prices often are proper estimates of actual losses. It is therefore our view that losses implied by market prices or loss estimates based on them may as well be used for the purpose of the IMA-DRC.

Recommendations

- Clarify that on the IRB perimeter, the use of IRB methodologies for the determination of LGDs means what it says, i.e. that IRB methodologies are used for the estimation of LGDs suitable for market risk rather than actually using IRB ultimate LGD estimates.
- Clarify that market prices implied losses could be used when they are expected to be good estimates of default losses.
- Since the above two points are out of the EBA mandate under CRR2 325bp (12), we urge the EBA to make a recommendation to the European Commission.





Clarify that, when using external sources, the LGD used shall be the most relevant LGD for market risk exposures.

Q7. Do you have any additional comments on the general approach?

Response:

Articles MAR33.37(4) and MAR33.38(3) of Basel final rules on the minimum capital requirements for market risk allow using external sources of rating for DRC IMA PD & LGD "provided they can be shown to be relevant for the bank's portfolio".

The industry understanding of CRR2 and current EBA draft RTS is that only internal ratings/PD as well as LGD will be allowed for IRB validated banks on the long run within the DRC IMA.

Not being able to use external ratings and LGDs without a time constraint and failing to have a fall-back methodology would make DRC IMA unworkable and may create a significant level playing field issue with other jurisdictions where similar constraints are not being applied: the DRC IMA would be much more burdensome to maintain for European banks.





Appendix

Industry Survey Part 1 of 2

EBA PD & LGD RTS Consultation Survey proposal

Торіс	Question reference	Question							
Context Overview	1	What is the proportion (in terms of number of issuers) between credit sub-portfolio and equity sub-portfolio issuer under DRC IMA as of today?	less than 20% of Credit and more than 80% of Equity	Less than 40% of Credit and more than 60% of Equity	50% Credit 50% Equity	more than 60% of Credit and les than 40% Equity	more than 80% of Credit and less than 20% Equity		Total
			3	5	0	0	2		10
	2	What is approximately the number of issuers eligible to DRC IMA?	Less than 2000	Between 2 000 and 5 000	Between 5 000 and 10 000	Between 10 000 and 20 000	More than 20 000		
			2	1	2	3	2		10
		~							
PD with IRB approach	3a	Does your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II of CRR (i.e. IRB approach approved on at least one "exposure class" and one "rating system")?	Yes	No					
			10	0					10
			Less than 25%	Between 25% and 50%	Between 50% and 75%	Between 75% and less than 100%	100%	Between 50% and less than 100%	
	3b Answer if yes to 3a	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II (i.e. IRB approach approved on at least one "exposure class" and one "rating system"), what is the current proportion of the issuers elgible to DRC IMA already rated with IRBA?	5	3	1	0	0	0	9
	3c Answer if yes to 3a	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II (i.e. IRB approach approved on at least one "exposure class" and one "rating system"), what is the current proportion of the Equity issuers, i.e. issuers included the equity sub-portfolio, (in terms of number of issuers) under DRC IMA already rated with IRBA?	8	0	1	0	0	0	9
	3d Answer if yes to 3a	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II (i.e. IR8 approach approved on at least one "exposure class" and one "rating system"), what is the current proportion of the Credit issuers, i.e. issuer included in the credit sub-portfolio, (in terms of number of issuers) under DRC IMA already rated with IR8A?	1	1	4	1	0	2	9
	3e Answer if yes to 3a	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II (i.e. IRB approach approved on at least one "exposure class" and one "rating system"), is there tanding book issuers under DRC IMA covered by the existing RB permission for which it is not possible to assign IRBA PD (for exposure classes and rating systems covered by IRB model)?	Yes	No					
			6	3					9
	3f Answer if yes to 3a and 3e	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II (i.e. IRB approach approved on at least one *exposure class* and one *rating system"), for which reason would it be impossible to assign IRBA PD for a given issuer under both DRC IMA and approaved IRBA ?	Lack of data to use IRB model	Other (please specify)	se *For Other responses, see below 8h				
			2	6				8	
	3g Answer if yes to 3a	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II of CRR (i.e. IRB approach approved on at least one "expoure class" and one "rating system"), how much time would be needed for an IRB approach to assign a PD to a specific trading book issuer (when it is possible and not already available under IRBA ?	Less than 1 week	Between 1 week and 1 month	More than one month	Don't know			
			3	3	4	0			10
	3h Answer if yes to 3a	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II of CRR (i.e. IRB approach approved on at least one "exposure class" and one "rating system"), do you use external ratings when producing DRC IMA QIS?	Yes	No					
			9	1					10
			2	•	•				





Industry Survey Part 2 of 2

	4a	Does your insitution has been granted permission to estimate loss given default (LGD) in accordance with Section 1 of Chapter 3 of Title II ?	Yes	No					
LGD with IRB approach			10	0	1				10
	4b Answer if yes to 4a	fyour institution has been granted permission to estimate loss given default (LGD) in accordance with Section 1 of Chapter 3 of Title II, what is the current proportion of the credit sub- portfolio issuers under DRC IMA covered with IRBA LGD for all products seniorities?	Less than 25%	Between 25% and 50%	Between 50% and 75%	Between 50% and less than 100%	Between 75% and less than 100%	100%	
			2	0	1	2	1	2	8
	4c Answer if yes to 4a	If your institution has been granted permission to estimate Loss Given default (LGD) in accordance with Section 1 of Chapter 3 of Title II, is there tarding book issuers under DRC IMA covered by the existing IRB permission for which it is not possible to assign IRB LGD for one or more credit product seniority?	Yes	No		•	•		
			4	4					8
	4d Answer if yes to 4a & 4c	If your institution has been granted permission to estimate Loss Given default (LGD) in accordance with Section 1 of Chapter 3 of Title II, for which reason would it be impossible to assign IRB LGD for a given credit sub-portfolio product under both DRC IMA and approaved IRBA ?	Lack of data to use IRB model	Other (please specify)	e *For Other responses, see below 8h				
			3	4	4				7
	4e Answer if yes to 4a	If your institution has been granted permission to estimate Loss Given default (LGD) in accordance with Section 1 of Chapter 3 of Title II, how much time would be needed to assign an IRB LGD to a specific trading book credit product (when it is possible and not already available under IRBA)?	Less than 1 week	Between 1 week and 1 month	More than one month	Don't know			
			3	4	3	0			10
			Less than 10%	Between 10% and 30%	Between 30% and 50%	More than 50%]		
PD External data coverage	5	What is the current proportion of the Equity issuers (i.e. issuer within the equity sub-portfolio) under DRC IMA where you could not assign external ratings/PDs as of today?	2	0	0	7	-		9
PD alternative approaches	7	(in this to be content proportion or the clear states (i.e. which not clear state portional) of the clear white the white you could not assign external states (i.e. IRB approach not approved on at least one "exposure class" and one "rating system"), which approach will you use to assign PDs to issuers under DRC IMA?	Alternative internal methodologies (i.e. IRB equivalent)	External Data		<u> </u>	1		
			0	6]				6
	8a	Do you integrate Faulty positions in the current IBC model?	Yes	No	1				
			1 Less than 20%	9 Between 20% and 40%	Between 40% and 60%	Between 60% and 80%	More than 80%		10
	8b	If your institution has been granted permission to estimate default probabilities (PD) in accordance with Section 1 of Chapter 3 of Title II (i.e. IBB approach approved on at least one	6	0	1	2			10
		"exposure class" and one "rating system"), in the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD?	0	U	-		1		
1	8c	exposure dass" and one "rating system"), in the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD? In the current IRC model what is the proportion of issuers (in number of issuer) where external sources are used to assing PD?	1	2	0	0	7		10
	8c 8d	"sepsoure class" and one "rating system"), in the current RC model what is the proportion of issuers (in number of issuery) where RB data is used to assign PD? In the current RC model what is the proportion of issuers (in number of issuer) where external sources are used to assing PD? In the current RC model what is the proportion of issuers (in number of issuers) where TRM fallback approach is used to assing PD?	1 9	2	0	0	7 0		10 10
IRC	8c 8d 8e 8f	"exposure dass" and one "raing system"), in the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM fallback approach, external data source or IRB is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM fallback approach, external data source or IRB is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM fallback approach, external data source or IRB is used to assing PD?	1 9 10 The bank assigns a rating to an issuer (using an in-house algorithm between various data sources) and derives a PD	2 0 The bank assigns a PD directly using an in-house algrotihm between data sources, without the use of a rating	0 0 0 Other (please specify)	0 1 0	1 7 0		10 10 10
IRC	8c 8d 8e 8f	"exposure class" and one "raining system"), in the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM failback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM failback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM failback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM failback approach, external data source or IRB is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM failback approach, external data source or IRB is used to assing PD?	1 9 10 The bank assigns a rating to an issuer (using an in-house algorithm between various data sources) and derives a PD 9	2 0 The bank assigns a PO directly using an in-house algrothm between data sources, without the use of a rating 0	0 0 0 Other (please specify)	0	7		10 10 10 10
IRC	8c 8d 8e 8f 8f 8g	"exposure class" and one "raing system"), in the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM failback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM failback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where TRIM failback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM failback approach, external data source or IRB is used to assing PD? In the current IRC model which approach is used to derive a PD of a given issuer? In the current IRC model which approach is used to derive a LGD of a given position?	1 1 10 10 The bank assigns a rating to an issuer (using an in-house algorithm between various data sources) and derives a PD 9 The bank assigns the LGD derived from FO quotes	2 0 0 The bank assigns a PO directly using an in-house algorithm between data sources, without the use of a rating 0 The bank assigns the LGD derived from external data	0 0 0 0ther (please specify) 1 The bank calibrates specific (cSD for IRC purpose	0 1 0 0 Other (please specify)			10 10 10 10
IRC	8c 8d 8e 8f 8f 8g	"exposure dass" and one "rating system"). In the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD? In the current IRC model what is the proportion of issuers (in number of issuers) where IRB fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where IRB fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM fallback approach, external data source or IRB is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where other approach than TRIM fallback approach, external data source or IRB is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where RB and the approach than TRIM fallback approach, external data source or IRB is used to assing PD? In the current IRC model which approach is used to derive a PD of a given issuer? In the current IRC model which approach is used to derive a LGD of a given position?	1 1 9 10 The bank assigns a first or rating to an insuer (using an in-house algorithm between various data sources) and derives a PD 9 The bank assigns the LGD derived from FO quotes 5	2 0 0 The bank assigns a PD directly using aim in-house algread, without the use of a rating 0 The bank assigns the LGD derived from external data 2	0 0 0 Other (please specify) 1 The bank calibrates specific LGD for IRC purpose 2	0 1 0 Other (please specify) 1			10 10 10 10 10
IRC	8c 8d 8e 8f 8g	"exposer dass" and one "rating system"). In the current IRC model what is the proportion of issuers (in number of issuers) where IRB data is used to assign PD? In the current IRC model what is the proportion of issuers (in number of issuers) where RIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where RIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where RIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers (in number of issuers) where RIM fallback approach is used to assing PD? In the current IRC model what is the proportion of issuers of a given issuer? In the current IRC model which approach is used to derive a PD of a given issuer? In the current IRC model which approach is used to derive a LGD of a given position?	1 1 9 10 17he bank assigns insuer (using an in-house algorithm between various data sources) and derives a PD 9 17he bank assigns the IGO derived from FO quotes 5 Less than 20%	2 0 0 The bank assigns a PD directly using an in-house algreach sources, without the use of a rating 0 The bank assigns the LGO derived from external data Between 20% and 40%	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 1 0 Other (please specify) 1 Between 60% and 80%	1 7 0 0 0		10 10 10 10 10