

EBA/DP/2015/01

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# Discussion Paper

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Future of the IRB Approach

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# 1. Responding to this Discussion Paper

The EBA invites comments on all proposals put forward in this paper and in particular on the specific questions stated in the boxes below (and in the Annex of this paper).

Comments are most helpful if they:

- respond to the question stated;
- indicate the specific point to which a comment relates;
- contain a clear rationale;
- provide evidence to support the view expressed;
- describe any alternatives the EBA should consider; and
- provide where possible data for a cost and benefit analysis.

## Submission of responses

To submit your comments, click on the 'send your comments' button on the consultation page by 05.05.2015. Please note that comments submitted after this deadline, or submitted via other means may not be processed.

## Publication of responses

Please clearly indicate in the consultation form if you wish your comments to be disclosed or to be treated as confidential. A confidential response may be requested from us in accordance with the EBA's rules on public access to documents. We may consult you if we receive such a request. Any decision we make not to disclose the response is reviewable by the EBA's Board of Appeal and the European Ombudsman.

## Data protection

The protection of individuals with regard to the processing of personal data by the EBA is based on Regulation (EC) N° 45/2001 of the European Parliament and of the Council of 18 December 2000 as implemented by the EBA in its implementing rules adopted by its Management Board. Further information on data protection can be found under the [Legal notice section](#) of the EBA website.

## Disclaimer

The views expressed in this discussion paper are preliminary and will not bind in any way the EBA in the future development of relevant draft Regulatory and Implementing Technical Standards and Guidelines associated to the topic. They are aimed at eliciting discussion and gathering the stakeholders' opinion at an early stage of the process.

## 2. Executive Summary

The EBA believes that from an overall perspective the IRB framework has proven its validity as a risk sensitive way of measuring capital requirements, which also encourages institutions to implement sound and sophisticated internal risk management practices. However, despite the positive aspects of the IRB models, the very high degree of flexibility in the IRB framework has compromised comparability in capital requirements across. Some observers have therefore questioned the reliability of IRB models, which have triggered a lack of trust in the use of IRB models.. Consequently the EBA has since 2012 worked on ensuring comparability in the models and this Discussion Paper builds on this work and sets out an agenda for further improvements and clarifications in the regulatory framework.

The EBA is continuing to put substantial efforts into the development and implementation of the regulatory framework for IRB models. The objective of this work is to enhance robustness and the comparability of the internal risk estimates and capital requirements of European institutions as well as improve the transparency of the models and their outcomes in order to restore the trust in the use of IRB models. The regulatory developments that are planned to be introduced by the EBA are either based on the mandates included in the Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR) or stem from the own EBA initiative in the areas, where EBA has identified a high degree of regulatory uncertainty.

The latter mandates were identified in the set of reports on the comparability and pro-cyclicality of capital requirements under the Internal Ratings Based Approach published by the EBA in December 2013<sup>1</sup>. The report showed substantial divergences in the approach taken by institutions as a consequence of, in hindsight, a too high degree of flexibility in the IRB framework. The report identified also significant differences with respect to the supervisory approaches taken in such areas as: definition of default, PD and LGD calibration, treatment of defaulted assets and scope of use of the IRB Approach. The regulatory developments will therefore be focused on those aspects.

Going forward, the EBA envisages that in order to ensure a higher degree of comparability of IRB models across institutions, the regulatory and supervisory response must rely on three areas:

- review of the regulatory framework;
- ensuring supervisory consistency, which in part rely on the EBA benchmarking exercises;
- increased transparency based on standardised comparable templates.

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<sup>1</sup> <https://www.eba.europa.eu/-/eba-publishes-reports-on-comparability-of-risk-weighted-assets-rwas-and-pro-cyclicality>

The planned regulatory developments are expected to result in substantial burden for both institutions and their competent authorities as regards the efforts linked to the implementation and approval of the required changes. Hence it is necessary to group and prioritise the EBA work on the technical standards and guidelines in a manner that will allow the implementation in an operationally efficient manner. Having the operational costs in mind, EBA is also mindful, that industry feedback is necessary on to how to optimally change the regulatory framework in a manner that minimises the operational burden.

The Discussion Paper therefore contains a concrete proposal for grouping and the planned order of publication of all currently identified regulatory products. The proposal includes also adequate implementation periods that take into account the possible necessity to adjust historical data, redevelop or recalibrate rating systems and obtain required approvals of the competent authorities. According to the proposal the changes related with the definition of default, calibration of risk parameters and treatment of defaulted assets would have to be implemented by the end of 2018 after the 2 to 2.5 years implementation period by institutions.

Apart from the main aspects that will be subject to changes under each of the broader areas of IRB Approach the Discussion Paper describes the additional initiatives undertaken by the EBA in order to enhance the convergence of supervisory practices as regards the assessment of the IRB Approach and transparency. In particular the document refers to the current and planned developments in the area of benchmarking, disclosures and supervisory reporting as well as to the monitoring and assessment of supervisory practices for models review.

In addition to these aspects, which can be remedied within the existing CRR, the EBA believes it necessary to consider the possibility for a more fundamental review of the IRB Approach in the medium or longer term. Such review, which would require legislative changes, is also subject to the considerations of the Basel Committee at a global level. The most important areas of possible future developments are described in the Discussion Paper. While the EBA recognises that the steps suggested in this part of the Discussion Paper cannot be taken without legislative changes by the European Commission and hence outside the EBA work programme, it is also important to recognise these possible changes and EBA also seeks feedback on other more fundamental measures that can be taken as regards IRB models.

### **Next steps**

Any interested parties are requested to send their comments and in particular the responses to the questions included in the Discussion Paper by 5 May 2015 12:00 GMT. After the analysis of the responses the EBA will communicate in due time how to finalise the specification and implementation of the changes related with the IRB models.

### 3. Background and rationale

1. The concept of the Internal Ratings Based Approach (IRB Approach) for credit risk was first introduced by the Directive 2006/48/EC of 14 June 2006 (part of what was known as the Capital Requirements Directive – CRD), later replaced by Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR). The CRR introduced a number of mandates for the EBA to develop technical standards and guidelines to supplement the primary legislation in order to ensure more harmonised application of the IRB requirements.
2. Additionally the EBA conducted a study on the comparability of the risk estimates and capital requirements including the analysis of the factors that contribute to the discrepancies among institutions. The results of this study have been presented in the Report on the comparability and pro-cyclicality of capital requirements issued by the EBA in December 2013 in accordance with Article 502 of the CRR. As the results of the study revealed significant discrepancies in the risk estimates and capital requirements that do not stem from the differences in the underlying risk profiles the EBA is planning to specify a number of guidelines in addition to the mandates included in the CRR.
3. The planned regulatory developments will affect nearly all aspects of the IRB Approach, including the definition of default, PD and LGD calibration, treatment of defaulted assets and scope of use of the IRB Approach. As a result it is expected that the implementation of all required changes might result in significant operational burden both for the institutions and for competent authorities. Therefore it is necessary to seek such grouping and prioritisation of the technical standards and guidelines that will allow their implementation in an operationally efficient manner. This Discussion Paper seeks feedback from the industry on the required timeline and the most effective grouping of regulatory products.
4. The planned EBA regulatory developments will be focused on the aspects of the IRB Approach that require more harmonised application within the CRR requirements. However in the longer term a more fundamental review of the IRB Approach will probably be carried out through the legislative changes of the CRR. It is therefore necessary to present the possible direction of future changes of the IRB Approach, including the aspects that are already discussed at the global level. This provides full picture of the likely future of the IRB Approach and gives the opportunity to receive early feedback from the industry on the planned developments. In this regard it is important to note that the outlined changes following from the EBA work programme presented in this paper will to the extent possible be implemented in a manner that is consistent with international developments. The technical clarifications provided by the EBA work is planned to be implemented in a manner that is consistent with more wide-ranging changes to the IRB framework.

## 4. Discussion

### 4.1. Introduction

5. The concept of the Internal Ratings Based Approach (IRB Approach) for credit risk was first introduced by the Directive 2006/48/EC of 14 June 2006 (part of what was known as the Capital Requirements Directive – CRD). On 1 January 2014, with little changes in the wording of the legislation as regards the IRB Approach, this Directive was replaced by Regulation (EU) No 575/2013 (Capital Requirements Regulation – CRR), but with the introduction of a number of mandates to the EBA to develop technical standards and guidelines to supplement the primary legislation. After 8 years of experience in the use of the IRB Approach, in a period characterised by serious stress in the financial markets, it is now the right time to review the implementation of this approach and introduce certain improvements where necessary.
6. The IRB Approach constitutes a complex framework that allows banks to model risk and specify risk appetite in a more precise manner, which will consequently lead to a more precise calculation of capital requirements. The extensive flexibility in developing the internal models has consequently been justified in order to allow a high degree of risk sensitivity that is more suitably adapted to banks' portfolios. The flexibility of the framework makes it superior as a risk management tool, which consequently should also be closely integrated into the risk management practices of the institution.
7. The underlying premise for the IRB Approach is therefore that the differences in risk weight of various exposures should ideally reflect the differences in the underlying risk of those exposures, including the structure of the portfolios, the characteristics of the clients and transactions, as well as the internal risk management and collection processes at the institutions. Given this premise, the model outcome of the IRB Approach should ideally lead to similar capital requirements across banks with similar portfolios with the exception of some well explained and transparent differences in the models' output that are justified by the differences in risk profiles.
8. The actual implementation of the IRB models has however led to a lack of comparability and substantial divergences across banks in terms of model outcomes, where not all differences appear to be justified by risk-based drivers. A substantial share of the variation in model outcomes and subsequently risk-weighted exposure amounts is caused by non-risk based drivers, such as differences in definitions and modelling choices. The on-going EBA work on the consistency of risk-weighted exposure amounts, which led to four reports being published between 2012 and 2014 and to a summary report on comparability and pro-cyclicality of

capital requirements under the IRB approach in December 2013<sup>2</sup>, documented the existence of substantial number of non-risk based drivers in the calculation of capital requirements across a number of portfolios. This lack of comparability results largely from the high degree of flexibility embedded in the CRR where there can even be risks regarding robustness of models.

9. Contributing to the lack of consistency and comparability in model-based risk-weighted assets, the actual implementation of the IRB Approach has been accompanied by different supervisory practices for assessing the adequacy of internal models and different supervisory measures under the Supervisory Review and Evaluation Process (SREP) to address deficiencies in IRB approaches. These different supervisory practices have contributed to increased capital requirements divergence.
10. The response of European legislators has been the introduction of an annual benchmarking exercise for internal models to be conducted by the EBA (covering both credit and market risk models) in addition to the delegation of a number of technical standards to the EBA in the area of credit risk. The EBA has consequently been given a prominent role in the forming of the European implementation of the IRB Approach and has, with its work on the comparability on risk-weighted exposure amounts and the publication of a number of technical standards, already given clear policy directions as regards the implementation of IRB models. Substantial work however is still outstanding to achieve a higher degree of comparability across IRB models, which will be one of the key determinants in regaining public trust in the IRB models.
11. This work will follow three parallel tracks. Firstly, the EBA will pursue its role of developing regulation - technical standards and guidelines - on key aspects of the IRB Approach, either as mandated by the CRR or, for guidelines, on its own initiative. Secondly, the EBA will monitor supervisory practices in a broader scope and promote increase in convergence, which in particular will include the use of benchmarking exercises, which then should translate to larger comparability of IRB capital requirements and supervisory measures. Lastly, the EBA will seek to enhance transparency around IRB models.
12. The purpose of this discussion paper is three-fold. Firstly, while providing an overview of the planned regulatory developments and non-regulatory aspects (supervisory convergence and transparency) that have been undertaken in the area of the IRB Approach the paper highlights priorities and seeks the industry's opinion on the prioritised measures to regain the trust in internal models and improve the comparability of capital requirements. Indeed as the current and planned regulatory products will have an impact on various aspects of the IRB Approach, the purpose of this paper is to analyse and seek feedback from the industry on the overall impact of these products on the banks' internal models and risk management practices. The EBA guidance in this area will provide the technical foundations for having comparable IRB models going forward and facilitate transparent comparisons across banks.

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<sup>2</sup> See <https://www.eba.europa.eu/documents/10180/15947/20131217+Summary+report+on+comparability+and+pro-cyclicality+of+the+IRB+Approach.pdf>.

13. The second aspect is a more practical but probably an even more important one, namely how to implement these changes. The implementation of the proposals in this discussion paper will have a wide-ranging impact on the existing IRB models and will require substantial changes to the models, which will impact some of the methodological choices, the availability of data and also IT systems. The EBA recognises that a coordinated implementation is necessary, so that a phased-in approach of various regulatory deliverables across specific aspects of the IRB Approach is possible. The discussion paper is therefore also seeking input on how to sequence the regulatory deliverables, so that these can be implemented in an operationally efficient manner. The finalisation of the regulatory deliverables will take time, depending on their current status as the EBA has already been working on some of the topics for some time. Similarly, inputs regarding the prioritisation of the work on the consistency and transparency tracks are expected.
14. Finally, the paper opens the discussion to more forward looking changes in the IRB approach which cannot be taken on board via existing CRR but result from the EBA comparability and variability exercises conclusions and start being discussed at the global level. In this context the EBA is contemplating, whether more wide-ranging changes, beyond the current framework is necessary, which would require legislative changes.
15. It should be noted that this aspect is complementary to the considerations made also on a more global level. In particular Basel Committee on Banking Supervision (BCBS) is also considering how to improve consistency in banks' risk weighting practices.<sup>3</sup> The EBA welcomes this work, as the variability of the model outcomes is not only a European issue, and will to the extent possible take part to the elaboration of changes in international standards. The implementation of international standards however also complicates the work of the EBA, as changes to global standards will only be implemented with a lag, due to the need to incorporate this into the primary legislation. As a consequence, further changes, beyond those envisaged in the EBA work may come at a later point in time. The EBA is mindful of this and will to the extent possible take it into account in the development of regulatory standards. Nonetheless, the EBA is also seeking input on a number of changes, which the EBA is currently considering – preferably these should be implemented globally, as the EBA considers a global alignment of the rules necessary.
16. Section 4.2 provides an overview of the conclusions drawn from the existing EBA work on the comparability of the capital requirements that are further reflected in the existing EBA mandates in the area of IRB models.
17. Section 4.3 of this Discussion Paper provides an overview of the most important regulatory developments regarding the IRB Approach that are currently undertaken by the EBA and discusses the most important policy decisions that are planned to be included in the EBA regulatory products. The level of details provided on the planned regulatory solutions depends

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<sup>3</sup> See <http://www.bis.org/press/p140925.htm>.

on the phase and current status of work with regard to the particular technical standards and guidelines. The aim of this part of the paper is to assess the overall expected impact of these technical standards and guidelines on the development and use of internal models.

18. Section 4.4 of this Discussion Paper deals with the EBA initiatives regarding supervisory consistency and convergence in the field of internal models, and the possible future steps in that regard. It also touches upon the EBA past and possible future actions aimed at enhancing transparency around IRB models.

19. Section 4.5 of this Discussion Paper focuses on the possible future directions in the development of regulations in the area of the IRB Approach.

## 4.2. Lessons learnt

20. The EBA believes that from an overall perspective the IRB framework has proven its validity as the risk sensitive way of measuring capital requirements that encourages the institutions to implement more sound and sophisticated internal risk management practices. This conclusion has been confirmed by the results of the previously mentioned Report on the comparability and pro-cyclicality of capital requirements issued by the EBA in December 2013 in accordance with Article 502 of the CRR.

21. The EBA consequently recognises the value of internal models, although substantial weaknesses in the application of the IRB Approach and inconsistencies in the outcomes of internal models have also to be acknowledged. As showed by the EBA studies on the comparability of risk weighted exposure amounts (RWAs) there are significant differences in capital requirements calculated according to the IRB Approach that cannot be fully explained by the differences in risk in the portfolios of the banks. Those non-risk-based differences stem mostly from the different implementation of the IRB Approach across institutions and jurisdictions, which may itself be the result of different supervisory practices.

22. According to the results of the EBA studies the main sources of differences in RWAs that cannot be explained by the different risk profiles or managements practices of the institutions include:

- The treatment of defaulted assets – the discrepancies in the risk weights for defaulted assets stem mostly from different practices in the estimation of LGD in-default and best estimate of expected loss. Additionally, a wide range of practices has been identified in the level of calculation of the difference between the credit risk adjustments and expected losses in accordance with Article 159 of the CRR ('IRB shortfall'). Different approaches in that regard, ranging from individual calculation for single exposures, through certain sub-portfolio level to the overall aggregate calculation at the level of an institution, lead to significant discrepancies in the recognition of Tier 1 and Tier 2 own funds.

- The Permanent Partial Use (PPU) and roll-out effect – very large differences have been identified with regard to the level of coverage of the banks’ portfolios by the IRB Approach. The Standardised Approach may be applied either on the basis of the permission for the PPU or temporarily for the exposures covered by the plan of sequential implementation of the IRB Approach (‘roll-out plan’). In particular there are significant divergences in the length and practical implementation of roll-out plans.
- The definition of default – there is currently a wide range of practices implemented with regard to the use of materiality thresholds for past due exposures which significantly impacts the application of a past due criterion. Additionally, some competent authorities decided to replace the 90 days past-due threshold with a 180 days past-due threshold for exposures secured by residential or SME commercial real estate in the retail exposure class, or for exposures to public sector entities. Such replacement significantly delays the recognition of default on these types of exposures. Finally, differences have been identified with regard to the application of qualitative indications of unlikelihood to pay. In particular there are different practices with regard to the recognition of distressed restructuring as an indication of default.
- The definition of default rate – the EBA identified some differences in the computation of the default rate, which can derive from either the numerator or the denominator. Moreover, the method of choosing the relevant sample for calculating the default rate differs between banks, e.g. all counterparties at the end of the period, at the beginning of the period or with a moving window, etc.
- PD calibration – significant discrepancies have been identified in the calibration of PD in particular for low default portfolios (‘LDP’). This is due to the fact that given the very low number of observed defaults based on internal and external data, and limitations on the development of statistical models, banks also use expert judgement in the calibration of the PD models. Moreover, the banks make use of very different rating grade scales, with varying number of grades and PD ranges, which leads to observable PD differences. Other identified differences in PD calibration stem from different implementations of long-run average of one-year default rates, the length of the time series used for calibration, the approach towards the application of the margin of conservatism as well as the frequency of and triggers for redevelopment and re-estimation of internal models.
- LGD calibration – significant discrepancies have been identified with regard to the LGD values for certain types of exposures. Although this variance can be partly explained by country macroeconomic specificities, different borrowers’ profiles and payment behaviours, there is also a long list of drivers which stem from modelling choices, including the treatment of incomplete workouts, discount rates, direct and indirect costs, internal haircut estimates and cure rates as well as the application of downturn conditions. It proved particularly difficult to calculate LGD for LDP. As a result in such cases the LGD values for unsecured senior exposures are often close to the regulatory

value under the FIRB Approach (45%) for credit institutions and large corporate portfolios.

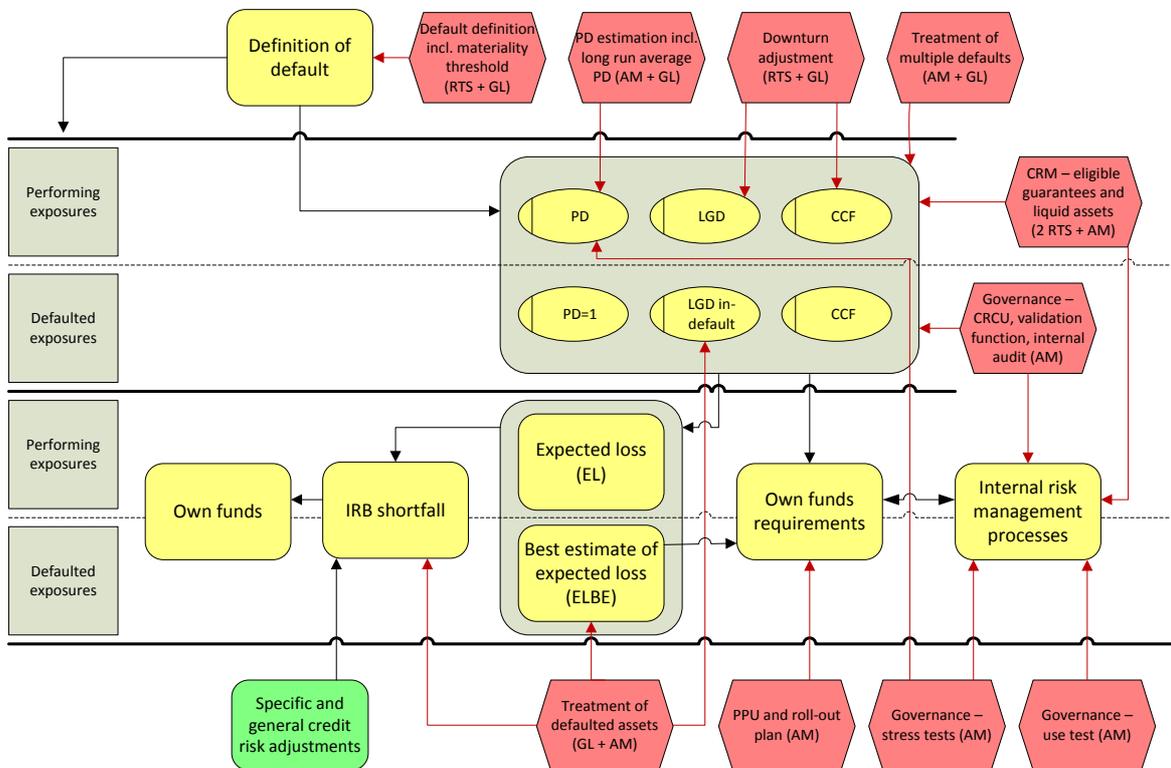
- LDP specificities – the small number of defaults in LDP makes reliable statistical modelling difficult. Therefore, expert judgement and the individual bank’s experience play a bigger role for these portfolios than for other portfolios. The difficulties are observed not only in the estimation of risk parameters, as mentioned in the previous points, but also in the monitoring and validation of the models for LDP, including the back-testing and benchmarking of such models.
- Other sources of differences, including: the application of floors and Pillar I or Pillar II add-ons, computation of the maturity parameter, estimation of conversion factors, frequency of the rating updates, application of home country models to exposures located in other countries, classification of exposures to exposure classes, use of collateral and certain aspects of back-testing of PD, LGD and conversion factors.

23. Some of the issues listed above have already been addressed, some are planned to be addressed by the EBA in various regulations and guidelines that are currently under development, and others require the implementation of adequate solutions at the BCBS level before their transposition into the EU law. The overview of the EBA mandates that should address the majority of identified weaknesses is provided in the next section.

### 4.3. Current EBA regulatory developments

24. Under the current mandates, resulting either directly from the CRR or from the recommendations of the Report on comparability and pro-cyclicality of capital requirements, the EBA takes various measures in order to mitigate the identified weaknesses in the development of the models and application of the IRB requirements. Although included in numerous separate documents the regulatory developments in the area of the IRB Approach are highly interrelated. The graph below shows the main aspects of the IRB Approach, the relations between them and the impact of new regulations and guidelines on particular elements of the framework.

Figure 1: Relations between main aspects of the IRB framework and expected impact of the main EBA regulatory developments



AM – draft RTS on the assessment methodology of the IRB Approach

RTS – draft RTS on specific issues in the defined area

GL – guidelines on specific issues in the defined area

25. The graph presents a simplified picture of the IRB Approach and it does not show the impact of the classification of exposures to exposure classes and additional parameters such as maturity (M), annual sales for SMEs (S) and correlation coefficient (R). It also does not take into account other methods than those based on the PD and LGD parameters, allowed under the IRB Approach. In particular it does not apply to equity exposures, specialised lending under the slotting approach and securitisation positions. Although various regulatory initiatives are undertaken also in these areas, they will not be discussed in this paper as they will not have direct impact on parameter estimation in IRB models.

26. The table below contains the list of the most important EBA mandates that should address the majority of weaknesses identified in the Report on the comparability and pro-cyclicality of capital requirements. The mandates stem either directly from the CRR or result from the recommendations of the Report issued on the basis of Article 502 of the CRR.

27. In order to facilitate the implementation of the changes the EBA proposes to group the regulatory products so that the technical standards and guidelines that impact the same areas would come into force at the same time. The table presents also the proposed grouping of the EBA products together with their prioritisation. It should be noted that the RTS on assessment methodology touches upon various areas related with the IRB Approach and will contain clarification of the numerous requirements of the CRR. The full alignment of the implementation dates will therefore not be possible.

28. It is however important to add that since the deadlines for the submission of technical standards to the Commission in a number of cases are different than those envisaged in the primary legislation, the EBA will need to seek approval by the Commission to delay these mandates. EBA will therefore need to communicate with the Commission on this aspect before finalising the implementation plan.

Figure 2: Proposed grouping and prioritisation of EBA regulatory products

Topic	Regulatory products	Current status	Priority*	Implementation timeline**
<b>Assessment methodology, including aspects of: PPU and roll out plans; internal governance; PD; LGD; treatment of defaulted assets; CRM</b>	RTS under Articles 144(2), 173(3), 180(3b) – on the assessment methodology	Consultation Paper published	1 <sup>st</sup> phase (by end-2015)	For CAs application at entry into force of the RTS
<b>Definition of default</b>	RTS under Article 178(6) – on the materiality threshold	Analysis of responses obtained in the consultation period	2 <sup>nd</sup> phase (by mid-2016)	2.5 years
	GL under Article 178(7) – on the application of the definition of default	Initial stage of work		2.5 years
<b>LGD and conversion factor estimation</b>	RTS under Articles 181(3a), 182(4a) – on the nature, severity and duration of economic downturn	Preparation of Consultation Paper	3 <sup>rd</sup> phase (by end-2016)	2 years

Topic	Regulatory products	Current status	Priority*	Implementation timeline**
	GL on downturn LGD calculation – EBA own initiatives (Report on Article 502)	Work not started yet		2 years
<b>PD estimation</b>	GL on PD computation – EBA own initiatives (Report on Article 502)	Work not started yet	3 <sup>rd</sup> phase (by end-2016)	2 years
<b>Treatment of defaulted assets</b>	GL on LGD in-default, ELBE and IRB shortfall calculation – EBA own initiatives (Report on Article 502)	Work not started yet	3 <sup>rd</sup> phase (by end-2016)	2 years
<b>CRM</b>	RTS under Article 183(6) – on the recognition of conditional guarantees	Work not started yet		1 year
	RTS under Article 194(10) – on liquid assets	Work temporarily suspended	4 <sup>th</sup> phase (by end-2017)	1 year
	RTS under Article 221(9) – on Internal Models Approach for master netting agreements	Work not started yet		1 year

\* The dates provided in this column are tentative and refer to the planned deadline for submitting the final draft technical standard to the Commission or to the publication of final EBA guidelines. It should also be noted, that the proposed timeline may have to be amended over time, for instance as a consequence on international developments at the level of the Basel Committee or following other legislative actions by the European Commission.

\*\* The proposed period for the implementation of the regulatory products counts from the date referred to in the previous column and includes, where necessary, the time required for the assessment and approval of the changes by competent authorities. The legal form of the phasing in may differ for particular products. In particular it may be achieved by the postponed approval of the technical standard by the Commission or by the certain grandfathering or transitional provisions in the standards. The proposed periods are preliminary, in the case of technical standards they will depend also on the approval of the European Commission.

29. For each phase the EBA identified the blocks which can be implemented in parallel on one hand due to the independence of the topics and on the other hand due to interrelations. To be more specific:

- Phase 1 is dedicated to the RTS on assessment methodology of the IRB Approach. These RTS will provide substantial clarification on the various topics covered by the subsequent phases and also other aspects of the IRB Approach, including sequential implementation of the IRB Approach and internal governance. However, it will not be directly applicable to institutions. Rather, the competent authorities will be required to use that methodology when carrying out assessments of the IRB Approach from the moment of entry into force of the RTS. Subsequently any relevant adjustments will need to be made by the institutions following competent authority assessments in accordance with the timeline agreed with the competent authority.
- Phase 2 is related with the definition of default as it is a fundamental concept for the IRB Approach and in particular for the calibration of risk parameters. Therefore recalibration of LGD and PD envisaged by Phase 3 needs to be based on an already adjusted definition of default. The modified definition of default will have to be implemented not only in current policies and procedures of the institutions but also the historical data will have to be adjusted in order to achieve full or at least broad compliance with the new definition of default. Therefore institutions should have sufficient time to implement the required changes. A 2.5-year implementation period is proposed for the adjustments of the definition of default in all relevant areas.
- Phase 3 is dedicated to the estimation of risk parameters, including PD, downturn LGD and downturn conversion factors as well as the treatment of defaulted assets. The changes will be based on the already modified definition of default. It is proposed that 2-year implementation period should be granted for the implementation of the changes in those areas. As a result the implementation of all modifications required by the phase 2 and phase 3 regulatory products would be finalised by end 2018.
- Phase 4 is focused on the mandates related to CRM framework. As the regulatory developments in this area may also impact to some extent the estimation of risk parameters, in particular LGD, a 1-year implementation period for institutions is envisaged in order to align the time of final implementation of the changes with the deadline for the modification of rating systems and risk parameters.

30. More detailed information on the probable policy directions as well as the measures in the area of transparency and supervisory reporting are described in the subsequent sections. It has to be noted that the policy directions may be still subject to changes in the development and approval process, depending on the type of document and current stage of the process.

### Questions

1. The proposed prioritisation of regulatory products is based on the grouping of such elements that in the EBA's view can be implemented in a sequential manner. Do you agree with the proposed grouping? If not, what alternative grouping would you suggest?
2. What would you consider the areas of priorities?
3. Do you consider the proposed timeframe reasonable? In particular do you consider reasonable the proposed timeline for the implementation of the changes in the area of:
  - a. definition of default;
  - b. LGD and conversion factor estimation;
  - c. PD estimation;
  - d. treatment of defaulted assets;
  - e. CRM?

#### 4.3.1. Definition of default

23. The application of the definition of default has been recognized as one of the areas that largely contribute to the discrepancies in the RWA calculation. At the same time, most of the observed differences cannot be explained by the different risk profiles or management practices of institutions. Additionally, the discrepancies stem partly from different supervisory practices and national regulations in various EU jurisdictions. As the definition of default sets the basis for the IRB Approach, and in particular for the estimation of risk parameters, it is considered essential to increase the harmonisation in that area.
24. There are currently 2 documents under development that are expected to have a major impact on both the application of the definition of default by institutions and the supervisory practices of the competent authorities, namely:
- The RTS on the materiality threshold of credit obligations past due in accordance with Article 178(6) of the CRR, and
  - The GL on the application of default definition in accordance with Article 178(7) of the CRR that will tackle the issue in a broader aspect.

## (i) Quantitative indication of default

25. The main aspect of the application of the quantitative indication of default is the concept of materiality threshold. In the absence of specific rules on the structure and application of the materiality threshold, various approaches have been adopted across institutions and jurisdictions. As the concept of materiality threshold strongly influences the number of identified defaults and the subsequent calibration of the risk parameters it is necessary to harmonise the practices in that regard.

26. According to the mandate specified in the CRR, the RTS in that regard are directed to the competent authorities and set the criteria according to which they will set the materiality threshold for past due exposures. The currently proposed draft RTS define the unified structure of such thresholds. The thresholds set by the competent authorities will have to be subsequently implemented by institutions. As a result the unified level of the threshold will be applied to all institutions in a certain jurisdiction. However the levels of thresholds may still vary across jurisdictions to take account of the differences in particular economies and local specificities.

27. The proposed common structure of the threshold is based on the combination of an absolute and relative threshold and the default would be recognised if any of those thresholds is breached:

- The absolute threshold refers to the credit obligation past due defined as the sum of all amounts that are past due more than 90 days, or 180 days where the competent authority has replaced the 90 days with 180 days in accordance with Article 178(1)(b) of the CRR, related to the credit obligations of the borrower to the institution, the parent undertaking or any of its subsidiaries. The level of the threshold may be differentiated between the retail and all other exposures.
- The relative threshold will be set as a percentage of the credit obligation past due as defined above in relation to the total amount of all credit obligations of the borrower. The relative threshold should be unified for all exposure classes.

28. In the case of retail exposures where the definition of default is applied at the level of individual facility the structure of the threshold should be appropriately adjusted. In that case the absolute threshold would refer to the amounts past due more than 90 days (or 180 days if applicable) that result from the individual facility. In the relative component of the threshold the amounts past due more than 90 days (or 180 days if applicable) that result from a single facility would be related to the total credit obligation resulting from that facility.

29. The level of the materiality threshold should reflect a level of risk that the competent authority considers to be reasonable. However, in order to avoid significant outliers in the levels of thresholds the maximum levels have also been proposed. According to the current proposal

the thresholds should not be higher than: 200 EUR for retail exposures, 500 EUR for all other exposures and 2% in the case of relative threshold.

30. The proposal described in the previous paragraphs is included in the consultation paper on the draft RTS on materiality threshold for past due exposures. However, it may be subject to changes on the basis of the comments received during the consultation period.
31. Other aspects of the application of the quantitative indication of default can be addressed in the GL on the application of the definition of default. In particular potential differences may stem from the counting of days past due and the rules for the allocation of payments. Additionally the competent authorities have discretion to replace 90 days with 180 days for exposures secured by residential or SME commercial real estate in the retail exposure class or exposures to public sector entities, therefore full harmonisation will not be possible under the current CRR. However, on the basis of Article 506 of the CRR the EBA will provide a report to the Commission on how this discretion impacts the RWA. This report will be taken into account by the Commission when taking the decision on the further application of that provision.

## **(ii) Qualitative indications of default**

32. It is planned that the GL on the application of the definition of default should provide practical guidance on the recognition of each of the qualitative indications of unlikelihood to pay listed in paragraph 3 of Article 178 of the CRR, taking into account the variety of legal systems and accounting frameworks. Particular attention will be focused on the distressed restructuring of the credit obligation, because significant differences are observed in the detailed specification and application of this indication of default by the institutions.
33. The EBA recognises that some differences in the application of the qualitative indications of default might be justified. These might result from specific legal and market conditions in particular jurisdictions as well as specificities of certain portfolios. In particular institutions may define additional indications of unlikelihood to pay that are specific for certain types of products or clients. As a result, especially in the case of internationally active institutions, the use of several different definitions may be possible, depending on the types of exposures, geographical location or legal system. Nevertheless all such differences have to be clearly documented and properly justified.
34. Additionally, in the process of development of these GL, the consistency with the ITS on supervisory reporting will be sought. The EBA intends to consider whether it is appropriate to align the approaches used in these ITS and in the definition of default in order to reduce the operational burden for the institutions of keeping various concepts of problem loans. In particular the definition of the forbore exposures will be closely examined in the context of identification of distressed restructuring for the purpose of default definition. It has already been clarified that all exposures subject to distressed restructuring under Article 178(3)(d) of

the CRR should be treated as forborne and all exposures classified as defaulted under Article 178 of the CRR should be considered non-performing for the reporting purposes. In the GL on the application of the definition of default any possible further relations will be explored.

### **(iii) Return to non-defaulted status**

35. Significant discrepancies are observed in the reclassification of the defaulted exposures to the non-defaulted status. Paragraph 5 of Article 178 of the CRR states only that a previously defaulted exposure must be treated as non-defaulted if no trigger of default continues to apply. It is however necessary to clarify the application of this rule with regard to certain types of indications of default. Such clarification is intended to be provided in the GL on the application of the definition of default.

36. The aim of the GL will be to specify sufficiently prudent standards to reasonably limit the number of exposures that after the reclassification to non-defaulted status are defaulted again in a short period of time. The EBA will put particular attention to the criteria for the return to non-defaulted status of the exposures subject to distressed restructuring.

### **(iv) Other aspects of the application of default definition**

37. It is intended that the GL will also provide practical guidance with regard to other aspects of the application of default definition. In particular clarification is required with regard to the definition of default in external data and required adjustments. As the work on the GL is at an early stage it is not yet possible to present specific policy options in that regard. Nevertheless the issue of the alignment of the definition of default in the external data will be analysed in the context of purchased receivables, pooled data gathered by various institutions and data provided by ECAI's in the case an institution associates or maps its internal grades to the scale used by an ECAI or similar organisation for the purpose of its internal risk estimates.

### **(v) Implementation of changes in the default definition**

38. The EBA recognises that the regulatory developments included in the above mentioned RTS and GL might trigger significant changes in the institutions' rating systems as in some cases they might require the changes in IT systems, adjustments in historical data to reflect the new definition of default and recalibration of the risk parameters.

39. According to the RTS for assessing the materiality of extensions and changes of the Internal Ratings Based Approach and the Advanced Measurement Approach (Regulation (EU) 529/2014), any changes in the definition of default should be considered material and as such require the approval of competent authority. Therefore institutions will be expected to apply

for permission prior the implementation of the changes in accordance with Article 143(3) of the CRR. The time required to implement the changes should be proportionate to the scope of expected changes and complexity of the institution's rating systems. Nevertheless it is expected that the overall time for implementation of all changes, including the permission from a competent authority to implement material change, should be reasonably limited.

#### Questions

4. Are there any other aspects related with the application of the definition of default that should be clarified in the GL?
5. Do you have experience with adjustments of historical data? What are the methods that you used to adjust historical data, including both internal and external data?
6. To what extent is it possible to adjust your historical data to the proposed concept of materiality threshold for the purpose of calibration of risk estimates?

#### 4.3.2. Risk estimates

40. As a result of identified discrepancies in the risk quantification by institutions and in order to restore trust in internal models, the EBA plans to undertake various legislative work regarding risk estimates. It is desirable that the differences in the risk estimates reflect the differences in risk profiles of the institutions rather than result from different interpretation of the IRB requirements. Therefore the EBA intends to provide the necessary clarifications of the requirements in order to align their understanding, while at the same time leaving enough flexibility for the institutions to measure the risk they are facing in an accurate manner.

41. The principal aim of the new regulations and guidelines is to ensure uniform application of the IRB requirements and to limit the technical differences in the quantification of risk parameters that do not reflect the real differences in the underlying risk or in the risk management processes at the institutions. Furthermore the alignment of the practices in the calibration of risk parameters should enhance their comparability, which is crucial for the upcoming benchmarking exercise.

42. The new regulation and guidelines will consist in one RTS aimed at supervisory authorities in the assessment methodology of the IRB Approach, and a set of RTS and GL on risk estimates designed for institutions. Some clarifications on the IRB requirements will be provided in the RTS on the assessment methodology of the IRB Approach. While competent authorities will be assessing the IRB models with the use of this methodology, the provisions included in these RTS may also indirectly affect the institutions. Therefore, although these draft RTS are directed to the competent authorities, it is advisable that institutions should also become acquainted

with the draft regulation to be prepared for what will be required from them by competent authorities.

43. Some specific issues will be addressed in the dedicated regulations and guidelines directed to the institutions. Among those the most important are:

- RTS on the nature, severity and duration of economic downturn,
- GL on downturn LGD, and
- GL on PD computation.

44. The description included in this Discussion Paper covers only selected issues that are considered to have the most significant impact on the quantification of risk parameters by the institutions. It is expected that in overall the planned regulatory developments should address the main inconsistencies that were identified in this area to the extent possible under the current CRR rules.

#### **(i) Treatment of multiple defaults**

45. In order to ensure consistency between the estimates of various risk parameters the multiple defaults should be treated in a similar manner. A prudent approach requires that a defaulted exposure that is cured to non-defaulted status and returns to be classified as defaulted again in a short period of time should be treated as constantly defaulted from the first moment when the default occurred. Such treatment reflects also the real economic meaning of the default experience.

46. On the other hand, the treatment of multiple defaults of the same obligor as separate defaults might lead to significant errors in risk parameters estimates, because higher default rates would lead to higher PD estimates and the LGD would be underestimated, because the first default of the obligor would be treated as a cure case with no loss, whereas in fact the institution experienced loss on that obligor at the later stage. Therefore it is important to align practices in that regard to ensure a prudent approach and allow comparability of risk estimates.

47. In general terms the clarification of prudential requirements with regard to the treatment of multiple defaults is planned to be provided in the RTS on the assessment methodology of the IRB Approach. According to the current proposal the competent authorities will assess the methods applied by the institution, including in particular the conditions to consider an obligor or facility to be cured and the length of the cure period during which the multiple defaults are recognised as a single default for the purpose of risk quantification. Given the relation between PD and LGD parameters in terms of the moment of default and the number of defaults observed, it is necessary to ensure a consistent treatment of defaults for the purpose of quantification of both parameters.

48. If necessary, more detailed guidance with regard to the treatment of multiple defaults could be provided in the GL on the PD and LGD estimation. In particular guidelines could be provided on how to specify the time period when two or more defaults can be recognised as multiple and the methods for cleansing the data to account for this type of defaults.

## **(ii) Default rate**

49. Differences in calculation of one year default rates have been also identified as an important driver of differences in RWA. The implementation of the CRR, namely Article 4(78) helps to reduce the variability in definition of one-year default rate. However further alignment is necessary, as further room for interpretation is observed.

50. Therefore the RTS on assessment methodology will provide further specification on how the competent authorities will assess the denominator and numerator of one year default rate. It is currently proposed that the denominator includes the obligors or exposures which are not in default assigned to that rating grade or pool at the beginning of one year period ('time 0'), whereas the numerator includes the obligors or exposures considered in denominator that have defaulted during a period of one year after time 0; in case multiple defaults are observed for the same obligor or exposure during the period of one year, a single default with the date of the first observed default is considered.

## **(iii) PD estimation**

51. The EBA has observed significant differences in the calibration of PD parameter that stem both from the choice of data as well as calibration methods. In the RTS on the assessment methodology of the IRB Approach the EBA intends to provide clarification on the requirements regarding the long run average of one-year default rates that should be the basis for the PD calibration.

52. PD estimates for each grade or pool should reflect the long run average of one-year default rates in order to ensure that they are relatively stable over time. It means that the PD estimates should be based on a period representative of the likely range of variability of default rates in that type of exposures in a complete economic cycle, considering the cyclicity of major economic factors. In practice the institution might not have sufficient data to encompass the whole economic cycle in terms of the cyclicity of major economic factors. In that case some reconstruction methods should be used to account for the missing data, however, due to increased uncertainty, additional margin of conservatism should be adopted. In any case the long run average based on the reconstruction method should not be less conservative than the average of one-year default rates estimated from the observed data.

53. As the work on the GL on PD estimation has not started it is not yet possible to present specific policy options in that regard. Nevertheless further alignment of the long run average of one-

year default rates is necessary to provide clear rules for the definition of an economic cycle, the identification of stressed years and how to cope with the absence of the time series of adequate stress conditions to capture a downturn. Also some guidance on how to combine different data sources and calibrate margins of conservatism is necessary. Moreover, observed differences in the number of rating grades and/or use of continuous rating scales should encourage application of harmonised rules.

54. While such variability of PD estimates will be mitigated to some extent by the RTS on assessment methodology, the scope of this EBA mandate may not sufficiently harmonise PD calibration with respect to the calculation of long-run average default rates, margins of conservatism and calibration of the master scale/rating scale. Further details will be provided in the GL on the PD estimation.

#### **(iv) LGD estimation**

55. With regard to the LGD estimates, the EBA plans to clarify in the RTS on the assessment methodology of the IRB Approach that the estimation should be based on the average weighted by the number of defaults, as required by the CRR. If however the exposure value is a material risk driver, it should be used for the segregation or risk differentiation of LGD in order to ensure that the parameter is calculated for homogenous pools or facility grades. As some institutions calculate LGD based on an exposure weighted average the unification of practices in the LGD quantification will enhance the comparability of capital requirements as well as the comparability of the LGD estimates, which is also crucial for the upcoming benchmarking exercise.

56. The proposed approach will ensure consistency with the calculation of PD parameters and a meaningful application of the risk weight formula. The CRR differentiates the LGD calculation method at the level of individual exposures for the purpose of risk weighted exposure amounts from the LGD calculated at the portfolio level. As opposed to the individual LGD calculation used in the risk weighted exposure amounts, the LGD floors for exposures secured by immovable property, applied at the overall portfolio level, are defined as an exposure-weighted average LGD.

#### **(v) Downturn adjustment of LGD and conversion factor estimates**

57. The CRR requires that the LGD and conversion factor estimates should reflect the downturn conditions if these are more conservative than the long-run average. As a result of a lack of detailed rules on what are the downturn conditions and how to apply them in the risk estimates, a wide variety of methods and approaches is currently used by institutions. This variety of methods and approaches significantly decrease the comparability of risk parameters and capital requirements.

58. In order to introduce consistency across institutions and jurisdictions, Articles 181(3a) and 182(4a) of the CRR require the EBA to develop draft RTS to specify the nature, severity and duration of economic downturn for the purpose of LGD and conversion factors estimation respectively. The EBA is currently discussing possible solutions in that regard, taking into account both backward and forward looking approach.

59. However, the mandate for the RTS on economic downturn only partially covers the calibration of downturn LGD. The missing element is a further specification of the methodology of downturn LGD calibration to be used, namely incorporation of the nature, duration and severity of economic downturn into different modelling practices. This specification will be included in the GL that will supplement the RTS. These GL should also provide further specification in the context of the appropriate length of data series, including the treatment of incomplete workout. Other specificities could also be relevant, such as the treatment of explanatory variables, collateral and guarantees, discounting factor, margin of conservatism and cost. The work on these GL has not started yet therefore it is not possible to present possible policy decisions at the moment. The work however will require coordination with the Basel Committee where the issues related with the application of downturn conditions in the risk parameters are also being discussed.

#### **(vi) Implementation of changes in risk estimates**

60. According to the current proposal on the RTS on assessment methodology, competent authorities will assess in detail the models used by institutions for the purpose of the IRB Approach. In particular they will verify whether the risk parameters are estimated according to the rules described in points (i) to (v) above. Such assessment will take place when the institution applies to use this model for the purpose of the IRB Approach. In the case of already approved models the assessment will take place either during the regular review of the IRB Approach or when assessing the institution's application for material change of the model.

61. It is expected that the new technical standards and guidelines could lead to material changes in numerous models. The implementation of those rules might require some time in particular in those institutions that use numerous rating systems. Therefore the EBA recognises that sufficient time should be granted to the institutions to introduce all required changes.

#### **Questions**

7. What is the expected materiality of the changes in your IRB models that will result from the proposed clarifications as described in section 4.3.2?
8. Do you consider the direction of the proposed changes adequate to address the weaknesses and divergences in the models across institutions?

9. Are there any other aspects related with the estimation of risk parameters that should be clarified in the EBA guidelines?

### 4.3.3. Treatment of defaulted assets

62. The area of the treatment of defaulted assets is not covered by any specific EBA mandate included in the CRR. In fact, this area has received relatively little scrutiny compared to other areas for the framework. As a result the Report on the comparability and pro-cyclicality of capital requirements revealed significant discrepancies between the practices of the institutions and expectations of the competent authorities. Those discrepancies may result in significant differences in capital requirements and own funds, especially since the financial crisis has led to an increase in size of the defaulted portfolios.

63. For those reasons it is important to provide clear interpretations of the CRR requirements and enhance the level playing field for institutions. Therefore the EBA plans to develop guidelines on the treatment of defaulted assets that will cover in particular the calculation of LGD for defaulted exposures (the so called LGD in-default) and the best estimate of expected loss ( $EL_{BE}$ ), as well as the computation of IRB shortfall in accordance with Article 159 of the CRR.

#### (i) IRB shortfall

64. Article 159 of the CRR requires institutions to calculate the difference between expected loss amounts and credit risk adjustments, additional value adjustments and other own funds reductions for the purpose of own funds recognition (the so called IRB shortfall). The same article states also that “specific credit risk adjustments on exposures in default shall not be used to cover expected loss amounts on other exposures”. As it is unclear whether ‘other exposures’ in this context mean only non-defaulted exposures or also other defaulted exposures, different practices have been implemented by institutions with regard to the possibility of netting of the IRB shortfall between individual defaulted exposures.

65. The interpretation of Article 159 of the CRR has been clarified in the Q&A process<sup>4</sup>. According to the provided answer the IRB shortfall should be calculated at an aggregate level separately for the portfolio of defaulted exposures and the portfolio of exposures that are not in default. The same rule is planned to be adopted in the RTS on the assessment methodology of the IRB Approach with the requirement for competent authorities to verify the appropriateness of the level of calculation of the IRB shortfall. As some institutions are currently using more conservative approach it is expected that this clarification might result in a significant increase

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<sup>4</sup> [http://www.eba.europa.eu/single-rule-book-qa/-/qna/view/publicId/2013\\_573](http://www.eba.europa.eu/single-rule-book-qa/-/qna/view/publicId/2013_573)

of own funds but it will also ensure level playing field for the institutions and greater comparability of their capital adequacy ratios.

66. Separation between defaulted and non-defaulted exposures has been introduced in order to ensure that the negative amounts resulting from the calculation performed for the defaulted portfolio are not used to offset the positive amounts resulting from the calculation performed for the portfolio of exposures that are not in default. Apart from that, the aggregate calculation is in line with the general concept of own funds, according to which the own funds should be fully available to cover unexpected losses in case of insolvency of the institution. Since the amounts of provisions included in the calculation of the IRB shortfall have already been deducted from own funds to cover the expected losses, their excess part over the total EL is fully available to cover losses identified on all defaulted exposures. Therefore only the overall IRB shortfall, when the amount of provisions does not fully cover the EL of defaulted exposures, should be deducted from own funds. The requirement to calculate the IRB shortfall individually for each defaulted exposure would be too conservative and burdensome for the institutions.

## (ii) Calculation of EL<sub>BE</sub> and LGD in-default

67. Since less conservative rules are planned to be adopted for the calculation of the IRB shortfall as described in point (i) the right balance and increased scrutiny from the competent authorities needs to be applied with regard to the risk weights for defaulted exposures. In the case of the advanced IRB Approach the risk weight of the defaulted exposure is calculated according to the following formula:

$$RW = \max\{0; 12.5 * (LGD - EL_{BE})\}$$

where LGD means in fact LGD for defaulted exposures (so called LGD in-default) and EL<sub>BE</sub> is best estimate of expected loss.

68. According to Article 181(1)(f) of the CRR, EL<sub>BE</sub> reflects current economic circumstances and exposure status. LGD in-default should additionally take into account the estimate of the increase of loss rate caused by possible additional unexpected losses during the recovery period, i.e. between the date of default and the final liquidation of the exposure. In practice there are two possible approaches to meet this requirement:

- direct estimation of downturn LGD and EL<sub>BE</sub> for defaulted exposures;
- direct estimation of EL<sub>BE</sub> and estimation of LGD in-default as the sum of EL<sub>BE</sub> and an add-on capturing of the unexpected loss related with exposures in default that might occur during the recovery period.

It is planned that dedicated GL will provide practical guidance on the relevant calculations, taking into account both possible approaches.

69. However, before detailed GL will be drafted in that regard, general rules on the assessment of risk weights for defaulted assets are proposed in the draft RTS on assessment methodology of the IRB Approach. In particular it is proposed that competent authorities will be required to verify that the LGD in-default takes into account the information on the time in-default and recoveries realized so far. Additionally competent authorities will verify the relations between particular parameters. They will expect that the LGD in-default estimate should be higher than or, in exceptional and duly justified cases, equal to  $EL_{BE}$ . Further, the differences between the  $EL_{BE}$  estimation and specific credit risk adjustments should be analysed and any differences should be explained and justified.

### (iii) Implementation of changes in the treatment of defaulted assets

70. Similarly to the changes in risk estimates the implementation of the above-described rules will be assessed by competent authorities when an entity applies for the authorisation to use the IRB Approach or, in the case the permission has already been granted, during the regular review of the IRB Approach or when assessing the institution's application for material changes.

71. For some institutions it is possible that the envisaged clarification of the provisions with regard to the calculation of the IRB shortfall might cause a cliff effect on own funds. Therefore it will be important that both the institutions and their competent authorities handle such situations in a prudent manner. Since in some cases less own funds will be deducted to cover the expected loss, they should ensure that the unexpected loss related with defaulted exposures is adequately covered by the capital requirements.

#### Questions

10. Do you have dedicated LGD models for exposures in default that fulfil the requirements specified in section 4.3.4.(ii)?

11. Do you consider the direction of the proposed changes adequate to address the weaknesses and divergences in the treatment of defaulted assets across institutions?

12. What else should be covered by the GL on the treatment of defaulted assets?

#### 4.3.4. Scope of application of the IRB Approach

72. The IRB Approach goes beyond internal models and technical calculation of the own funds requirements, it defines also the internal governance, including corporate culture and management of the institution. For that reason, as a general rule, the IRB Approach should be implemented for all exposures, unless the institution has received the permission to

permanently use the Standardised Approach, subject to the conditions defined in the CRR. Therefore it is important that competent authorities closely monitor the application of the permanent partial use of the Standardised Approach (PPU) and realisation of the sequential implementation of the IRB Approach (roll-out) in order to avoid undue delays in the full implementation of the IRB Approach.

73. The CRR contains specific mandates for the EBA to develop draft RTS to specify the conditions of application of permanent and temporary uses of the Standardised Approach by institutions that have received permission to use the IRB Approach. Additionally the rules for the assessment of the PPU and roll-out plans proposed by the institutions will be provided for by the RTS on the assessment methodology of the IRB Approach.

74. However the EBA has not submitted the draft RTS on the PPU and sequential implementation of the IRB Approach to the Commission at this stage (see also section 4.4.2). Therefore in the short term clarification in that area will only be provided in the RTS on the assessment methodology of the IRB Approach.

75. According to the proposals included in the Consultation Paper on the draft RTS on the assessment methodology of the IRB Approach competent authorities will require that roll-out plan should contain at least the scope of application of each rating system, the planned dates of implementation of IRB Approach with regard to each type of exposures and the information about the current exposure values and RWA of those types of exposures. It implies that fixed and reasonable dates have to be specified with regard to the implementation of all rating systems envisaged by the roll-out plan.

76. As a general rule it is proposed that in total the roll out period should not be longer than five years. According to the proposed draft RTS on the assessment methodology of the IRB Approach competent authorities may grant permission for longer roll-out for certain rating systems only if one of the specific conditions outlined in the RTS is met. Those conditions relate to the complexity of the institution's operations and rating systems, availability and suitability of data and existence of subsidiaries in third countries where significant difficulties for the approval of IRB models exist. Similar conditions are proposed in relation to the changes of roll-out plans. It is proposed that competent authorities may approve the change of roll-out plan only if any of the previously mentioned conditions has not been considered adequately in the initial roll-out plan or if there were significant changes in the business environment of the institution. The proposed rules should incentivise the institutions to set reasonable plans and realise them in a timely manner.

77. The RTS on the assessment methodology of the IRB Approach will be directed to the competent authorities and it is up to competent authorities to grant permission for PPU and determine the appropriate nature and timing of the roll-out. Nevertheless the conditions included in the standards for competent authorities will naturally affect the institutions in the way that the scope of application of the IRB Approach will have to comply with certain constraints included in those standards.

### Questions

13. What are the impacts for the institutions that should be considered when specifying the conditions for PPU and roll-out?

#### 4.3.5. Internal risk management processes

78. As mentioned before the IRB Approach is much more than just internal models. The reduction in capital requirements that is often achieved by the implementation of the IRB Approach stems not only from the more accurate risk measurement but may also result from the improved risk management processes that lead to decrease of the risk in the institution's portfolios. In order to gain permission to use the IRB Approach institutions have to prove the high quality of their internal organisation and risk management processes based on the rating systems. Some of the provisions envisaged in the regulatory developments on the IRB Approach may therefore impact also the institutions' organisational setup and internal risk management processes.

##### (i) Corporate governance

79. The CRR specifies several control levels in the development and implementation of the rating systems and the application of the IRB Approach. All those levels have their particular roles and responsibilities under the IRB Approach and they include in particular:

- the function of origination and renewal of exposures;
- credit risk control unit or units;
- validation function;
- internal audit;
- senior management and the management body.

80. It is planned that the RTS on the assessment methodology of the IRB Approach should provide for the rules to assess the adequacy of the corporate governance, including in particular the roles and the required level of independence of the credit risk control unit, validation function and internal audit.

81. It is expected that the largest impact of the proposed rules might be related with the specification of the independence requirements for the validation function. The main role of the validation function is ensuring the good quality of rating systems and their compliance

with the relevant requirements. In order to allow for an objective assessment of the rating systems the validation function should be independent from the credit risk control unit that is responsible for the development of the models.

**82.** However the EBA recognises that full independence might be burdensome especially for smaller institutions, because both the credit risk control unit and the validation function require highly qualified staff. Therefore it is proposed in the Consultation Paper on the assessment methodology of the IRB Approach that the assessment of the adequacy of the level of independence should be based on the proportionality principle. As a minimum, in smaller institutions, the staff performing the validation function should be separate from the staff responsible for the model design or development. Larger institutions, with more complex operations should aim at establishing a separate validation unit with adequate independent reporting lines.

## **(ii) Use test**

**83.** The calculation of the own funds requirements according to the IRB Approach is based on internal estimates of the risk parameters. In order to ensure that the parameters used for the calculation of own funds requirements truly reflect the level of risk as assessed by the institution, it is required that the data and parameters play an essential role in the internal risk management and decision making processes. Any differences in the relevant data and risk estimates have to be properly justified in order to avoid possible underestimation of the own funds requirements.

**84.** The proposed draft RTS on the assessment methodology of the IRB Approach specify the methodology to assess the adequacy of the scope of use of the risk estimates in the internal processes of the institution. Within three broader areas as listed in the CRR, i.e. (i) risk management, credit approval and decision-making processes, (ii) internal capital allocation, and (iii) corporate governance functions, more specific expectations have been proposed. In particular, in each area the RTS specified the processes where the use of IRB risk estimates is obligatory and the additional processes where the possible use depends on the institution's business model. It is proposed that competent authorities should make sure that the relevant risk estimates are properly used in at least the basic areas of internal processes and that they are sufficiently integrated within the corporate culture of the institution.

## **(iii) Stress tests**

**85.** According to Article 177 of the CRR institutions should have in place sound stress testing processes for use in the assessment of its capital adequacy. Performed in addition to Pillar 2 stress tests, the IRB stress tests should focus on the own funds requirements under stress conditions.

86. It has been clarified in the proposed draft RTS on the assessment methodology of the IRB Approach that the results of the stress tests should be taken into account in the decision making process in the area of risk and capital management processes. In particular the default rates and rating migrations under stress conditions should be taken into account in the assessment of the adequacy of the calculation of the long-run averages of one-year default rates and the dynamics of rating systems. The integration of the stress tests results in the decision making processes ensures that the scenarios and their impact on capital requirements are developed and performed in a meaningful manner and that forward looking aspects of capital requirements are taken into account in managing the institution.

#### **(iv) Implementation of changes in internal risk management processes**

87. The area of internal governance and internal risk management processes is treated as an integral part of the IRB Approach. Therefore, according to the Commission Delegated Regulation (EU) 529/2014 (i.e. the RTS on the materiality of extensions and changes of the IRB Approach and AMA), all changes will have to be either approved or notified to the competent authorities. In particular the changes that require prior notification to the competent authority include:

- changes in the credit risk control unit according to Article 190 of the CRR as regards its position within the organisation and its responsibilities;
- changes in the validation unit's position according to Articles 190(1) and (2) of the CRR within the organisation and its responsibilities;
- changes in the internal organisational or control environment or key processes that have an important influence on a rating system;
- changes in the use of models, if an institution starts using risk parameter estimates for internal business purposes that are not those used for regulatory purpose and, where this was previously not the case.

#### **Questions**

14. Do you expect that your organisational structure and/or allocation of responsibilities will have to be changed as a result of the rules described in section 4.3.5?

#### **4.3.6. Credit Risk Mitigation**

88. Additional area of internal risk management that might be affected to some extent by the planned regulatory developments is the collateral management. The EBA does not intend to

introduce significant changes in the area of Credit Risk Mitigation (CRM) and the priority assigned to the work in this area is relatively low. As the Basel Committee is currently working on the review of the CRM framework the EBA considers it reasonable to withhold the planned regulatory developments in this area until a clear direction of work at the Basel Committee level is specified.

89. Although the EBA does not plan to touch upon the topic of CRM to a significant extent, a couple of mandates included in the CRR will require certain actions from the EBA, in particular:

- RTS on the eligibility of conditional guarantees;
- RTS on liquid assets;;
- RTS on immaterial portfolios and criteria for determining whether an internal model is sound and implemented with integrity for the purpose of Internal Models Approach for Master netting agreements.

Some aspects on the treatment of the eligibility of guarantees, credit derivatives and protection providers will also be covered by the RTS on the assessment methodology of the IRB Approach.

#### **(i) Eligible guarantees**

90. Where own estimates of LGD are used, Article 183 of the CRR sets requirements on the eligibility of guarantors, guarantees and credit derivatives. Furthermore, EBA has been mandated by Article 183(6) of the CRR to develop draft RTS to specify the conditions according to which competent authorities may permit conditional guarantees to be recognised. The work on the RTS under Article 183(6) has not started yet, but some proposals with regard to the eligibility of guarantors and guarantees are included in the proposed draft RTS on the assessment methodology of the IRB Approach.

91. In order to ensure that the quality of the guarantee and the guarantor is properly assessed for the purpose of adjusting the risk estimates it is proposed that as a general rule only those guarantors may be treated as eligible that are rated with a rating system approved under the IRB Approach. Other guarantors may also be eligible, provided that they are classified as an institution, a central government or central bank, or a corporate entity that has a credit assessment by ECAI, and the guarantee meets the requirements set out in Section 3, Chapter 4, Title II, Part three of the CRR that are applicable for the Standardised Approach.

92. It is also proposed that the RTS will clarify that the effect of guarantees and credit derivatives can be recognised through adjusting either PD or LGD estimates. Alternatively, in the case of the guarantors that are internally rated with a rating system approved under the IRB Approach, the effect of the guarantee can be recognised by applying Article 153(3) of the CRR.

It is proposed that competent authorities should verify that the methods of recognising the effects of collaterals are used consistently and do not lead to underestimation of risk.

93. The RTS on the eligibility of conditional guarantees will focus in more detail on the eligibility of guarantees. In particular, the treatment of insurance contracts will have to be clarified.

## **(ii) Liquid assets**

94. The EBA has also been mandated by Article 194(10) of the CRR to specify the assets that are sufficiently liquid and when asset values can be considered as sufficiently stable in order for the assets to be considered eligible for credit risk mitigation. As those conditions are a part of general principles governing the eligibility of credit risk mitigation techniques that are applicable to all methods, the policy decisions that will be taken when developing these RTS may also influence internal models of the institutions that use the IRB Approach.

## **(iii) Internal Models Approach for Master netting agreements**

95. The choice to use Internal Models Approach for Master netting agreements is independent from the choice of the approach with regard to the calculation of capital requirements. Therefore, subject to permission of a competent authority, it may be used both by banks that use the Standardised Approach and those that use the IRB Approach. The use of this approach influences the calculation of exposure value therefore indirectly it may also influence the risk estimates. The RTS that will be specified by the EBA will define the criteria for the use of Internal Models Approach. If the criteria will not be met, the institutions will be allowed to use Supervisory Volatility Adjustments Approach or Own Estimates Approach as laid down in Article 220 of the CRR.

## **(iv) Implementation of changes in the CRM**

96. To the extent the specification provided in relevant RTS will influence the internal models of the institutions the required changes will have to be implemented in accordance with Article 143 of the CRR and Commission Delegated Regulation (EU) 529/2014 (i.e. the RTS on the materiality of extensions and changes of the IRB Approach and AMA). In particular changes in the way or extent to which conditional guarantees are accounted for in the LGD estimation according to Article 183(1)(c) of the CRR require prior notification to the competent authority.

### **Questions**

15. Do you agree that CRM is a low priority area as regards the regulatory developments?

#### 4.3.7. Conclusions

97. The IRB framework in general is considered to allow calculating capital requirements in a risk sensitive manner. However, the implementation of the IRB requirements differ in some aspects across institutions and jurisdictions, which leads to lesser comparability of the capital requirements and, in some cases, where different supervisory practices have been adopted, to unlevel playing field for European institutions.

98. The discrepancies in the practices of institutions and competent authorities have been analysed in the EBA reports on the comparability of capital requirements. The currently undertaken regulatory developments aim at improving the most important of the identified deficiencies in the implementation of the IRB Approach, in particular in the areas of the scope of application of the IRB Approach, the definition of default, the estimation of risk parameters and the treatment of defaulted assets.

99. This discussion paper and the regulatory developments in general are focused very much on the comparability of risk estimates and capital requirements. However, the EBA is aware that there is a potential trade-off between these objectives and risk-sensitivity. Therefore the aim is to align those practices that are not based on the underlying risk of exposures of transaction but leave enough flexibility for the institutions to measure their risk in an accurate manner.

100. Similarly, the simplicity and conservatism of the capital requirements is naturally much desirable from the supervisory perspective, however the trade-off in that regard should be defined by the risk-sensitivity of the IRB Approach. The oversimplification and excessive conservatism should be avoided where it might lead to the loss of risk-sensitivity because this in turn creates wrong incentives for the institutions and encourages them to more risky exposures.

101. With that in mind it has to be accepted that there will always be differences between the outcomes of internal models of particular institutions, although they should be well explained and justified by the differences in the underlying risk or the internal strategies and risk management processes at the institutions. As a general objective the EBA will therefore seek for the right balance between the simplicity, conservatism, comparability and risk sensitivity of the capital requirements.

102. Also in the context of risk-sensitivity the EBA is of the opinion that the use test requirements should remain strong. In a situation when institutions have significant degree of flexibility in the estimation of risk parameters the link with the internal risk management practices continues to constitute one of the mechanisms to ensure the adequacy of the models used for the purpose of capital requirements calculation under the IRB Approach. The main purpose of the use test requirements is to ensure that the bank has confidence in the risk estimates and that they are fit for purpose. However in some cases, in particular where only limited default experience is available, it might be challenging to strike the right balance

between the scope of use test and margin of conservatism.

103. The overall impact of the changes, that will be implemented via technical standards and guidelines referred to in the sections above, is difficult to estimate. For some institutions, where the current practices do not yet reflect the proposed harmonised rules, implementation of the required changes might be associated with material costs. Depending on the individual situations of particular institutions those costs might be related with the redevelopment of the rating models or recalibration of the risk parameters, adjusting the historical data, changes in the IT systems, internal strategies and procedures or even organisational structure. It is impossible at this stage to estimate the global impact of the changes that may be proposed on the capital requirements and capital adequacy ratios of the institutions.
104. Large part of those changes may require material changes to the rating systems or to the scope of application to the rating systems that will require prior approval of the competent authorities. Therefore the new set of technical standards and guidelines will also impact the competent authorities through the expected increase in the number of applications for the approval of material changes. The impact on competent authorities will also be more direct as the adoption of the RTS on the assessment methodology of the IRB Approach might in some cases result in more thorough assessment processes.
105. As the impact of the planned regulatory developments is so difficult to estimate, the EBA will closely analyse the opinions and expectations of the industry. This discussion paper contains several questions with regard to the expected impact of the regulatory developments and the feedback in that regard will be much appreciated.
106. The planned changes in the regulatory environment will impact various aspects of the IRB Approach that are largely interdependent. In order to reduce the operational burden for the institutions and for the national supervisors, the EBA considers that it may be desirable that most of the regulatory changes in a specific area come into force simultaneously. It seems that this would facilitate the implementation of the changes and reduce the expected number of applications for the approval of material changes. However, it might not be possible to align the date of entry into force of all regulatory products that will affect the rating systems. In particular those guidelines that are still at the initial or preparatory phase will most probably come into force later than the regulations that are already at the approval stage.
107. The EBA's objective is to keep high transparency with regard to the planned regulatory developments in order to grant sufficient time for both institutions and competent authorities to prepare for the upcoming changes. Nevertheless if the adoption of new regulations will result in temporary non-compliance with the IRB requirements then it is expected that Article 146 of the CRR will be used to handle such situation. Whenever an institution needs more time to adjust its rating systems to the requirements a detailed plan should be agreed with the competent authority. The scope of work and the timeline for the return to full compliance should be reasonable and supervisors will be expected to closely monitor the timely realisation of such plans.

108. The regulatory developments described in this part of the Discussion Paper are performed within the regime of the CRR through Level 2 regulations. However, in the case of some of the identified deficiencies of the IRB Approach, changes in Level 1 text might be necessary. This refers in particular to the treatment of low default portfolios, the CRM framework, broader aspects of PPU and roll-out or the philosophy of internal ratings. The Basel Committee is already working on various aspects of the IRB Approach, including the treatment of low default portfolios and the CRM framework but also harmonisation of exposure classes for IRB and Standardised Approach and other aspects. Therefore further changes in the framework might be required in the future. Further elaboration on those possible future changes is provided in point 4.4 of this paper.

#### Questions

16. Are there any other significant intra-EU or global discrepancies?

## 4.4. Transparency and supervisory consistency

109. It is clear that the identified weaknesses cannot be remedied solely by the regulatory developments. Therefore, in parallel to the improvement of the quality and comparability of internal models and risk estimates through the regulatory developments, the EBA will also put effort to restore trust in the internal models by improving the transparency and availability of the relevant information to the market participants and supervisory bodies. As presented in the table below the adequate measures will be taken in such areas as benchmarking, disclosures and supervisory reporting.

Figure 3: Transparency and supervisory reporting

Topic	Regulatory products	Current status	Planned actions
<b>Benchmarking</b>	RTS and ITS under Article 78 of CRD – on benchmarking	Submitted to the Commission	After the RTS and ITS on benchmarking are specified the benchmarking exercise will be performed on a regular basis and will provide input for the policy decisions to be included in the regulatory products as presented in Figure 2.
	Guidelines under Article 78(6) of CRD – on benchmarking	Work not started yet	
<b>Disclosures</b>	GL under Articles 432(1), 432(2) and 433 – on disclosures	Published	Institutions are required to disclose the information on capital requirements as specified in Article 438 of the CRR on an

Topic	Regulatory products	Current status	Planned actions
	GL on the disclosures on the IRB Approach – EBA own initiative	Work not started yet	on-going basis. Additionally, after relevant clarifications are provided in the regulatory products presented in Figure 2, the EBA will consider developing GL with specific templates for the IRB Approach.
<b>Supervisory reporting</b>	Commission Implementing Regulation (EU) No 680/2014 – on supervisory reporting according to the CRR	In force	Institutions are required to report on own fund requirements in line with Article 99 of the CRR on a regular basis. After implementation of the standards and guidelines as defined in phases 1 to 4 presented in Figure 2, the EBA will review the Supervisory reporting templates so that they adequately reflect the policy choices taken in the relevant regulatory products.

#### 4.4.1. Supervisory convergence and supervisory consistency

110. Improvements in the legislative framework regarding technical aspects of the models via technical standards and guidelines as described above are key to reduce the variability in the implementation of the IRB Approach. Nevertheless, it is also necessary to achieve a consistent implementation of these rules within the Single Market, otherwise supervisory divergences may persist despite common rules.

##### (i) Convergence in supervisory practices

111. Assessment methodologies and practices adopted by competent authorities for the approval and the ongoing review of internal models play an important role to ensure comparability and reliability of their outcomes. Indeed, model choices and calibration can be influenced by the result of supervisory reviews, which reflect supervisory expectations and tolerance levels towards deviations of actual evidences from model predictions.

112. With the introduction of the EBA draft RTS on assessment methodology of the IRB Approach which establishes specific requirements for competent authorities on the scope and methods of verification of all important aspects of the IRB Approach including the estimation of risk parameters, internal processes, governance, internal use of risk parameters and calculation of own funds requirements, the level of convergence of supervisory outcomes and consistency of internal models is expected to increase significantly.

113. However, other aspects like the frequency of supervisory reviews and most importantly the measures required by competent authorities to address models deficiencies can also lead to important divergences in model outcomes and capital requirements, and can also affect the results of the benchmarking (see further). In particular, some competent authorities might impose additional own funds requirements under the Supervisory Review and Evaluation Process (SREP) while others in a similar situation might decide to set risk parameters' floors or put other limitations to the calibration of risk parameters that will affect directly minimum own funds requirements.
114. As part of its broad mandate on supervisory practices convergence, in particular to fulfil the requirements set out in Article 107 of the CRD, the EBA will monitor the methodologies and practices for the assessment of the quality of internal models by competent authorities. This will be achieved by collecting relevant information from competent authorities using different sources, mainly through but not limited to peer reviews, including monitoring of the supervisory use of the benchmarking tool as well as supervisory measures in the SREP as part of the ongoing activity on colleges of supervisors.
115. The outcome of this analysis will serve as the basis for future development of guidelines in order to improve supervisory practices in this field, whenever needed.

## **(ii) Benchmarking**

116. Apart from the above-mentioned developments, focused on supervisory culture and practices, the regular benchmarking will be another tool in enhancing the comparability of the risk parameters and capital requirements. The lessons learnt from first benchmarking exercises performed by the EBA in 2013 and 2014 proved that this tool can be very efficient in identification of differences in RWAs.
117. Accordingly, Article 78 of Directive 2013/36/EU ('the CRD') empowers competent authorities to request the reporting by institutions authorised to use the IRB approach of the results of their calculation using their IRB models for the exposures that are included in benchmark portfolios defined by competent authorities. The reporting of the results should be accompanied by an explanation of the methodologies used to produce them. This benchmarking exercise should be carried out by the EBA in cooperation with national competent authorities in a proportionate manner on material portfolios using a yearly rotation principle and the templates jointly developed.<sup>5</sup> The benchmarking tool will to a larger extent enable both competent authorities and institutions to compare the outcomes of their models.

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<sup>5</sup> The EBA has as requested in the CRD Article 78(9) issued technical advice to the European Commission on the legal setting of the current benchmarking framework. The advice details how such proportionality considerations can be taken into account. The advice can be found here: <http://www.eba.europa.eu/documents/10180/983359/EBA-Op-2015-04+Technical+Advice+on+benchmarking+pursuant+to+Art+78%289%29.pdf>.

118. Competent authorities will assess annually the quality of the internal approaches paying particular attention to significant differences in the own funds requirements for the same exposures, particularly high or low diversity and/or significant and systematic underestimation of own funds requirements. Competent authorities will in particular investigate cases of major divergence of an institution from its peers. Where this divergence leads to an underestimation of own funds requirements that cannot be justified by differences in the underlying risks of the exposures adequate corrective actions might be needed.
119. The assessment by competent authorities will have to be performed in line with the RTS drafted by the EBA, complemented by GL when necessary to improve supervisory practices or practices of institutions with regard to internal approaches. However, it is clear that the use of internal models is a possibility for banks to model their risks in a more precise manner that fits the business model and risks that each individual bank faces. The introduction of a benchmarking tool does not change this purpose, but instead aims at reducing the non-risk based variability drivers observed across institutions.
120. Currently the RTS and ITS that specify the benchmarking procedures and assessment standards as well as more technical aspects like the benchmarking portfolios, templates, definitions and IT solutions have been submitted to the European Commission and are in the final approval phase.
121. Considering the potentially significant workload for institutions and competent authorities, the initial set of benchmarking portfolios, as defined in the ITS, has been limited in number and scope. Additional portfolios and adaptation of the initial portfolios may be introduced in the medium term in line with a progressive implementation and a learn-by-doing approach.
122. To properly assess the internal approaches, including the effect of each of the modelling choices in isolation, apart from the capital outcome, the reporting templates include a collection of detailed information on the models' parameters. The templates specify for each benchmarking portfolio the internal approaches applied and the main risk modelling assumptions. Additionally institutions will be asked to provide data on capital requirements before and after the application of specific add-ons or minimum levels of parameters or capital requirements.
123. In the benchmarking report provided by the EBA to competent authorities, all potential sources of differentiations will be thoroughly analysed. Although the report will establish thresholds of acceptable variability as a 'default' bucketing for competent authorities, they should not pre-emptively consider that portfolios outside of these thresholds are necessarily wrong. With the aim to complete a proper investigation of the potential sources of variation, the competent authorities are expected to make also use of the full set of information available, including the validation reports, model documentation, etc.
124. The EBA considers that the objective of ensuring consistency in RWA should be

compatible with the introduction of new methodologies and practices. One of the key objectives of introducing benchmarking exercises is to provide tools to assess the effect of new methodologies on capital. Capital ratios are the core measure of financial strength and, for instance, tools such as stress testing may also benefit from correct starting points for important risk parameters provided by regular benchmarking exercises at the European level. However, it is also clear that these supervisory tools should not hinder the introduction of new best practices. Competent authorities shall ensure that their decisions on the appropriateness of corrective actions must maintain the objectives of an internal approach and therefore must not: (a) lead to standardisation or preferred methods; (b) create wrong incentives; or (c) cause herd behaviour.

#### **4.4.2. Transparency and supervisory reporting**

125. While it is necessary to ensure that the IRB models are adequately improved in accordance with the regulatory developments and to foster consistency in supervisory practices, it is also important that these improvements in models and practices are perceived by market participants. In addition, in a context of changing legal environment, supervisory authorities should be provided with adequate monitoring tools of IRB models and their outcomes, in line with the evolution of the supervisory framework.

126. For these purposes certain steps have been taken and/or are planned to be taken in order to improve the transparency of the IRB models and their outcomes, as well as information reported to supervisory authorities.

##### **(i) Pillar 3 disclosures**

127. The provision of disclosure required by Title III of Part Eight of the CRR (Pillar 3 disclosures) is one of the conditions for the authorisation of the use of internal models as per Article 431(2), and an increase and improvement in transparency, meaning information published or made available by institutions, also appear as a necessity to restore confidence in IRB models.

128. Indeed, as evidenced in the reports on the consistency of RWA as well as the assessments of Pillar 3 disclosures by the EBA and interaction with users, the concerns about the differences and potential inadequacies of RWA level that markets have expressed since 2011 stem at least partly from inadequate / insufficient disclosures by credit institutions in their Pillar 3 reports, as well as from the lack of comparability and consistency of those disclosures between institutions. Especially, the second interim report on the consistency of RWA noted in February 2013 that half of the RWA differences could be explained by basic factors whose role is fairly easy to understand if properly disclosed, and therefore that improvements in Pillar 3 information would allow for better comparisons by third parties, potentially increasing

confidence in the IRB Approach. Indeed improved transparency could avoid markets drawing inaccurate conclusions on the level of RWA and the use of the IRB models.

129. In all its assessments of Pillar 3 disclosures that it has conducted since 2009, the EBA has identified and/or recommended best practices in banks' disclosures that would enhance the quality of information and its compliance with the CRD if they were applied by all institutions. For instance the EBA considers as good practices:

- the identification of the scope of application of the IRB Approach by subsidiary or portfolio and synthetic and clear (user-friendly) presentation of the types of models and / or parameters used (LGD, PD, conversion factor estimates) by types of exposures;
- the clear disclosure of internal rating processes and models with very clear link between internal ratings, probabilities of default and external ratings outlined either through text or under a tabular format;
- the use of an overall table comprising all the effective parameters used under the IRB Approach (including, for instance, gross exposures, exposures-weighted average conversion factor, EAD, exposure-weighted average in percentage terms for PD, LGD, and risk weights) for each of the exposure classes broken down by a number of internal grade consistent with the number of grade used for internal management;
- the disclosure of the results of backtesting of the risk parameters (PD, LGD, EL, EAD) over a long period (minimum of 3 years) by exposure classes;
- the disclosure of the exposure value, including the specification of the relevant definition of exposure value;
- the geographical and sectorial breakdown of exposures and RWA by regulatory approach;
- the explanation of the main changes and other important facts since the last reporting period.

130. The EBA noted consistency between its good practices and recommendations and those from other fora such as the EDTF. The EBA intends to continue its review of Pillar 3 disclosures on a regular basis.

131. In addition, the EBA has also finalized Guidelines which deliver an improved framework for disclosures. In particular, Article 432(2) of the CRR mandates the EBA to specify Guidelines on how institutions have to apply proprietary and confidentiality in relation to the disclosure requirements of Part Eight of the CRR. These Guidelines frame and provide for a more disciplined use of these concepts, which institutions may sometimes call upon in order not to disclose qualitative and quantitative information required by the CRR.

132. Moreover, Article 433 mandates the EBA to issue Guidelines on institutions assessing

more frequent disclosure of information required in Part Eight of the CRR. The Guidelines specified by the EBA state that significant institutions – identified as those in the scope of EBA Decision DC/0906– should disclose their IRB exposures broken down by PD grades and model parameters (EAD, LGD, conversion factor, RW and EL) on a semi-annual basis. This should lead to the major EU institutions disclosing more often information about their exposures, RWA and IRB model parameters.

133. Improved, more consistent and more comparable Pillar 3 disclosures have also been identified as an area of work by the BCBS to address concerns of market participants about the opacity of IRB models and to enable them to compare banks' disclosures of their RWA and to assess more effectively a bank's overall capital adequacy.<sup>7</sup> In January 2015 BCBS has published revised Pillar 3 disclosure requirements that include standardised templates breaking down exposures across a common PD master scale and by model parameters, illustrating the impact of CRM on RWA and showing the results of backtesting of the PD parameter by exposure class. A second phase of the work of the BCBS might involve requiring banks using the IRB Approach to disclose hypothetical capital requirements according to the Standardised Approach for credit risk.
134. The proposals from the Basel Committee are not expected to be implemented before 2016. In the EU their implementation will be achieved via their inclusion in the EU legal framework. Considering that most of these proposals are not new requirements but rather present existing requirements in a more prescriptive way to facilitate comparability across banks, the EBA might implement some of these proposals by amending the existing Guidelines, which are already mandated to the EBA in the CRR. This can provide enhanced guidance based on identified best practices and templates based on the BCBS proposals or the supervisory reporting on what information to disclose under existing requirements and how to present it.
135. Such Guidelines would provide a quick fix – before the full implementation of the BCBS proposals - for the current lack of harmonisation in terms of presentation and definitions used in the disclosed information and ensure a level playing field for EU banks. The limitation in scope of the Guidelines to existing requirements would ensure that the benefits for users of information come with limited burden on institutions. The appropriateness of this will however need to be assessed further.

## **(ii) Ad hoc disclosures**

136. Even when meaningful disclosures are provided, their consistency across institutions remains an issue and this lack of comparability may impair the usefulness of disclosed

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<sup>6</sup>See

<http://www.eba.europa.eu/documents/10180/16082/EBA+DC+090+%28Decision+on+Reporting+by+Competent+Authorities+to+the+EBA%29.pdf/9beaf5be-2624-4e36-a75b-b77aa3164f3f>

<sup>7</sup> See "Reducing excessive variability in banks' regulatory capital ratios" - <http://www.bis.org/bcb/publ/d298.pdf>

information to understand the specificities of a given institution compared to its peers.

137. To address the issue of disclosures being presented following different definitions and formats, the EBA has taken steps to ease the provision of harmonized, easy to access information on RWA by making the following data available on its website:

- breakdown of exposure values, RWA and value adjustments presented separately for the portfolios covered by the Standardised and IRB Approach, for each exposure class and separately for defaulted and non-defaulted exposures, at the consolidated bank level and by jurisdiction (in 2013 Transparency exercise for 64 banks and for 123 banks in 2014 Stress tests);
- total exposure value (EAD) by jurisdictions for a sample of more than 50 banks as well as dispersion and average risk parameters (PD, LGD, default rate, loss rate) attributed by these banks to their counterparties by countries.

138. These ad-hoc disclosures allow the EBA to bridge a gap between current disclosures of institutions and the needs of users, not as much in terms of types of data available (the data made available are more or less similar to what can be found in Pillar 3 disclosures), but rather in terms of consistency and comparability, thanks to a common granularity level and a common presentation format. The appetite of users for more accurate and comparable disclosure through the use of common templates and definitions explains why the centralized information publicly available on the EBA website related to stress-tests and the recapitalisation exercise was very much appreciated by users.

139. Consequently, should the need arise, the EBA could resort to ad hoc disclosure exercises, including after the implementation of the Basel proposals in Europe and during the next round of EU-wide stress tests. The ad hoc disclosures might also be used if it is considered that the implementation of one of the EBA deliverables related to IRB needs to be accompanied by enhanced transparency. Furthermore the EBA will also continuously consider whether it is meaningful to embed these ad hoc disclosures in a more permanent disclosure framework.

### **(iii) Disclosures of some elements in relation to the benchmarking**

140. The benchmarking exercise as per Article 78 CRD 4 and described in section 4.5.2 is an exercise of reporting to supervisory authorities. The disclosure of all or part of its outcomes is not explicitly provided for in the CRR or CRD.

141. Nevertheless, in a context where institutions need to better explain the variability in their RWA stemming from internal models, the EBA believes there might be merit in exploring with institutions the possibility to disclose some results of the benchmarking exercise, either in their publication as per Article 434 of the CRR, or preferably in a centralized fashion on the EBA website.

142. Such disclosures could potentially help users to compare model outcomes in different institutions after eliminating the divergences arising from portfolio effects. It could provide the users with a supplementary and refined comparison tool and consequently might help to enhance the trust in the internal models of the institutions.
143. The EBA notes that some institutions have already disclosed their results and their positioning in previous benchmark exercises in their Pillar 3 reports. The EBA sees such transparency as beneficial for assisting the users in understanding how the outcome of a banks' models compare with others, and therefore assessing the soundness of model-based RWAs.

#### Questions

17. Do you agree that the area of disclosures needs to be strengthened, in particular with regard to disclosures related with the benchmarking exercise, for instance by publishing them on the EBA website?
18. Would you support EBA Guidelines targeted at disclosure requirements related with the IRB Approach and taking into consideration the proposals of the Basel Committee on those requirements? Which current disclosure requirements should be given the priority? What should be the timetable for such Guidelines?

#### (iv) Supervisory reporting

144. Supervisory reporting covering RWA is established in accordance with Article 99 of the CRR (COREP framework) as specified by Regulation (EU) 680/2014. Within the COREP framework, templates 8.1, 8.2, 10.1 and 10.2 especially deal with credit exposures under the IRB Approach and provide a wide range of information on exposure values, CRM, risk parameters and RWA, by exposure classes and PD bands.
145. The ITS on Supervisory reporting follows the provisions of the CRR and it should be reviewed based on new technical standards defining capital requirements. However it is also acknowledged that the implementation of the amendments to the ITS on supervisory reporting might take time, due to the need to modify or create not only the templates but also to add or modify the reporting model that sustains them. Therefore it is likely that the amendments to the supervisory reporting framework will be introduced at the end of the process, once specific regulatory deliverables as described in section 4.3 are finalised.

### Questions

19. Would you like to see any modification of the reporting framework implemented in terms of IRB exposures?

### 4.4.3. Conclusions

146. Convergence in supervisory methodologies and practices for assessing internal models is key for ensuring comparability of models' outcomes and restoring public confidence in the use of such models for regulatory purposes. The existence of consistent evaluation criteria, frequency and scope of analysis as well as supervisory measures will also ensure a level playing field in the Single Market.
147. A significant step in this direction will come from the implementation of the RTS on the assessment methodology of the IRB Approach addressed to competent authorities, which establishes specific criteria for the evaluation of critical aspects of risk parameters' estimation, internal governance, internal use of risk parameters and other important aspects of the IRB Approach.
148. Within the broader mandate to monitor and increase the degree of convergence in supervisory practices, the EBA will analyse how competent authorities conduct ongoing review of internal models and the consistency of supervisory measures to address deficiencies identified. This objective will be pursued by the EBA by collecting relevant information from competent authorities for the purposes of peer reviews, by observing joint decisions on internal models and supervisory assessment of internal models through benchmarking. Indeed, regular comparisons with regard to the estimation methods and results are also expected to promote the best practices among the institutions and common understanding of the regulatory requirements. Should any needs for more convergence emerge from such analyses, the EBA will draft specific guidelines to improve supervisory practices.
149. On the other hand transparency is also an integral part of the repair of IRB models, as it provides stakeholders with insights about the functioning of the models and the soundness of their outcomes. Increased transparency towards markets will be achieved among others via improved, more comparable disclosures by the institutions or about institutions and the models they use. The various regulatory developments described in this paper may also require specific transparency components, especially for those developments that are driven by international standards.
150. Increased transparency could take the form of enhanced Pillar 3 disclosures, or ad-hoc disclosure exercises, including in relation to benchmarking. Enhancements and ad-hoc information will especially strive to achieve more consistency in disclosures, in order to ease the comparison of institutions by market participants.
151. The provision of a consistent set of information is expected to improve the understanding of stakeholders, thereby dispelling those concerns about IRB models that have arisen because

of misunderstandings about the IRB framework, the performance of internal models and risk-sensitivity of capital requirements.

152. Regarding supervisory reporting, the adaptation of the regulatory framework may ultimately lead to adaption of the way information has to be reported to supervisors. However, unlike transparency, which can proceed at the same path as those regulatory developments, modifications to the supervisory reporting framework are likely to be easier to implement once the regulatory framework is stabilised.

#### 4.5. Possible future regulatory developments

153. Although the initiatives described above should substantially contribute to increased comparability and reliability of internal models, the EBA recognises that they will not address all the identified issues. In order to properly address some of them modification of the CRR will be required. The BCBS is also undertaking a review of the regulatory capital framework, in particular it is evaluating options for improving consistency and comparability of regulatory capital requirements as well as alternative approaches that reduce the reliance on internal models maintaining adequate risk sensitivity. The results of work of the BCBS will subsequently be implemented through the European legislative process.
154. The EBA intends to actively participate in the work undertaken by the BCBS and, in this context, specifically promote the solutions that in the opinion of the EBA will further contribute to the improvement of the IRB framework and reliability of internal models. The objective of this part of this paper is to present the opinion of the EBA on the potential further developments in the legislation in the area of IRB framework and to seek feedback from the industry on the potential impact of such developments from a European perspective.
155. While aiming at the simpler and more straight-forward IRB framework a right balance will have to be sought between more clarification of the approach in order to ensure comparability on the one hand and risk-sensitivity of the capital requirements on the other. As there will clearly be certain trade-off between those various objectives it would not be desirable to incentivise the so called herd behaviour with regard to the risk management practices. The EBA supports certain degree of diversity among institutions that stem from different risk profiles and market strategies.
156. The expected regulatory developments with regard to the aspects of the IRB Approach discussed in this section are related with the objectives as specified in the previous paragraph. However, it has to be clearly noted that the described areas of changes will require more fundamental review of the IRB Approach and cannot be introduced by the EBA within the existing CRR. Such review is currently underway at the global level, as highlighted in the recent

BCBS report to the G20<sup>8</sup>, and pending choices of the EU Commission to table legislative proposals would subsequently be implemented in the European legal framework through the revision of the CRR.

#### 4.5.1. Low default portfolios

157. The treatment of low default portfolios (LDP) is one of the areas where the most significant discrepancies across institutions and jurisdictions have been identified. However, in order to fully address those issues more fundamental changes in the regulatory framework are necessary, which are not possible under the current CRR.

158. As is clear from the current experience the modelling of risk parameters, in particular LGD, for LDP is extremely challenging and the outcomes are often not sufficiently reliable because, by definition, default data for such portfolios is sparse and it is therefore difficult to apply statistically robust models. This makes LDPs less suitable for internal modelling than other portfolios. The current experience, see for instance the EBA report<sup>9</sup> on the consistency of capital requirements of LDP, shows that the existing modelling choices lead to significant divergence across banks. Hence considerations about the appropriate prudential treatment for LDP must be part of future considerations about the IRB framework.

159. There are various possibilities with regard to the treatment of LDP, including application of the Standardised Approach, foundation IRB Approach or even the introduction of other regulatory models. Additionally, it is possible that the review of foundation IRB Approach may result in wider and more granular recognition of collaterals that would be better adjusted to various types of exposures.

160. One of the challenges related with the LDP has to do with the identification and definition of such portfolios. There seems to be broad agreement that exposures to central governments and central banks as well as exposures to institutions are clearly LDP. However, other LDP cannot be that easily differentiated on the basis of the classification to an exposure class. In particular the large corporates would have to be extracted from the class of exposures to corporates.

161. There are various possible solutions that can be considered with regard to the definition of LDP. One of such possibilities would be that all exposures to central governments and central banks, institutions and as a general rule also those corporates that do not classify as SME should be considered LDP. In order to operationalise the above approach a common definition of SME would have to be specified.

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<sup>8</sup> See <http://www.bis.org/bcbs/publ/d298.pdf>.

<sup>9</sup> See <https://www.eba.europa.eu/-/eba-publishes-second-interim-report-on-the-consistency-of-risk-weighted-assets-in-the-banking-book-of-eu-banks>.

162. A less strict approach would be to allow some flexibility with regard to larger corporates that do not qualify as SME. In that case certain conditions could be introduced that would have to be met in order not to be classified as LDP.
163. It is also possible that certain criteria will be specified regardless of the exposures class. These criteria could be qualitative or quantitative, based for instance on the number of defaults identified within a certain period of time. In that context the treatment of external data would have to be specified.
164. In this regard it should be noted that the EBA has already given a definition of LDP in a recent RTS<sup>10</sup>, although the definition may still be considered relatively high level. The RTS considered the cases where national authorities can authorise the use of IRB models despite limited data availability. The EBA in this regard chose to not allow the so-called data waiver for LDP portfolios, which in this case was defined as exposures to sovereigns, institutions and “exposures to corporates ... provided that the specific type of exposures are not structurally characterised by few or no observed defaults”. Whether this definition is sufficiently precise is however a matter which should be discussed further.
165. The examples of the definition of LDP and the treatment of such portfolios as described above do not constitute an exhaustive list of possible solutions. Regardless of the final decisions that will be taken in that regard the changes in this area might influence the work currently undertaken by the EBA. Some technical standards and guidelines, in particular RTS on the nature, severity and duration of downturn conditions, might require subsequent review in order to accommodate those changes.

#### Questions

20. What would you consider an appropriate solution with regard to the definition and treatment (modelling restrictions) of the low default portfolios?

#### 4.5.2. Permanent partial use of the Standardised Approach (PPU)

166. The considerations on the LDP are naturally related with the future revision of the conditions for PPU and roll-out and certain incentives for the institutions to move towards the IRB Approach. For cases like LDP, that appear less suitable for internal modelling, the current principle that PPU can only apply to non-significant business units and immaterial portfolios may have to be reconsidered.
167. This is particularly important from the point of view of the European legislation and the

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<sup>10</sup> See <https://www.eba.europa.eu/regulation-and-policy/model-validation/draft-regulatory-technical-standards-on-data-waiver>.

currently adopted 0% risk weight for the sovereign exposures of Member States under the Standardised Approach. This rule creates clear incentive for institutions to keep the sovereign portfolios under the Standardised Approach. Before the more comprehensive revision of the CRR, according to the mandate of Article 150(4) of the CRR, the EBA will issue in 2018 guidelines on the application of the condition related with exposures to Member States. The CRR framework should therefore be reviewed to address that issue. This in turn might create incentive for the institutions to move the sovereign portfolios to the IRB Approach. Currently point (d) of Article 150(1) of the CRR allows an unlimited permanent application of the Standardised Approach to sovereign exposures to Member States as long as they qualify for a 0% risk weight under the Standardised Approach. According to the CRR mandate the EBA guidelines will limit this possibility in terms of a percentage of total balance sheet or total RWA. Any restrictions imposed on the use of point (d) of Article 150(1) of the CRR will not prevent the application of PPU to sovereign exposures if the number of material counterparties is limited and the implementation of a rating system would be unduly burdensome or if they are immaterial in terms of size and perceived risk profile, according to Article 150(1)(a) or (c) of the CRR respectively. Any decisions of the EBA on the use of the PPU under art. 150(1)(d) of the CRR will take into account the developments currently underway at the BCBS level, to the extent possible, as well as the holistic approach to the treatment of the sovereign exposures.

168. Regardless of the mandate included in the CRR the EBA considers that a more fundamental discussion on the treatment of PPU is necessary. Currently the IRB framework as implemented at the Basel Committee level and in the CRR assumes that as a general rule the IRB Approach should be rolled out to all portfolios. The exemptions from that rule are limited and subject to strict conditions. This approach proved problematic in the practical application of the IRB Approach. In particular, the list of conditions for the PPU does not include the most common obstacle in the development of the rating system, i.e. the availability of data of sufficient quality and quantity to allow the accurate risk estimation. As a result the institutions might be forced to develop internal models where it would be more appropriate to use the Standardised Approach.

169. The review of the IRB framework should take into account the experience gained during the last years. It seems clear now that for some portfolios, in particular for retail and SME exposures, the IRB Approach is the most appropriate option as the risk parameters are usually estimated with high accuracy and the risk management processes are significantly improved by the use of this approach. On the other hand, there are portfolios where for the prudential reasons the IRB Approach, in particular the advanced version of this approach, should not be used. This refers mostly to the LDP, where the institution does not have access to sufficient data to estimate the risk.

170. Therefore the alternative approach to the scope of application of the IRB Approach and the conditions for the PPU should be considered. Namely, based on the current experience, the framework could differentiate between portfolios where the IRB (or advanced IRB) Approach cannot be used and where the internal models may be used if the rating system is

sufficiently robust. Additionally, in order to avoid “cherry-picking”, it should also be specified for which portfolios the IRB Approach would have to be implemented or rolled out in a reasonable period of time. As a result the treatment of various portfolios would be better adjusted to the characteristics of the portfolio. The IRB Approach would be used only for those portfolios where sufficient data is available to develop a robust rating system. Where this is not possible, a Standardised Approach would have to be used. Such approach would also be facilitated by the harmonisation of exposure classes defined under the IRB and the Standardised Approach.

171. Taking into account the above considerations the EBA is not submitting the draft RTS on the PPU and sequential implementation of the IRB Approach to the Commission at this stage. Excessive limiting of the PPU is considered not prudent while insufficient precision about the scope would not be contributing to the single rule book in any effective manner. Therefore the EBA rather intends to prioritize taking part in the discussions on the optimal scope of application of the IRB Approach both at the Basel Committee and at the European level.

#### Questions

21. How would you ensure appropriate use of the IRB Approach in a harmonised manner without excessive concerns of the so called ‘cherry picking’?

#### 4.5.3. Harmonisation of exposure classes

172. Under the current regulatory framework it is particularly difficult to compare the own funds requirements between the institutions that use the Standardised and IRB Approach. This is due to different definitions of exposure classes under both approaches. The Basel Committee has undertaken effort to align the definitions of exposure classes to the extent possible. As the changes in the classification of exposures will most probably be made both under the Standardised and IRB Approach, this may have an impact also on the application of the IRB Approach by institutions. In particular some changes in the PPU, roll-out plans or the scope of application of the rating systems might be necessary.
173. This alignment of exposure classes may be used also to introduce the regular comparisons between the capital requirements calculated with the Standardised and the IRB Approach and possibly supplemented with the use of floors of the capital requirements calculated according to the IRB Approach.
174. The current definitions of exposure classes are fitted directly to the distinct concepts of the IRB and the Standardised Approach and take into account both the risk characteristics and the modelling possibilities. For instance the definition of retail exposures under the Standardised Approach includes the threshold of 1 million EUR for exposure value both for natural persons and SMEs, whereas under the IRB Approach such threshold is only necessary

in case of SMEs, because other differences in risk characteristics should be reflected in the internal risk estimates. Therefore the alignment of the exposure classes would require either recalibration of the Standardised Approach or additional restrictions on the modelling choices under the IRB Approach.

#### Questions

22. Do you see merit in moving towards the harmonisation of the exposure classes for the purpose of the IRB and the Standardised Approach?

#### 4.5.4. Philosophy of the rating models

175. The cyclicity of capital requirements depends on the way internal rating systems are implemented under CRR. Under the IRB Approach, the rating philosophy for the PDs may follow either a 'point-in-time' (PIT) or a 'through-the-cycle' (TTC) approach. PIT ratings represent an assessment of the borrower's ability to discharge his obligations over a relatively short horizon (e.g. a year), and so they can vary considerably over cycle. The TTC approach focuses on a longer horizon, abstracting in principle from current cyclical conditions. It is therefore expected that TTC ratings are inherently more stable and less cyclical than PIT ratings.

176. As opposed to cyclicity, pro-cyclicity of capital requirements refers to the dynamic interactions (positive feedback mechanisms) between the financial and the real sectors of the economy. When these mutually reinforcing interactions tend to amplify business cycle fluctuations and cause or exacerbate financial instability, the capital requirements regulation is said to be pro-cyclical. This effect was investigated in the EBA report on pro-cyclicity<sup>11</sup>, which pointed out that IRB banks that compute PIT PDs produce highly significant variations in capital requirements from peak (expansion) to trough (recession), as opposed to IRB banks that compute TTC PDs. The report found only weak evidence on pro-cyclicity of capital requirements, and a clear causal link between capital requirement regulation and the economic cycle could not be established. Nevertheless, the pro-cyclicity of capital requirements should continue to be monitored on a regular basis.

177. In practice the rating systems are in most cases a hybrid of PIT and TTC approach. Moreover in the report on comparability and pro-cyclicity the EBA noted that regardless of institutions' assumptions on their rating philosophy, the length of the time series used for PD calibration were not very different. Moreover, it has been argued that the philosophy of the rating models depends mostly on the internal strategies and credit policies of the institutions.

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<sup>11</sup> See <https://www.eba.europa.eu/-/eba-publishes-reports-on-comparability-of-risk-weighted-assets-rwas-and-pro-cyclicity>

Nevertheless the downturn period which begins at the 2008 reference point revealed that regardless of the intended rating philosophy the lending has decreased.

178. Therefore the overall approach with regard to the rating philosophy needs to be thoroughly analysed. This should on one hand seek to ensure the use of the risk parameters for internal purposes (use test) and on the other hand allow comparability of the capital requirements and possible reduction of the cyclicity of capital requirements. This would however require fundamental changes in the Basel text and CRR with regard to the risk quantification (length of the time series used in calibration), risk differentiation (discrimination of the relevant variables) and possible use of a master scale.

#### Questions

23. Would the requirement to use TTC approach in the rating systems lead to significant divergences with the internal risk management practices?

#### 4.5.5. Data waiver

179. One of the main conditions to develop a highly predictive model is the availability of data of sufficient quality and length of the period that it covers. As a general rule, according to the CRR, the minimum length of time series should cover the period of 5 years. As an exception of this rule competent authorities may permit the institutions to use relevant data covering a period of two years rather than five years for estimation of risk parameters.

180. The EBA has recently published a final draft RTS that specify conditions according to which such permission has been granted. However, the EBA considers that the application of a shorter data history increases the uncertainty of the estimation of risk parameters and therefore highly limiting conditions have been introduced. The quantitative thresholds specified in the final draft RTS are set sufficiently low to ensure that the application of the data waiver is limited to a small subset of institutions' assets.

181. In order to contribute to simplification of the IRB framework it might be appropriate in the longer term that the possibility to grant permission for a data waiver is removed from the CRR. This would enhance both the quality of the risk estimates and the level playing field for the institutions across EU. The EBA intends to promote this view when the CRR will be subject to review.

#### Questions

24. Do you agree that the possibility to grant permission for the data waiver should be removed from the CRR?

#### 4.5.6. Downturn conditions

182. The EBA work on downturn adjustments of LGD estimates, in the context of preparation of the draft RTS on severity, nature and duration of economic downturn and the GL on downturn LGD computation, contributes to the BCBS discussions on this issue. It is expected that upcoming standards and guidelines will ensure a certain level of comparability of the LGD estimates. However, if this proved insufficient, more fundamental changes might be desirable.

183. The current provisions on the downturn conditions are mostly conceptual and require clarification in terms of practical implementation in order to enhance comparability of the risk estimates. As the longer data series on credit losses are now available for the institutions it is likely that the analysis of the downturn conditions will be largely based on the historical data on credit losses and will also take into account the fluctuation of economic factors. The EBA work may seek to develop an approach that is more standardised and consider how to ensure that any approach can be implemented in a comparable way.

#### 4.5.7. Credit risk mitigation

184. Credit risk mitigation (CRM) provisions are perceived as one of the most complex and unclear parts of the Basel framework due to large variety of requirements and methods. This complexity impacts also the IRB Approach as it is not always clear which CRM requirements apply to which methods of calculating the capital requirements. In the opinion of the EBA a fundamental review of the CRM framework is necessary, in order to clarify it and include the current experience in the application of these rules. There are various aspects that would benefit from further clarification.

185. In particular, in the case of advanced IRB Approach Article 181(1)(f) of the CRR requires that the internal collateral and risk management processes are “generally consistent” with the CRM requirements. In the opinion of the EBA the requirements for the advanced IRB Approach need to be clarified to ensure comparable application.

186. Furthermore the CRM framework includes a large variety of possible methods with regard to the use of collaterals. Some of those methods are rarely used in practice. For instance the so called “double default” is a complex concept that does not find broad practical application. Therefore the removal of this possibility would simplify the requirements and ensure more comparable use of the collateral in the calculation of capital requirements.

#### 4.5.8. Margin of conservatism

187. Given the broad scope of application of the models in the IRB framework, an important question which needs to be answered is how to address the risk related with the accuracy of

the estimates that is mainly given by limitations in data and modelling technics but also by the management of the models, including the monitoring and regular review of the models.

188. In order to ensure consistent application of the margin of conservatism several issues will need to be further specified, including what should be the cases where a margin of conservatism needs to be applied in the risk estimates and what should be the methods for computation of this margin.

189. Additionally it should be considered whether the margin of conservatism should be directly applied to IRB models (Pillar 1) or as a supplementary own funds requirement (so called add-on) under Pillar 2. In this context it seems appropriate at this point that it should be applied directly in the models under Pillar 1. However, the possible results of the discussions in that regard are yet uncertain.

#### 4.5.9. Other aspects of the IRB Approach

190. For equity exposures under the IRB Approach three different methods have been defined to calculate the risk weighted exposure amounts:

- Simple risk weight approach, where flat risk weights are applied to private equity exposures in sufficiently diversified portfolios (190%), exchange traded equity exposures (290%) and all other equity exposures (370%);
- PD/LGD approach, where the same risk weight formula as for corporate exposures is used, with certain floors applied to PD parameter and LGD defined as 65% for private equity exposures in sufficiently diversified portfolios and 90% for all other equity exposures;;
- Internal models approach, where internal VaR models are used, with a restriction that the risk weighted exposure amounts at the equity portfolio level cannot be less than the corresponding amount calculated according to PD/LGD approach, with the application of the minimum PD levels.

191. Different approaches may be applied to certain equity portfolios where an institution uses different approaches for internal risk management purposes. The internal models approach is intended to be risk sensitive and adjusted to the institution's internal risk management practices. In order to use this approach the institution has to meet a number of additional requirements specified in Articles 186 to 188 of the CRR and obtain permission from its competent authority according to Article 151(4) of the CRR. It seems however, that among the European institutions there are very few cases where the internal models approach is actually in use. This questions whether the existence of this approach in the IRB framework is necessary.

192. As institutions would still be allowed to use the PD/LGD approach it seems that the

removal of the internal models approach based on VaR models from the IRB framework would not reduce the risk sensitivity of the capital requirements and would at the same time significantly simplify the IRB framework.

#### Questions

25. Are there any other aspects of the IRB Approach not discussed in this document that should be reviewed in order to enhance comparability of the risk estimates and capital requirements?

#### 4.5.10. Conclusions

193. The IRB framework as a theoretical concept was intended to ensure accuracy and risk sensitivity of capital requirements and incentivise the banks for better risk management practices. As a result the IRB Approach should lead to greater efficiency and stability of the institutions. However, in practice the implementation of the IRB Approach faced numerous obstacles. In general, the IRB framework is perceived as too complex and in many aspects not sufficiently clear. These characteristics result in significant differences in the application of the IRB requirements and subsequently divergences in the risk estimates and capital requirements that cannot be explained by the differences in risk profiles.
194. One of the main constraints for the IRB Approach is the availability of data. In order to build a robust rating system and achieve high predictive power of the risk parameters a large set of good quality, representative data is necessary. Importantly, the data set should include a sufficiently large number of defaults. Ideally, the time series should encompass at least one whole economic cycle. However, in reality the above conditions are often not met. As a result the risk estimates might not be accurate and the rating systems are often perceived by the competent authorities as not sufficiently robust.
195. The lengthening of time series in order to extend the modelling data set is also not always a perfect solution. As the market and economic circumstances as well as the banks' credit policies change frequently the older data is often no longer sufficiently representative to the current portfolio. Therefore it is often recognised that more forward looking aspects should be incorporated in the models.
196. In the case of increased uncertainty about the quality or representativeness of data and accuracy of risk parameters larger margin of conservatism is required. This however has the potential to undermine the incentive to implement the IRB Approach by the institutions.
197. The use of the IRB Approach contributes to better management of risk related with the credit activity of the institution and enhances the reputation of a bank among market participants as a well-managed and professional institution. On the other hand, both the implementation and subsequent maintenance of the IRB Approach is costly and burdensome

for the institutions. Additionally it imposes certain constraints on the internal risk management practices and credit policies through the so called use test requirements. Therefore the main incentive to implement the IRB Approach is still the potential gain in terms of capital requirements. However, where the increased margin of conservatism is required, and IRB capital requirement becomes closer to the amount of own funds that would have to be kept under the Standardised Approach, there is much less incentive for the institutions to use the IRB Approach.

198. The EBA considers that the IRB regulatory framework should be clarified and should only be used for those portfolios where it is possible to develop a robust rating system. Adequate incentives should be embedded in the framework in order to encourage the banks to constantly improve their risk management practices. At the global level of the Basel Committee the IRB framework was designed for large and internationally active institutions. In the European perspective it will have to be taken into account that the relevant legislation including the IRB requirements apply equally to the institutions of all sizes.

## Annex - Summary of questions

1. The proposed prioritisation of regulatory products is based on the grouping of such elements that in the EBA's view can be implemented in a sequential manner. Do you agree with the proposed grouping? If not, what alternative grouping would you suggest?
  2. What would you consider the areas of priorities?
  3. Do you consider the proposed timeframe reasonable? In particular do you consider reasonable the proposed timeline for the implementation of the changes in the area of:
    - a. definition of default;
    - b. LGD and conversion factor estimation;
    - c. PD estimation;
    - d. treatment of defaulted assets;
    - e. CRM?
  4. Are there any other aspects related with the application of the definition of default that should be clarified in the GL?
  5. Do you have experience with adjustments of historical data? What are the methods that you used to adjust historical data, including both internal and external data?
  6. To what extent is it possible to adjust your historical data to the proposed concept of materiality threshold for the purpose of calibration of risk estimates?
  7. What is the expected materiality of the changes in your IRB models that will result from the proposed clarifications as described in section 4.3.2?
  8. Do you consider the direction of the proposed changes adequate to address the weaknesses and divergences in the models across institutions?
  9. Are there any other aspects related with the estimation of risk parameters that should be clarified in the EBA guidelines?
  10. Do you have dedicated LGD models for exposures in default that fulfil the requirements specified in section 4.3.4.(ii)?
  11. Do you consider the direction of the proposed changes adequate to address the weaknesses and divergences in the treatment of defaulted assets across institutions?
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12. What else should be covered by the GL on the treatment of defaulted assets?
13. What are the impacts for the institutions that should be considered when specifying the conditions for PPU and roll-out?
14. Do you expect that your organisational structure and/or allocation of responsibilities will have to be changed as a result of the rules described in section 4.3.5?
15. Do you agree that CRM is a low priority area as regards the regulatory developments?
16. Are there any other significant intra-EU or global discrepancies?
17. Do you agree that the area of disclosures needs to be strengthened, in particular with regard to disclosures related with the benchmarking exercise, for instance by publishing them on the EBA website?
18. Would you support EBA Guidelines targeted at disclosure requirements related with the IRB Approach and taking into consideration the proposals of the Basel Committee on those requirements? Which current disclosure requirements should be given the priority? What should be the timetable for such Guidelines?
19. Would you like to see any modification of the reporting framework implemented in terms of IRB exposures?
20. What would you consider an appropriate solution with regard to the definition and treatment (modelling restrictions) of the low default portfolios?
21. How would you ensure appropriate use of the IRB Approach in a harmonised manner without excessive concerns of the so called 'cherry picking'?
22. Do you see merit in moving towards the harmonisation of the exposure classes for the purpose of the IRB and the Standardised Approach?
23. Would the requirement to use TTC approach in the rating systems lead to significant divergences with the internal risk management practices?
24. Do you agree that the possibility to grant permission for the data waiver should be removed from the CRR?
25. Are there any other aspects of the IRB Approach not discussed in this document that should be reviewed in order to enhance comparability of the risk estimates and capital requirements?