



EBA Guidelines
on the
Incremental Default and Migration Risk Charge
(IRC)
EBA/GL/2012/3

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I. Executive Summary

The amendments to the Capital Requirements Directive¹ by Directive 2010/76/EU (CRD III)² relate to the approach for capturing Incremental Default and Migration risks in the trading book, commonly referred to as the incremental risk capital charge (IRC). According to these amendments, the predecessor of the EBA, the Committee of European Banking Supervisors (CEBS)³ is tasked with monitoring the range of practices in this area and drawing up guidelines in order to secure a level playing field.

The transposition by national supervisory authorities of the changes to the Capital Requirements Directive (CRD) by Directive 2010/76/EU (CRD III) entered into force on 31 December 2011.

Providing guidance on the IRC modelling approaches employed by credit institutions using the Internal Model Approach ('IMA') for the calculation of the required capital for specific interest risk in the trading book, is seen as an important means of addressing weaknesses in the regulatory capital framework and in the risk management of financial institutions that contributed to the turmoil in global financial markets. The incremental risk charge is intended to complement additional standards being applied to the value-at-risk (VaR) modelling framework in the trading book and is expected to contribute to a more robust financial system.

Among other things, the first chapter of the Guidelines, 'Scope of Application' elaborates on the positions that are subject to IRC modelling and the permanent partial use of IRC models. The second chapter, on 'Individual Modelling' provides guidance on the use and sources of individual parameters and ratings in IRC modelling. The third chapter, on 'Interdependence' discusses i) the correlation between default and migration events, ii) copula assumptions, iii) systemic risk factors and iv) portfolio concentrations. Chapter four on 'Migration matrices' elaborates on the use of transition matrices. Chapter five on the 'Constant level of risk assumption over the one-year capital horizon' provides guidance on, among other issues, the use of liquidity horizons and the rebalancing of positions. Chapter six on 'Hedging' goes into more detail on the modelling of diversification effects. The seventh chapter, on 'P&L valuation' elaborates on how ratings changes are turned into impact on market prices and on the computation of P&L. Chapter eight on 'Liquidity horizons' provides guidance on defining a liquidity horizon as well as on the key factors for determining the relevant liquidity horizon as well as on the monitoring of liquidity horizons. Chapter nine on 'Validation' elaborates on the validation process for IRC models. Chapter ten on 'Use tests' and chapter eleven, 'Documentation' describe the minimum requirements for the use of IRC models and their related documentation. Chapter twelve on 'IRC approaches based on different parameters' provides guidance on how to deal with IRC models that are 'not fully

¹ Capital Requirements Directive (CRD) is a colloquial reference to Directives 2006/48/EC and 2006/49/EC. In this document, references to 'Directive 2006/48/EC' and 'Directive 2006/49/EC' or the 'CRD' are to the amended versions of the Directives; references to a particular Article of the CRD refer to the Directives as amended and in force.

² The amending Directive (Directive 2010/76/EU) was published on 24 November 2010 and can be found under: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:329:0003:0035:EN:PDF>.

³ The European Banking Authority was established by Regulation (EC) No. 1093/2010 of the European Parliament and of the Council of 24 November 2010. The EBA came into being on 1 January 2011. It has taken over all existing and ongoing tasks and responsibilities from the Committee of European Banking Supervisors (CEBS).

compliant with the IRC approach'. Chapter thirteen on the 'Frequency of calculation' elaborates on the minimum calculation requirements of the IRC.

The Guidelines on the IRC are expected to contribute to a level playing field among credit institutions and to enhance convergence of supervisory practices among the competent authorities across the EU. It is expected that national competent authorities in the EU will implement the Guidelines by incorporating them within their supervisory procedures within six months after publication of the final guidelines. After that date, the competent authorities must ensure that institutions comply with the Guidelines effectively.

II. Background and Rationale

The agreement reached in July 2005⁴ between the Basel Committee on Banking Supervision (BCBS) and the International Organisation of Securities Commissions (IOSCO), contained several improvements to the capital regime for trading book positions. Among these revisions was a new requirement for banks that model interest rate risk, to measure and hold capital against default risk that is incremental to any default risk captured in the bank's value-at-risk (VaR) model. The incremental default risk charge was incorporated into the trading book capital regime in response to the increasing amount of exposure in banks' trading books to credit risk, often related to illiquid products, whose risk is not reflected in the VaR.

In October 2007, the BCBS released guidelines for computing capital for incremental default risk for public comment. At its meeting in March 2008, the Basel Committee reviewed comments received and decided to expand the scope of the capital charge. The decision was taken in light of the recent credit market turmoil where a number of major banking institutions had experienced large losses, most of which were sustained in the banks' trading books. Most of those losses were not captured in the 99%/10-day VaR. Since observed losses had not arisen from actual defaults, but rather from credit migrations combined with a widening of credit spreads and the loss of liquidity, applying an incremental risk charge covering default risk only, did not appear to be sufficient.

In January 2009, the BCBS proposed supplementing the current VaR-based trading book framework with, among other measures, an incremental risk capital charge (IRC), which covers default risk as well as migration risk for unsecuritised credit products and a stressed value-at-risk (Stressed VaR) requirement⁵.

In the process of refining capital requirements for market risk, the BCBS conducted a quantitative impact study⁶. In summer 2009, the Trading Book Group of the BCBS (TBG) investigated the impact of the provisions of the BCBS 'Revisions to the Basel II market risk framework' and the 'Guidelines for computing capital for incremental risk in the trading book' consultation papers published in January 2009, focusing (generally) on big internationally active banks with extensive trading activities.

The amendments to the Capital Requirements Directive (CRD) by Directive 2010/76/EU (CRD III)⁷ relating to the IRC in the trading book are a direct translation of the proposals from the BCBS.

The European Banking Authority (EBA) is tasked with monitoring the range of practices in this area and to provide guidelines on the compliance of IRC modelling approaches with the CRD.

The objectives of the guidelines on the IRC are to:

⁴ Basel Committee on Banking Supervision, The application of Basel II to trading activities and the treatment of double default effects, July 2005.

⁵ Revisions to the Basel II market risk framework - final version (July 2009), Guidelines for computing capital for incremental risk in the trading book - final version (July 2009), Enhancements to the Basel II framework (July 2009).

⁶ Analysis of the trading book quantitative impact study (October 2009).

⁷ The amending Directive (Directive 2010/76/EU) was published on 24 November 2010 and can be found under: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:329:0003:0035:EN:PDF> .

- I. achieve a common understanding among the competent authorities across the EU on IRC modelling in order to enhance convergence of supervisory practices;
- II. provide guidance on the compliance of IRC modelling approaches with the CRD;
- III. create more transparency for credit institutions when implementing IRC into the calculation of the required capital for market risk in the trading book and into their risk management practices; and to
- IV. create a level playing field between credit institutions in this area.

The Guidelines presented in this paper do not aim to be a comprehensive set of rules, but rather to complement the new CRD provisions relating to the IRC where additional guidance was deemed necessary or appropriate by the EBA.

Given that the Guidelines discussed in this paper do not go beyond the provisions of the CRD but rather clarify how the rules are to be applied in practice, a detailed assessment of the costs and benefits associated with them is not required. These costs and benefits are unlikely to be incremental to those identified in the EU Commission's Impact Assessment accompanying its CRDIII proposal.

III. EBA Guidelines on the IRC

Status of these Guidelines

1. This document contains guidelines issued pursuant to Article 16 of Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/78/EC ('the EBA Regulation'). In accordance with Article 16(3) of the EBA Regulation, competent authorities and financial market participants must make every effort to comply with the guidelines.

2. Guidelines set out the EBA's view of appropriate supervisory practices within the European System of Financial Supervision or of how Union law should be applied in a particular area. The EBA therefore expects all competent authorities and financial market participants to whom guidelines are addressed to comply. Competent authorities to whom guidelines apply should comply by incorporating them into their supervisory practices as appropriate (e.g. by amending their legal framework or their supervisory rules and/or guidance or supervisory processes), including where particular guidelines are directed primarily at institutions.

Notification Requirements

3. According to Article 16(3) of the EBA Regulation, competent authorities must notify the EBA as to whether they comply or intend to comply with these guidelines, or otherwise with reasons for non-compliance, by 16.07.2012. In the absence of any notification by this deadline, competent authorities will be considered by the EBA as non-compliant. Notifications should be sent by submitting the form provided at Section V to compliance@eba.europa.eu with the reference 'EBA/GL/2012/3'. Notifications should be submitted by persons with appropriate authority to report compliance on behalf of their competent authorities.

4. The notification of competent authorities mentioned in the previous paragraph shall be published on the EBA website, as per article 16 of EBA Regulation.

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Title I - Subject matter, Scope and Definitions

1. Subject matter

These guidelines aim at achieving a common understanding among the competent authorities across the EU on IRC modelling in order to contribute to a level playing field in line with Annex V of Directive 2006/49/EC, as amended by Directive 2010/76/EU.

2. Institutional scope and level of application

1. Competent authorities should require the institutions mentioned in paragraph 2 below to comply with the provisions laid down in these Guidelines on IRC.
2. These Guidelines should apply to institutions using an Internal Model Approach (IMA) for the purpose of calculating the capital requirements for specific interest risk in the trading book.
3. The guidelines apply to institutions at the level (solo and/or consolidated) on which the relevant internal model is authorised to be used by the relevant competent authority, unless stated otherwise in these Guidelines.

3. Definitions

In these guidelines the following definitions should apply:

- a. The term *institutions* should mean credit institutions and investment firms as set out in Directives 2006/48/EC and 2006/49/EC.
- b. The term *permanent partial use* in point 8 of these Guidelines, should mean that certain positions, which are excluded from specific risk VaR and from the application of the IRC, based on Annex V, point 6 of Directive 2006/49/EC, are subject to the standardised approach for specific interest rate risk.

Title II - Requirements regarding institutions' IRC modelling

A. Material scope of application

4. Positions subject to calculation of the IRC

1. Calculation of the IRC should include all long and short positions subject to a modelled charge for specific interest rate risk, with the exception of the items referred to at point 5 below.
2. In particular, the following positions should be included, if they are part of the trading book:

- i. bonds issued by central governments (“sovereigns”), even in cases where the application of the standardised approach would result in a 0 % risk charge for specific interest rate risk;
 - ii. structured bonds, credit linked notes or similar debt instruments if they do not embed exposures to securitisations or n-th-to-default credit derivatives;
 - iii. money market loans.
3. Positions resulting from the application of the look-through approach to the shares of collective undertakings (CIUs), when such positions, if they directly belonged to the trading book, would be included in the calculation of the IRC according to point 4.1 above, should also be included. When the application of the look-through approach to the shares of CIUs is not possible, the standardised approach should be used.
4. The following positions are not considered securitisations and should therefore be included in the calculation of IRC, if they are part of the trading book:
- a. covered bonds (e.g. ‘Pfandbriefe’) since such bonds are simply collateralised and not asset-backed;
 - b. asset-backed securities that do not meet the definition of ‘securitisation position’ in Article 3(1)(f) of Directive 2006/49/EC, which refers to Article 4(36) of Directive 2006/48/EC. For example where cash flows from the underlying pool are allocated to securities holders on a pro-rata basis and therefore have no tranching (e.g. pass-through MBS).
5. Positions in defaulted debt held in the trading book should, where material, be included in the calculation of the IRC. In this case, they may be excluded from the migration element of the IRC if, given the specific model framework of the institution, defaulted positions bear no migration risk (for example if default is modelled as an absorbing state). Where these positions are excluded for materiality reasons, an institution must be able to demonstrate that they are not material. In all cases, any material risk of price changes of defaulted debt, as driven by uncertain recovery marks, should be capitalised.
6. The definition of default in the case of paragraph 5 above, should be consistent with the definition of default in ratings used for modelling purposes.

5. Positions not subject to calculation of the IRC

The following items should be excluded from the calculation of the IRC:

- a. securitisations;
- b. n-th-to-default credit derivatives; and

- c. positions subject to the specific interest rate risk charge and different from securitisations or n-th-to-default credit derivatives if they are positions of the correlation trading portfolio (CTP).

6. Positions in equity and equity derivatives

1. Competent authorities may allow the inclusion in the IRC of listed equity positions and derivatives positions based on listed equity subject to the following conditions:

- i. the related positions in equity and credit instruments are jointly managed by an identified trading unit (e.g. arbitrage between convertible bonds and equity);
- ii. procedures for the measurement and management of joint credit and equity risk are in place for the relevant trading unit; and
- iii. all equity positions of the relevant trading unit are included, in order to avoid cherry-picking.

2. If a listed equity or a derivative instrument based on listed equity is included in the computation of the IRC measure, the default of any of these instruments is deemed to occur if the related debt defaults.

3. Notwithstanding the inclusion in the IRC of positions in listed equity or in derivative instruments based on listed equity, a specific risk capital charge for these positions – capturing event risk in the case of the use of an internal model – must still be calculated.

7. Positions in the institution's own debt

1. Long positions in the institution's own debt, which may arise from trading or market-making activity in its own bonds, should be included within the scope of the IRC model but only migration risk should be taken into account for the calculation of the charge.

2. Short positions in the institution's own debt, which may arise from the inclusion in the trading book of own-debt issues (e.g. structured bonds or money market trades) or from buying protection on the institution's own name (e.g. via an index) should be included within the scope of the IRC model but only migration risk should be taken into account for the calculation of the charge. The default risk of short positions in own debt should not be modelled in the IRC approach.

8. Permanent partial use

1. Where use is made of the provisions of the CRD on the permanent partial use, the rationale for this should be carefully documented and analysed to show it is not intended to deliver a charge that is less conservative than if all positions were within the specific risk VaR and the IRC model.

2. Permanent partial use of the IRC should not apply to sovereign bonds and derivative products referencing sovereign bonds since – from a modelling point of view - the inclusion of these positions in the specific risk model and consequently in the IRC framework is not considered to be particularly challenging.

B. Individual Modelling

9. Soundness standard comparable to IRB

Unless otherwise specified in these guidelines, the soundness standard comparable to IRB applicable to IRC is: a capital horizon of 1 year and a confidence interval of 99.9 %.

10. Qualitative criteria

All aspects of the IRC approach applied should be thoroughly documented. This includes documentation of any analysis undertaken to motivate assumptions, estimation techniques, proxies, or simplifications. Any such decisions should be justified at the request of the competent authority.

11. Source of ratings

1. Institutions' IRC approaches may rely on either internal or external ratings. Internal ratings used for IRC purposes should be consistent with how they are derived in the IRB approach.

2. Institutions should have procedures in place for inferring a rating for non-rated positions. When credit spreads are available, their use for inferring a rating should be clearly documented. Likewise, the use of a default rating (i.e. a 'fall-back' rating for positions where no observable data can be used to infer a rating) should be documented. Any rating system applied should, as far as possible, differentiate between relevant groups of positions.

3. An institution should have in place a documented hierarchy of sources of ratings for determining the rating of an individual position. If an institution uses different sources of ratings (e.g. internal and external ratings or different external rating

agencies' estimates), it should consistently map the ratings into a common Masterscale.

12. Source of PDs and LGDs

1. Where an institution has approved PD estimates or PD and LGD, estimates as part of the internal ratings based approach (IRBA) set out in Article 84 of directive 2006/48/EC, this data may be used as a source for obtaining PD and LGD estimates for IRC purposes, as well.

2. Where , in the latter cases, an institution does not have approved IRB PDs and/or LGDs or where IRB PDs and/or LGDs do not exist for an issuer or a security in the trading book, these should be computed using a methodology consistent with the IRB methodology, which would then require a separate approval by the competent authority for use in the IRC.

3. Risk neutral PDs should not be acceptable as estimates of observed (historical) PDs for the modelling of the rating migration or default. If PDs implied from market prices are used, the institution should do the relevant corrections to obtain the real measure probability from risk neutral probabilities, and it should compare the outcomes of its methodology against the historical record.

4. Alternatively, the use of PDs and LGDs provided by external sources (e.g. rating agencies) may also be used by institutions, as they are generally considered appropriate.

5. Institutions should establish a hierarchy ranking their preferred sources for their PDs and LGDs, in order to avoid the cherry-picking of parameters.

C. Interdependence

13. Correlations between default and migration events

Institutions' IRC models should include the impact of correlations between default or migration events in a way that is consistent with their purpose, which is to capture credit risk correlations between different issuers. The assumptions on which their estimation is based should be consistent with the assumptions used in the simulation. The methodology should be documented and duly justified. The approach should be adequate and conservative enough to capture the interdependence between the risk drivers of credit risk events such as defaults and migrations. This would include, for example, the obligation that, if institutions choose to estimate their correlation parameters from the prices of traded securities, the estimates should be updated frequently.

14. Copula assumptions

For the purposes of describing its assumptions on the interdependence between risk factors, an institution may select possible copula candidates according to its ability to explain default or migration clusters for historical tail events. The choice of a particular copula should be justified and documented.

15. Systemic risk factors

1. Although interdependence between issuers is frequently modelled in a similar way to the regulatory IRB framework, using a combination of an idiosyncratic (i.e. individual) and one or more systemic risk factors, no modelling approach is prescribed by these Guidelines, provided that an institution meets all the relevant qualitative and validation requirements to ensure that its approach is suitably conservative.

2. If the model assumes different liquidity horizons, the evolution of systemic risk factors should be consistent and compatible across these different liquidity horizons.

3. The correlation between systemic risk factor(s) and individual issuer's 'ability-to-pay process' may be difficult to estimate because they are not directly observable. Any estimation technique based directly or indirectly on observable market data (as in the case of listed equity) should be duly justified and documented.

4. Where an institution chooses a parametric formula assuming multiple systemic risk factors, thus better reflecting industry or regional concentration than when assuming a unique systemic risk factor, the choice of the parametric formula should be analysed and validated, for example by comparing the results of the current model with the outcome of a modified version of the same model that uses the IRB formula and where all systemic risk factors are perfectly correlated.

16. Portfolio concentration

1. Institutions' IRC models should reflect issuer concentrations, which, for example, may arise from a lack of regional or industry diversification or from large exposures to individual or connected issuers. Institutions should evidence the overall appropriate capture of issuer concentration risks within the IRC. To this purpose, institutions should validate and document notably, but not only, that the IRC model result increases with the level of concentration of their portfolio.

2. An institution has to prove specifically that its approach captures portfolio concentrations appropriately.

17. Migration matrices

1. Transition matrices for modelling the rating migration process should be based on historical migration data using either external sources (i.e. rating agencies) or internal sources. Matrices from external sources should be preferred in cases where internal historical data is sparse. Institutions should ensure that the amount of historical data is sufficient to derive robust, accurate and statistically consistent estimates. Institutions should validate the robustness of transition matrices particularly in relation to higher rating categories, where a few severe downgrades or defaults can affect the migration frequency significantly. In accordance with the requirement for a 'standard of soundness comparable to IRB' which the CRD establishes, a minimum historical observation period of 5 years is required.

2. Separate transition matrices may be applied for specific groups of issuers and specific geographical areas. Depending on (i) the composition of the institutions' portfolio, (ii) the availability of accurate transition matrices and (iii) possible differences in migration characteristics across products, issuers and/or geographical areas, a balanced decision should be made on the set of transition matrices used. Such a decision should consider (i) the choice of the (internal or external) source in combination with an analysis of the overlap and/or possible mismatch between the institutions' portfolio and the assets underlying the transition matrix; (ii) the motivation for any weighting scheme (also for the use of equal weights); and (iii) the size of the historical window. Institutions should develop one (or more when relevant data is available) transition matrix that is specific to sovereign obligors.

3. When default is modelled as an absorbing state, transition matrices should be adjusted to ensure that this absorbing state does not conflict with internal PD estimates. Similarly, transition matrices where 'NR' ('Not rated') or another column is an absorbing state for withdrawn ratings or non-rated exposures can be adjusted. Any such adjustments should be documented, and the impact of the specified adjustment should be included as part of the documentation.

4. Transition matrices, in general, relate to a one-year horizon. Where shorter horizon matrices are required, which is the case when liquidity horizons shorter than one year are used, the corresponding transition matrices cannot always be computed directly and approximations are required. Both the approximations and the motivation for specific assumptions applied in this process should be documented (e.g. when generator matrices are used). These assumptions should also be assessed in order to verify that they remain valid over time. As part of the validation process a matrix based on a generator could be calculated for a horizon identical to the originating matrix's horizon in order to assess the difference resulting from the process of developing the generator matrix.

18. Constant level of risk assumption over the one-year capital horizon

1. When modelling a constant level of risk over the one-year capital horizon, institutions should rebalance or roll-over positions at the end of each liquidity

horizon to new positions, so as to ensure the same initial level of risk as at the start of the liquidity horizon.

2. When assuming a one-year constant position, which implies not adopting liquidity horizons, institutions should consistently apply to all IRC positions an instantaneous shock over the one-year capital horizon (referred to as 'one-year constant position assumption').

3. From a modelling perspective, the constant level of risk may be reflected as the replacement of positions, if a migration or a default has occurred over the liquidity horizon, with positions that have risk characteristics equivalent to those of the original positions at the start of the liquidity horizon.

4. Modelling a constant level of risk over the one-year capital horizon may be achieved, for example, on the basis of the approach outlined hereafter. With respect to calculating losses over liquidity horizons, an institution may choose to assume that instantaneous shocks are applied to ratings (or spreads). This implies that, in this case, the institution does not have to integrate the time effect: positions keep their original residual maturities at the end of each liquidity horizon; in other words, there is no ageing of positions. Furthermore, there is no need to consider potential changes in market conditions when revaluing the portfolio at the time of rebalancing (in particular, credit spreads by rating can be kept constant). As a result, measurement of losses within IRC does not take into account the timing of each migration or default event, and the P&L is computed as of today.

5. Modelling the ageing of positions should not be allowed in IRC modelling, given the expected tremendous challenges and the observed difficulties associated with modelling the ageing of positions, together with the substantial regulatory arbitrage this could result in. This justifies that, at the present stage, a conservative approach is preferred.

19. Hedging

1. For the purpose of calculating the IRC, institutions may net long and short positions only when they refer to strictly identical financial instruments.

2. Diversification effects associated with long and short positions may only be recognised by explicitly modelling gross long and short positions in the different instruments. In any case, institutions should demonstrate that diversification or hedging effects are not overestimated; in particular maturity mismatches should be reflected in models.

3. In order to reflect basis risk appropriately, where this risk is material, valuation for the purposes of the IRC for related positions (like, for example, bonds and CDSs

on the same obligor) should be differentiated. Thus, net long and net short positions that reference similar - but not identical - underlying assets should not result in an IRC measure equal to zero. Where basis risk is not accounted for, institutions should provide proof that this risk is not material.

4. Institutions should reflect the impact within the liquidity horizon of maturity mismatches between long and short positions (for example if a CDS matures before the underlying bond and the default happens after the CDS maturity), if the resulting risks are material. Therefore, an institution should be able to compute the P&L taking into account the impact of potential maturity mismatches between long and short positions. An institution should at least be able to prove that the above-mentioned risk is not a material risk, otherwise it should have to model the risk accordingly.

D. P&L valuation

20. Impact of rating change on market prices

1. Institutions may choose any of the approaches available to convert simulated rating variations into price variations, including using either absolute or relative differences between average spreads by rating class. The methodology used should be consistently applied and documented. In all cases, the relevant spread data should be as differentiated as possible according to the different categories of positions. The approach should be shown to differentiate sufficiently between positions with different pricing characteristics to the satisfaction of the competent authorities. For example, a credit default swap (CDS) and the underlying bond would have to be valued separately.

2. With regard to point 18 of these Guidelines, an institution may consistently assume an instantaneous rating change, implying that market conditions at the time determine prices after migration, taking into account any idiosyncratic valuation impact that would be expected when a migration event occurs (see point 20.5 below), ignoring all time effects on the price of an instrument whose rating changed.

3. If a simulation, e.g. the asset value process, has not resulted in a changed rating, no change in value should be assumed.

4. In the case of a rating migration, the variation of market prices should be recalculated. Full revaluation should be required unless an institution can prove that its pricing approach sufficiently reflects even the large price changes that are to be expected from a change in rating. This may be done as a pre-calculation in the sense that a vector of prices for each rating state might be an input in an IRC calculation. The impact of a rating migration on market prices should be estimated using either currently observed market data (e.g. spreads); or an average of historical market data observed over a maximum period of one year or any other relevant period

subject to approval by competent authorities. Historical PDs should not be used for discounting purposes when performing a full revaluation upon a rating change as they do not sufficiently reflect current market prices.

5. Positions migrating into the default state should be valued on the basis of the recovery rate or the loss given default rate. The recovery rate should be applied to the notional value of the position unless the estimates are derived relative to the market values of positions. It has to be shown to the satisfaction of the competent authorities that the estimate is appropriately differentiated for different categories of obligors and instruments. Calculations should be coherent between instruments. Any other approach should be duly justified and documented, in particular if generic market LGDs are used, and the institution should have a documented process in place describing on which criteria LGDs for individual positions are to be adjusted.

6. The model should capture divergences arising from differences in credit event definition, seniority in the capital structure or exposure to different entities within a group. This could, for example, be implemented through the use of stochastic recovery rates. Defaulted bonds are in principle included in the IRC portfolio if they are in the trading book (cf. Paragraph 4.5). Therefore, the model should capture the risk that post-default LGD marks or realisations may diverge from their pre-default estimates. The initial LGD or recovery rate applied to individual defaulted positions would have to be updated with the same frequency for the IRC as for the P&L calculation and the LGDs must be in line with the numbers used for the P&L calculation.

21. Computation of P&L

The valuation parameters for all rating categories should be estimated in a methodologically consistent way. Since the IRC is a capital requirement for market risks, the valuation of positions under the IRC should be based on currently observable market data. Market data used to evaluate the positions to which the shocks generated by the rating migration are applied should be the latest available market data at the time of computation of the IRC.

E. Liquidity horizon

22. The level at which to define liquidity horizons

1. Institutions should define liquidity horizons at a product level rather than on an issuer level. For an individual position the relevant liquidity horizon may vary according to the type of product (including its complexity), and the issuer.

2. Nevertheless, given the practical issues with an entirely granular assessment of liquidity horizon at a product level, considering the significant range of products held

in trading portfolios, liquidity horizons may be initially defined on an aggregated basis, for example at the issuer level.

3. Institutions should, however, monitor and document the range of products linked to each issuer and ensure that the liquidity horizon defined at an aggregate level is adequate for even the most illiquid product.

23. Key criteria for determining the relevant liquidity horizon

1. Institutions should document the criteria used in the determination of the relevant liquidity horizon for a position or set of positions. The methodology for converting those criteria into a defined liquidity horizon should also be documented and applied consistently for all positions.

2. A wide range of criteria can indicate the liquidity of a position, based on past experience, market structure, and the quality or complexity of the product. Institutions should identify a range of criteria that they believe materially define the liquidity horizon of their portfolios. These criteria include:

- i. Market activity, as reflected in number and volume of trades in an instrument or name, or in the size of historical bid-offer spreads;
- ii. Market structure, such as the number and distribution of market makers and quotes;
- iii. Size of position (relative to average trading volumes/overall market size);
- iv. Investment quality (e.g. credit rating);
- v. Geographical location of issuer;
- vi. Maturity.

3. At least one of the criteria considered in the determination of a liquidity horizon should be directly linked to the concentrated nature of positions (for example, through the size of position relative to the market size or average trading volumes), given that the liquidity horizon is expected to be greater for positions that are concentrated, reflecting the longer period needed to liquidate such positions.

4. Positions should be systematically assessed against the criteria chosen and allocated to liquidity horizons accordingly (with a floor of 3 months). Where limited data is available on a position or set of positions, institutions should be conservative in determining the relevant liquidity horizon.

5. The approach applied to link a criterion to a longer or shorter liquidity horizon should be documented and supported by historical evidence including evidence based on experience of liquidating similar positions during stressed periods, to ensure that assumptions which appear theoretically logical but are not true in practice are not mistakenly used in the analysis – for example it may not be true in

all cases that a lower credit rating implies a longer liquidity horizon if there is an active market in certain types of positions with low credit ratings. For example, in the case of the use of historical bid-offer spreads, institutions may set thresholds which determine which liquidity horizon a position is allocated to – the choice of these thresholds should be justified.

24. Monitoring liquidity horizons - key indicators of the need for review

1. Liquidity horizons should be reviewed on a regular basis to ensure they remain appropriate, particularly in relation to events or any significant indicators that liquidity conditions have changed in a market, reflecting the possibility for the liquidity of markets to change rapidly as market participants enter and exit asset classes.

2. Institutions should consider significant changes in the factors used to determine the liquidity horizon as a minimum set of triggers for a review of the relevant liquidity horizon. Any experience of selling a position that indicates a liquidity horizon is not sufficiently conservative should also immediately be taken into account in determining the liquidity horizon for similar products and the procedures for allocating positions to liquidity factors should then be updated accordingly.

3. Over time institutions should monitor and enhance the range of factors used to identify liquidity horizons based on their market experience.

F. General matters

25. Validation

1. Institutions should apply the validation principles in designing, testing and maintaining IRC models. Validation should include evaluation of conceptual soundness, on-going monitoring that covers process verification and benchmarking, and outcomes analysis.

2. The validation process of IRC models should include at least the following principles:

- i. Liquidity horizons should reflect actual practice and experience during periods of both systematic and idiosyncratic stresses;
- ii. The IRC model for measuring default and migration risk over the liquidity horizon should take into account objective data over the relevant horizon and include a comparison of risk estimates for a rebalanced portfolio with that of a portfolio with fixed positions;
- iii. The correlation assumptions in the IRC model, including the structure of stochastic dependencies and correlations/copulas, as well as the number and weight of systematic risk factors, must be supported by analysis of

objective data in a conceptually sound framework. In particular, the impact of different copula assumptions should be analysed, for example by testing the impact of different distributional assumptions. The default and migration behaviour predicted by the model should be validated against actual default and migration experience of traded debt portfolios.

- iv. The validation of an IRC model should rely on a variety of stress tests and sensitivity and scenario analyses, to assess its qualitative and quantitative reasonableness, particularly with regard to the model's treatment of concentration. Such a test should cover both historical and hypothetical events;
- v. The validation should also cover the assessment of calibration of PD and LGD risk parameters;
- vi. An institution should strive to develop relevant internal modelling benchmarks to assess the overall accuracy of its IRC models;
- vii. The validation should assess the transparency and adequacy of documentation of the IRC modelling approach.

26. Use Test

1. An institution should document how the IRC process is reported internally, its resulting risk-measurement judgements and the role these judgements play in the (risk) management of the institution.

2. The procedures that, given the judgement of the IRC, lead to potential appropriate corrective action should be in place and well embedded within risk management.

3. A comparison of the ways internal market risk model outputs are reported, judged, audited and used internally by specific departments within the institution is considered a helpful way to clarify the use test.

27. Documentation

1. An institution should document its approach to capturing incremental default and migration risks so that its correlation and other modelling assumptions are transparent to the competent authorities.

2. Therefore, the calculation of the risk measures generated by the model and the associated data flows should be documented to a level of detail that would allow a third party to replicate these risk measures. Furthermore, the institution should document the process for initial and ongoing validation of the IRC model to a level of detail that would enable a third party to replicate the analysis. This documentation should also contain a description of the ongoing model maintenance processes as employed in the course of the initial assignment and update of model input parameters.

28. IRC approaches based on different parameters

1. An institution may use an approach to capturing incremental default and migration risks that does not comply with all the provisions of Annex II Paragraph 3 of Directive 2010/76/EU (referred to as a 'not fully compliant IRC approach' in the remainder of this section):

- i. when this not fully compliant IRC approach is consistent with the institution's internal methodologies for identifying, measuring and managing risks;
- ii. and when the institution is able to demonstrate that its approach results in a capital requirement that is at least as high as if it was based on an approach in full compliance with all IRC requirements.

2. The institution should provide all necessary information concerning elements of the institution's IRC approach that are considered, either by the institution or by its supervisor, as not fully compliant.

3. On the basis of the information provided, the competent national supervisor should decide whether the IRC approach used – or planned to be used – by the institution should be considered as a non-compliant IRC approach or could be considered as a non-fully compliant IRC approach according to point 28.4 below. In particular, if an IRC approach is recognised as a non-compliant IRC approach, this would in principle entail the application of the standardised approach for specific risk to the positions covered by the non-compliant IRC approach.

4. In order to have its approach recognised as a non-fully compliant IRC approach, an institution should demonstrate, to the satisfaction of its supervisor, that the institution's IRC approach results in a capital requirement that is at least as high as if it were based on a fully compliant IRC approach.

5. The decision to recognise an institution's approach as a non-fully compliant approach is made by competent authorities.

29. Frequency of calculation

1. Calculation of the IRC should be at least weekly. However, institutions can choose to compute the measure more frequently. If, for example, an institution decides on a weekly IRC computation, for the daily calculation of capital requirements based on internal models the following should apply:

- i. The same IRC number should be used for five subsequent business days following the running of the IRC model;
- ii. With respect to the calculation of the average IRC numbers on the preceding 12 weeks, institutions should use the previous twelve IRC weekly numbers to compute that average.

2. The institution should be able to prove that, on the day of the week chosen for the IRC calculation, its portfolio is representative of the portfolio held during the week and that the chosen portfolio does not lead to a systematic underestimation of the IRC numbers when computed weekly.

Title III - Final Provisions and Implementation

30. Date of application

Competent authorities should implement these Guidelines by incorporating them within their supervisory procedures within six months after publication of the final guidelines. Thereafter, competent authorities should ensure that institutions comply with them effectively.

IV. Accompanying documents

a. Feedback on the public consultation and on the opinion of the BSG

1. The European Banking Authority (EBA) officially came into being on 1 January 2011 and has taken over all existing and ongoing tasks and responsibilities from the Committee of European Banking Supervisors (CEBS).
2. On 16 November 2011, the draft Guidelines on the Incremental Default and Migration Risk Charge (IRC) were presented to the EBA's Banking Stakeholder Group (BSG). The BSG provided broad comments and suggestions, to be considered by the EBA, when finalizing the Guidelines⁸.
3. On 30 November 2011, the EBA submitted the draft Guidelines on IRC for public consultation. The consultation period ended on 15 January 2012. Ten responses were received⁹. In addition, a public hearing was held on 13 December 2011 at the EBA's premises in London, to allow interested parties to share their views with the EBA.
4. The responses to the consultation paper were generally positive and supportive of EBA's work and required only some clarification; however, on some paragraphs in the consultation paper, the majority of the respondents disagreed or requested significant clarification.
5. A detailed account of the comments received and the EBA's responses to them is provided in the feedback table below. The feedback table is divided between general remarks and specific comments received from respondents and includes a section with EBA's point of view on them and the changes made in the final guidelines to address them.
6. In some cases, several respondents made similar comments. In such cases, the comments, and EBA's analysis of them are included in the section of the detailed part of this paper where EBA considers them most appropriate.

⁸ A summary of the discussion with the BSG has been published on the EBA website in the BSG meetings and minutes section (November 2011 meeting).

⁹ The public responses to CP 49 have been published on the EBA website together with the consultation paper.

Feedback table on CP 49: analysis of the responses and suggested amendments

The first column of the feedback table makes reference to the terminology and paragraph numbering used in the CP on Draft Guidelines on Incremental Default and Migration Risk Charge. The last column refers to the terminology and numbering in the final EBA guidelines.

| CP 49 | Summary of comments received | The EBA's response | Amendments to the proposals |
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| Guidelines on Incremental Default and Migration Risk Charge | | | |
| General Comments | | | |
| Status GL | The status of the guidelines is not clear. While the paper referred to as 'guidance' the wording in their scope and level of application is more consistent with rules-based regulation. Furthermore there are examples in the paper where it would be difficult for a firm to comply with both the national rules and guidance and the EBA's proposed guidelines. | Competent authorities have a legal requirement to notify the EBA if they comply or intend to comply with the guidelines within two months after publication. In order to maximize harmonization between competent authorities and member states, the EBA has chosen to write the guidelines in a more rules-based manner. | No change. |
| Timing GL | The timing of EBA's guidelines are unfortunate. Most banks have already submitted detailed model documentation for approval and often received approval under existing national rules and guidance. Where the final EBA guidelines differ from the BCBS | As the competent authorities have been involved while drafting the guidelines well before the publication of the consultation paper and institutions model approvals, the EBA expects that the competent authorities have followed the EBA guidelines as much as possible when approving models and does not expect that institutions | No change. |

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| | <p>guidance and/or national rules and guidance and banks are obliged to comply with the EBA guidelines this will be difficult and will lead to significant additional costs and resources which are already tied up with the implementation of Basel III/CRDIV requirements.</p> | <p>will have to substantially change models to comply with the guidelines or that it will lead to significant additional costs.</p> | |
| <p>Implementation GL</p> | <p>The timing for making the model changes remains unclear: we understand that the EBA will issue final guidance late in the first quarter of 2012 and that there will then be a six month period in which the guidance will be transposed into national requirements at which point banks would have to be compliant. If so the timetable is too short to implement any potential model changes.</p> | <p>Indeed, as mentioned in the guidelines the EBA expects that competent authorities will implement the guidelines within six months after publication of the final version. Indirectly this means that EBA expects institutions to comply with the guidelines as soon as they are implemented by the competent authorities in their supervisory practices, but in any case within six months after publication of the final guidelines.</p> <p>The EBA believes sufficient time is given to competent authorities and institutions to implement the guidelines.</p> | <p>No change.</p> |
| <p>Level Playing Field with US</p> | <p>The US continues to be stalled in the implementation of the Basel 2.5 Trading Book amendments because of the Dodd-Frank Act requirement to remove all references to ratings from regulation. However, the Notice of Proposed Rulemaking that was issued by the US authorities in December 2010 already diverges in a number of areas from the CRD 3 requirements. The EBA draft guidelines further tie EU firms to an inflexible model before the</p> | <p>Although the comment raised is important, it's not directly relevant to the guidelines on IRC.</p> <p>The EBA will communicate the concerns raised to the European Commission.</p> | <p>No change.</p> |

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| | US has implemented Basel 2.5. Flexibility should be retained so that a level playing field can be achieved if the US moves ahead. | | |
| Basel Fundamental review of Trading book | The Basel Committee's Fundamental Review of the Trading Book will most likely lead to a comprehensive change in the treatment of market risk. It's expect that the Basel Committee will issue new proposals before the end of 2012. The adjustments to the models set out in these EBA consultation papers may be redundant following the Fundamental Review. | The guidelines on IRC relate to the CRD III and have also been included in the current CRR/CRDIV proposals. In any case, the EBA is following the developments of the fundamental review of the trading book that is currently conducted in Basel and does not expect any final conclusion soon nor any transpositions to the CRR/CRD following the fundamental review in the short or medium term. | No change. |
| PD's approaches | The issue of whether to use Through The Cycle or Point in Time probabilities centres on an important issue around the role of capital which has been raised in the Fundamental Review feedback from industry (principle 8). For wind-up capital, which we refer to as Level 1 capital, PiT probabilities are probably more appropriate. However for Level 2 capital, which we associate with going concern capital, TTC probabilities are arguably more appropriate. This remains a matter for debate however; the important point here is that consistency is needed from regulators (principle 6) and this will only be possible when fundamental principles such as the role of regulatory capital and how it fits with broader economic requirements for capital are | Although the comment raised is important, it is not directly relevant to the guidelines on IRC. | No change. |

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| | clearly articulated. | | |
| A. Scope of Application | | | |
| Para 4.1 | The scope of the IRC should only be that covered by the specific risk internal model approval of the institution, not all long and short positions subject to a charge for specific interest rate risk. | EBA agrees with the comment on the scope of application and modified paragraph 4.1 accordingly: the scope of IRC concerns all long and short positions subject to a 'modelled' charge for specific interest rate risk. | Change of wording in para 4.1. |
| Para 4.2 i | <p>Standard rules sovereign bonds issued in domestic currency carry a zero risk weight. Under the IRC proposal such bonds are included in scope and since charges are derived from CDS spreads these can be non-zero. Although it is now accepted that no sovereign provides a truly risk free rate, such instruments do not display jump to default characteristics; rather the ratings migration is somewhat steady. We do not think the standard rules should produce regulatory capital charges which are lower than the IRC. Consistency may be achieved through revision to standard rules, so that risk weights for OECD sovereigns are better differentiated on a risk sensitive basis.</p> <p>The requirement to include sovereign bonds in the IRC poses unique and specific risk modelling challenges along with particular data challenges. Such a requirement should</p> | <p>EBA agrees that consistency on sovereign bonds between standard rules and the internal models approach (IMA) can be achieved through revision of the standardized rules. However Basel 2.5 revisions did not include revisions of the standardized rules and institutions that are able to model IRC should also be able to include sovereign risk into their IRC model.</p> <p>Competent authorities approving institution's IRC models have been part of EBA discussions on the content of the guidelines well before the draft guidelines for public consultation were published and institutions have been made aware of this requirement before receiving model approval from the relevant competent authority.</p> | No Change. |

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| | have been considered as part of the initial CRD3 drafting process and not left until Draft GL published just a few weeks prior to 'go live'. | | |
| Para 4.2iii | It is not clear what is referred to by 'money market loans', please specify. | The term 'money market loans' refers to exposures to money market funds. A money market fund is a (mutual) fund that invests almost exclusively in short-term money market instruments whose value is deemed unlikely to fluctuate. | No change. |
| Para 4.2iv | Where application of the look-through approach is not possible, the treatment of positions in the shares of collective undertakings (CIUs) is not clear. It should be clarified that these positions are excluded from the scope of the IRC model. A principle of materiality should be applied in this requirement as it is very demanding from a data handling point of view and will in many cases have very little effect on results. | Where an application of the look-through approach is not possible, positions in CIUs should be treated as they are treated in the standard approach. | Re-draft para 4.3. |
| Para 4.3 | It is not clear whether recoveries for defaulted positions need to be modeled in IRC if they have already been captured in VaR. There is a risk that the text implies double counting. The spirit of IRC should be to capture only incremental changes. Ultimately a defaulted asset will no longer imply any migration risk | EBA recognizes this comment and has re-drafted paragraph 4.3 (new paragraph 4.5) accordingly. Positions in defaulted debt held in the trading book shall in principle, where material, be included in the calculation of the IRC. Whereas the risk of a price change within 10 business days would be captured in | Re-draft of para 4.3 (new paragraph 4.5). |

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| | <p>and any price changes and recovery risk will already be reflected in VaR given that the market prices distressed assets at their future recovery rate.</p> <p>We would suggest adding to this paragraph that this guideline only applies if material.</p> | <p>the VaR approach, the risk of a price change beyond that time horizon would have to be captured in the IRC.</p> <p>When included in the IRC, positions in defaulted debt may be excluded from the migration element of the capital calculation if, given the specific model framework of the institution, defaulted positions bear no migration risk (for example if default is modelled as an absorbing state).</p> <p>Institutions have to prove to the competent authorities if defaulted debt is not material before they can exclude it.</p> <p>In all cases, the any material risk of price changes of defaulted debt, as driven by uncertain recovery marks, needs to be capitalised.</p> | |
| Para 5.2.b | <p>Clarification is needed concerning positions in asset-backed securities where cash flows from the underlying pool are allocated to securities holders on a pro-rata basis, but inclusion in the IRC model is not allowed. It should be specified that no charge is calculated for these positions.</p> | <p>Securitisation positions are not included in the IRC.</p> <p>Asset backed securities that do not meet the definition of securitisation (for instance, due to no tranching of credit risk), have to be included into IRC.</p> | Re-draft 5.2.b. |
| Para 6.1 | <p>Trading unit is not defined however it should be allowable to define this at levels above an individual trading desk provided such positions</p> | <p>Competent authorities will evaluate on a case-by-case basis the relevant level at which equity and credit instruments need to be managed in order to comply with the concept of a trading unit. No definition of a trading unit shall be provided.</p> | No change. |

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| | are risk managed jointly. | | |
| Para 6.3 | <p>An issue arises in relation to the treatment of exposures to equity positions.</p> <p>The draft Guidelines specify that 'Notwithstanding the inclusion in the IRC of positions in listed equity or in derivative instruments based on listed equity, a specific risk capital charge for these positions – capturing event risk in the case of the use of an internal model – must still be calculated.'</p> <p>Clarification is needed about the provision of a specific risk capital add-on for such positions, given that its content is not clearly specified in the text. If this sentence refers to the specific risk charge already included in the internal model calculations, the reference to such capital charge should be made more explicit. It is worth mentioning that, following introduction of the IRC, all specific risk surcharges have been removed.</p> | A specific risk capital add-on for event risk, regardless of whether equity positions are included in IRC, is a CRD requirement and therefore has not been removed. | No change. |
| Para 7.1 | An outstanding issue relates to the treatment of exposures to debt issued by other legal entities in the same group, where IRC is calculated on a stand-alone basis. Clarification is needed to make it unequivocal that when different legal entities in a consolidated group calculate IRC on a stand-alone basis, they shall nevertheless treat their exposures to the other legal entities in that group as 'own debt' | Para 7.1 and 7.2 have been deleted, however competent authorities will have to define an institution's own debt in the context of groups/cross-border groups, including the determination of the entities that would have to be considered as defaultable within the group while validating the models. | Delete para 7.1 and 7.2. |

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| | <p>(included within the scope of the IRC model, but taking into account only migration risk).</p> <p>The consolidated requirement can then be obtained as the sum of the standalone requirements. In other words, it should be made clear that 'supervision on a consolidated basis' does not refer to supervision of the IRC models but to inclusion in the scope of application of the consolidated capital requirements.</p> | | |
| <p>Para 7.3</p> | <p>To date, under the general rules, own issues did not have to be included within the scope of the IRC model. The present consultation paper, however, requests that own issues be taken into account during migrations, but not during default. If the current proposals were to be adopted, this re-interpretation would engender further model adjustments yet again. We kindly request a clarification why own issues shall now be included within the scope of the IRC model.</p> <p>Confirmation is required that the absence, among the examples of long positions in the institution's own debt, of positions arising from selling protection on the institution's own name is a mere oversight.</p> <p>We would find beneficial having a clarification of the rationale for explicitly mentioning credit index exposures among the position the can be accounted for buying protection on own</p> | <p>The guidelines do not discuss the rationale for the inclusion of such positions in the trading book.</p> | <p>No change.</p> |

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| | <p>name in 7.4 while not mentioning them among those through which protection on own name can be sold in 7.3.</p> <p>It should be specified that only positions that give rise to a net profit or loss shall be included, ie whenever the P&L arising from those positions is neutralized at the consolidation level, they shall not be included.</p> <p>Only net long positions should be included in the scope of the IRC model for migration risk only. This should be further expanded to make clear that only net positions that give rise to a net change to income or reserve will be included.</p> | | |
| B. Individual Modelling | | | |
| Para 11.3 | Under the current proposals, the IRB quality steps may be applied for various external ratings. We propose a concept clarification what this means and possibly an incorporation of the legal reference. | The mentioning of IRC credit quality steps has been deleted in the final guidelines as it was meant as an example only on the mapping of ratings. | Delete last sentence para 11.3. |
| Para 12.1 | The use of different LGDs constitutes a tremendous challenge for many banks. To date, more often than not, estimating scenario based LGDs is not an option. Concerning the use of the downturn LGDs and the upswing LGDs it remains unclear at which level the | The EBA recognises the difficulties arising from using 'downside' and 'upswing' LGDs and therefore has removed this requirement from the final guidelines. | Delete last 2 sentences para 12.1. |

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| | <p>calculation should take place: It would be possible to carry out such a calculation at position level, counterparty level or portfolio level. When it comes to prevention of an long LGD that exaggerates the risk, the present proposals beg the question as to how perfectly hedged positions should be handled. Furthermore there should be a clarification as to which one of the various LGDs (senior secured, unsecured, subordinated etc.) should be used. We therefore propose a clarification concerning the use of the LGDs.</p> | | |
| Para 12.2 | <p>Firms should be able to use risk neutral PD's. Risk neutral probabilities of default should be reconsidered in light of forthcoming rules and guidance on CVA and CVA VaR and also in light of Dec 7 NPR publication from the US where implied PD's are listed as an alternative approach for the determination of PD's for securitisation positions in the trading book.</p> | <p>EBA believes that risk-neutral PDs are used as a mathematical device to perform arbitrage free valuation, and that they are not probabilities in the sense of a measure of the likelihood of an event.</p> <p>Risk neutral PDs shall not be acceptable for the modelling of the rating migration or default, so if PDs implied from market prices are used, the bank should do the relevant corrections to obtain the real measure probability from risk neutral probabilities, and it should compare the outcomes of its methodology against the historical record.</p> | Re-draft 12.2 |
| C. Interdependence | | | |
| Para 13.2 | Firms usually compute asset price correlations | The EBA acknowledges the comments made and that in | Delete para 13.2. |

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| | <p>which are used in the copula models and default and migration correlations are implied by the asset price correlation. It's not possible to compute correlations consistent with liquidity horizons where different instruments issued by the same obligor may be assigned to different liquidity horizons.</p> <p>Depending on the methodology used to estimate correlations, we think that the amount of information available is insufficient to adhere to this requirement.</p> | <p>practice this paragraph is not workable. Therefore, the paragraph has been deleted from the final guidelines.</p> | |
| Para 14 | <p>The guidelines require the analysis of different copula assumptions and the justification of the choice of a particular copula. This places excessive demands upon banks' resources. It is a merely academic exercise which, in the absence of sufficient data, cannot be verified by means of real backtests.</p> | <p>This paragraph was intended as a validation point. Since it is already included in paragraph 25.2.iii, it has been deleted.</p> | <p>Delete second and last sentence of para 14 (already included in para 25.2.iii)</p> |
| Para 15.2 | <p>According to the draft guideline - in the event of liquidity horizons which are shorter than the capital horizon (i. e. with a roll-over) - the final value of a systemic risk factor at the end of the liquidity horizon should be the same as the initial value of the same factor at the beginning of the following liquidity horizon ('no refreshment of systemic factors'). This provision may potentially be in breach of the 'constant-level-of-risk' requirement because it does not allow resetting the portfolio at the beginning of a liquidity period to its original</p> | <p>The EBA agrees with the comment and has redrafted the relating provision.</p> <p>The EBA expects that the evolution of systematic risk should be consistent over the capital horizon.</p> | <p>Re-draft 15.2.</p> |

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| | risk level. | | |
| Chapter 16 | The text where it is required to prove that the IRC model is capturing concentration risk with other means should be clarified in more detail what EBA would consider as appropriate. | EBA believes that chapter 16 is clear enough. | No change. |
| Para 17.2 | <p>The proposal pursuant to which at least one own migration matrix for sovereign obligors will have to be developed does not take the lack of relevant data into account. In our view, any estimation of such a matrix is extremely instable; especially for the sub-investment grade area this means that there is a strong reliance on isolated rating changes. In our view there should only be a mandatory own migration matrix if and when the available relevant data allows their development in a meaningful manner.</p> <p>Furthermore the consistency of this requirement is questioned due to two reasons 1) Ratings are set based on an expected PD level, irrespective of the region or sector. Looking back, however, migrations and defaults can be concentrated in certain sectors or regions. Given that ratings are set based on expected PD we think this would be better reflected via correlations and/or a multi-factor model than via the ratings and transition matrices. 2) The reliability of a separate</p> | Even though the EBA acknowledges that for certain sovereign obligors, data information might be scarce, it believes that institutions that use IRC models should be able to construct at least one migration matrix for sovereign obligors with the information and data that is available. | No change. |

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| | sovereign matrix would suffer from a very limited number of observations, and various transitions will have a probability of zero. | | |
| Para 17.4 | <p>The assumptions regarding the transition matrix shall be back-tested. Given the limited amount of information available, especially on short time horizons, we think this requirement may not be feasible.</p> <p>Under the provisions of the present consultation paper, the assumptions underlying a migration matrix with a short horizon should become subject to back-testing. In our view a request for validation would be more appropriate in this context.</p> | The EBA agrees with the comment. The intention of this paragraph is to assure that the approximations and assumptions underlying a migration matrix with a short horizon have to be assessed, rather than back-tested. In the final guidelines 'back-tested' has been replaced with 'assessed'. | Change wording 'back-tested' into 'assessed'. |
| Para 18.2 | The hypothesis that an institution will periodically roll-over its positions may only be valid if the activity is on-going. Due to the 2008 crisis, several institutions have stopped some of their activities, in particular in credit derivatives. In such cases, the hypothesis that the institution will periodically roll-over its positions is not valid and the portfolio will age naturally (sometimes even more quickly as the institutions are managing the book towards extinction). In the cases where portfolios are run into extinction, national regulators should allow the institution to assume the ageing of the book (therefore applying rule (18. 1.) with a 1 year Liquidity horizon). This remark is even truer for the Comprehensive Risk | This is a CRD requirement. According to Annex V of directive 2006/49/EC, paragraph 5c. : 'The approach to capture the incremental risk (...) shall be based on the assumption of a constant level of risk over the one-year capital horizon, implying that given individual trading book positions or sets of positions that have experienced default or migration over their liquidity horizon are re-balanced at the end of their liquidity horizon to attain the initial level of risk. Alternatively, an institution lay choose to consistently use a one-year constant position assumption.' | No Change. |

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| | Measurement since many institutions have stopped commercial activities in their Correlation books, managing them in run-off mode. | | |
| Para 18.4 | <p>EBA should consider modifying the guidance to a more conservative approach of basing IRC on EL and UL losses as this would provide more consistency with US. UL are used in IRB because a reserve is taken on the banking book for EL. No such reserve is taken on the trading book.</p> <p>The guideline should encourage institutions to take into account the theta effect in their models and not prescribe the modelling of UL as the only authorized way to achieve it.</p> | The EBA agrees with the comment and has deleted paragraph 18.4 and the explanatory text from the final guidelines. | Delete para 18.4 and explanatory box. |
| Para 18.5 | It should be made clear that, alternatively, the institution may choose to model the ageing of its positions. | IRC Guidelines do not, in principle, forbid modelling of ageing of positions. However, due to the expected and observed modelling difficulties arising when modelling ageing of positions and to the substantial regulatory arbitrage this could result in, the EBA considers that modelling ageing of positions should not be allowed at the current stage. | New para (18.5) added. |
| Para 19.2 | It might be helpful to provide some additional guidance as to what might be considered an 'overestimation' of diversification or hedging effect (i.e. Relative to what?) for modelling long and short positions. | The EBA believes that this paragraph is sufficiently clear. | No change. |

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| Para 19.3 | <p>'In order to reflect basis risk appropriately, valuation for the purposes of the IRC for related positions (like, for example, bonds and CDSs on the same obligor) must be differentiated. Thus, net long and net short positions that reference similar - but not identical - underlying assets should not result in an IRC measure equal to zero.'</p> <p>Except for institutions that have very large basis positions, this risk is of secondary order as bonds and CDSs move largely together.</p> | <p>The EBA agrees with the comment and has included a materiality criterion.</p> <p>Non materially of this provision needs still to be proved by the institution through thorough analysis and discussed with the relevant competent authority.</p> | Change of wording to add materiality and proof of non materiality. |
| Para 19.4 | <p>When an institution decides on an annual liquidity horizon for all its positions, the notion of 'maturity mismatches' is neither coherent with the notion of 'constant position assumption' mentioned in 18.2 nor with the principles of 'instantaneous shocks' and 'no ageing of positions' detailed in 18.2 and 18.5.</p> | <p>Paragraph 19.4 especially applies when institutions explicitly model ageing of positions, implying that the timing of default is modelled. However, according to paragraph 18.5, the EBA does not expect institutions to model ageing of positions at this stage.</p> <p>The issue of maturity mismatches occurs only if liquidity horizons are defined, as per wording in the CRD III / CRR. It is not an issue in the case of a constant position assumption. We agree that a liquidity horizon of one year for all positions is not different from the constant position assumption over one year.</p> | No change. |
| D. P&L valuation (including non-linearity) | | | |
| Para 20.1 | <p>In the first sentence, rating changes have to be converted into spread changes.To our</p> | <p>The EBA agrees and the wording has been changed</p> | Re-wording para |

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| | understanding this has to read 'price changes' instead of 'spread changes'. | accordingly. | 20.1. |
| Para 20.4 | <p>When performing a full revaluation upon rating change, the current CRD 3 would allow for discounting with spreads or with historical PDs (as used for modelling rating migrations). We assume that the section stating that 'The impact of a rating migration on market prices may be estimated using either currently observed market data (e.g. spreads); or an average of historical market data observed' still allows for both choices.</p> <p>Under the provisions of CRD III, during a complete revaluation after a rating change, spreads or historic PDs may be discounted. We assume that this room for discretion is also in line with the rationale behind this consultation paper. To our preliminary understanding the option of including 'upswing estimates' means that such estimates should be used during a foreseeable upswing. A potentially required simultaneous computation of 'downturn' and 'upswing' LGDs is not feasible. As has been mentioned above, at present, institutes are incapable of implementing these provisions which, besides, would also lead to an inadequate risk picture.</p> <p>The requirement to take into account that the 'impact may be larger than that implied by the difference between average market prices or</p> | <p>The EBA does not believe that historical PDs can be used for discounting purposes when performing a full revaluation upon a rating change. However, the institution may estimate the impact of rating migration on market prices by using either current observed market data or an average historical market data observed.</p> <p>The relevant question in the context of 'an average of historical data observed' is how far back the observation period could reach. Over one year seems not current enough to calculate a change in current market price.</p> <p>Last sentence of para 20.4 regarding 'appropriately adjustment' has been deleted in the final guidelines to take into account the comment.</p> | Delete part of last sentence in para 20.4. |

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| | <p>spreads for the pre- and post-migration rating levels add a disproportionate amount of complexity to the model, compared to the little add-on to the IRC figure.</p> <p>One respondent agrees that in estimating the impact of a rating migration on market prices firms should be allowed to choose between using either currently observed market data or an average of historical data observed and that as long as they are able to justify their choice then national regulators should not be super equivalent in imposing a particular approach</p> | | |
| Para 20.5 | <p>More clarity is needed on the recovery rates/LGDs. It is not clear whether the EBA is requiring banks to start calibrating 'upside' LGDs, nor is it clear how 'downside' and 'upside' LGDs should be applied:</p> <p>If 'downside' LGDs were applied to long positions and 'upside' LGDs to short positions, then (nearly) perfectly matched long and short positions would show an inappropriately large net loss;</p> <p>On an issuer level there are various recovery rates pertaining to the same issuer (senior secured, unsecured, subordinated, local currency, foreign currency, etc.);</p> <p>Applying 'upside'/'downside' LGDs on portfolio</p> | <p>The EBA recognises the difficulties arising from using 'downside' and 'upswing' LGDs and therefore has removed this requirement from the final guidelines.</p> | <p>Re-draft and delete sentences in para 20.5 (new paragraph 20.6).</p> |

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| | level conditional on upturn or downturn scenarios would introduce a new stochastic risk factor which would exceed the scope of capturing losses from rating migrations and defaults. This would require significant implementation efforts; | | |
| Chapter 21 | The valuation of positions has to be based on currently observable market data. It is not entirely clear what is meant with this. We assume this relates to for example interest rate & foreign exchange data. However in other sections it is clear that credit spreads (and PD/LGD) can be based on through the cycle data, which could be seen as inconsistent with this requirement. | The EBA does not see any inconsistency as this requirement is for valuation purpose and not for capital calculation purpose. | No change. |
| E. Liquidity Horizon | | | |
| Para 22.1 / 22.2 | <p>The preference to assign liquidity horizons on product/issuer level is extremely granular and not in line with current practice which looks at the liquidity of homogenous position classes grouped by e.g. product type, issuer type, rating, concentration, etc.</p> <p>The rationale behind the preference given to a liquidity horizon at the level of product or issuers is not immediately obvious. Such a granular vision is not in line with the current practice under which clusters shall be formed on the basis of product type, issuer type,</p> | In principle, the EBA would like institutions to define liquidity horizons as granularly as possible. Product and issuer levels are given as examples and paragraph 22.2 clearly states that given the practical difficulties that arise, liquidity horizons can be defined on an aggregated basis. | No change. |

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| | rating or concentration. The disadvantages of choosing the liquidity horizon at product level would be further compounded due to the fact that the rating always depends on the issuer: Upon expiry of the liquidity horizon, part of the positions of an issuer would see a reset back to their original state and part of these positions would not see such a reset. As a result, de facto the next simulated period would see the emergence of two issuers with diverging rating processes | | |
| F. General matters | | | |
| Para 25.2ii | The validation under 25.2ii implies that if you rebalance your portfolio over a shorter liquidity horizon than 1 year, that you compare the result with an IRC model with a fixed portfolio with a liquidity horizon of 1 year. This requirement to effectively maintain two IRC models and the added associated costs will discourage firms from developing the more sophisticated models. | This is a Basel requirement (See paragraph 32, 'Guidelines for computing capital for incremental risk in the trading book', July 2009; and question 6 of paragraph 2.3 'Interpretive issues with respect to the revisions to the market risk framework'). | No change. |
| Para 25.2iii | Validation should require firms to review actual default and migration data but question reference to 'traded' debt portfolio. We propose to utilise whatever available data there is to build confidence in the IRC model output and would not restrict this to the experience reflected in the data for only | The EBA believes that validation against default and migration of traded debt portfolios is a minimum requirement. | No change. |

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| | 'traded' debt portfolios. | | |
| Para 25.2vi | It would be helpful if EBA could provide additional clarity on the types of 'internal modelling benchmarks' suggested in 2.vi. At a 99.9% confidence interval in the absence of back testing determining standards for model accuracy is notoriously difficult. | This provision is a CRD requirement (paragraph 5h.(ii) of Annex 5 of directive 2006/49/EC). The EBA will monitor the range of practices in this field and provide guidance in future guidelines on IRC. | No change. |
| Para 26.1 / 26.2 | The proposed wording does not seem appropriate for the IRC which is primarily an additional capital charge and which has not been designed as an operational risk measure. '1, An institution ...reported internally, its resulting analysis and the role these analysis play in the (risk) management of the institution.' Delete- '2. The procedure that, given the judgement of the IRC, lead to potential appropriate corrective action shall be in place and well embedded within risk management.' | The use test provisions are a standard requirement therefore the EBA does not agree that they need to be reworded or deleted. | No change. |
| Para 27.2 | EBA should elaborate more on expectation regarding documentation and should make clear that the third party has the necessary market risk, quantitative and information technology competence to recreate the risk measure. | EBA believes that requiring a detailed level of documentation is clear enough. There should be documentation that enables a third party to recreate the risk measures taken, based indeed on a third party which has the necessary market risk, quantitative and information technology competence. | No change. |
| Para 28.1ii / | First, confirmation is required that point 28.1.ii. and paragraph 28.4 are equivalent | Paragraph 28.4 provides an extra clarification in the case of a 'not-fully' compliant IRC approach and related | No change. |

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| Para 28.4 | (thus one is redundant and can be deleted). Otherwise, clarification is needed as to the different meanings of the two provisions. | requirements in order for this approach to be approved by the relevant competent authority. | |
| Para 29.2 | <p>'The institution shall be able to prove that, on the day of the week chosen for IRC calculation, its portfolio is representative of the portfolio held during the week and that the chosen portfolio does not lead to a systematic underestimation of the IRC numbers when computed weekly.'</p> <p>We'd like to clarify that this requirement should not be construed as a de facto requirement for a daily computation of the IRC. This requirement should be satisfied by other means or indicators.</p> | No daily computation of the IRC is required. This requirement can be satisfied by other means. The key point of this provision is that institutions should not chose a day with particularly lower risk levels and which does not reflect the normal risk levels. | No change. |

V. Confirmation of compliance with guidelines and recommendations

Date:

Member/EFTA State:

Competent authority:

Guidelines/recommendations:

Name:

Position:

Telephone number:

E-mail address:

I am authorised to confirm compliance with the guidelines/recommendations on behalf of my competent authority: Yes

The competent authority complies or intends to comply with the guidelines and recommendations:

Yes No Partial compliance

My competent authority does not, and does not intend to, comply with the guidelines and recommendations for the following reasons¹:

Details of the partial compliance and reasoning:

Please send this notification to compliance@eba.europa.eu².

¹ In cases of partial compliance, please include the extent of compliance and of non-compliance and provide the reasons for non-compliance for the respective subject matter areas.

² Please note that other methods of communication of this confirmation of compliance, such as communication to a different e-mail address from the above, or by e-mail that does not contain the required form, shall not be accepted as valid.