Summary of CP16/22 Implementation of Basel 3.1 Standards

Key Takeaways for Non-Retail Exposures (Part 2 of 2)

MARCH 2023

TRUE NORTH PARTNERS

FINANCE | RISK | STRATEGY

Outline

- **Interpretation of Proposed Changes to Requirements for Non-retail Exposures**
  - Changes to IRB exposure classes and sub-classes and restrictions on IRB modelling
  - Changes to the standardised approach
  - Roll-out, permanent partial use and reversion
  - **IRB modelling requirements**
- **Appendix A: Who are we**
- **Appendix B: Themes considered by the PRA when proposing CP 16/22**
- **Appendix C: Definitions**

Disclaimer

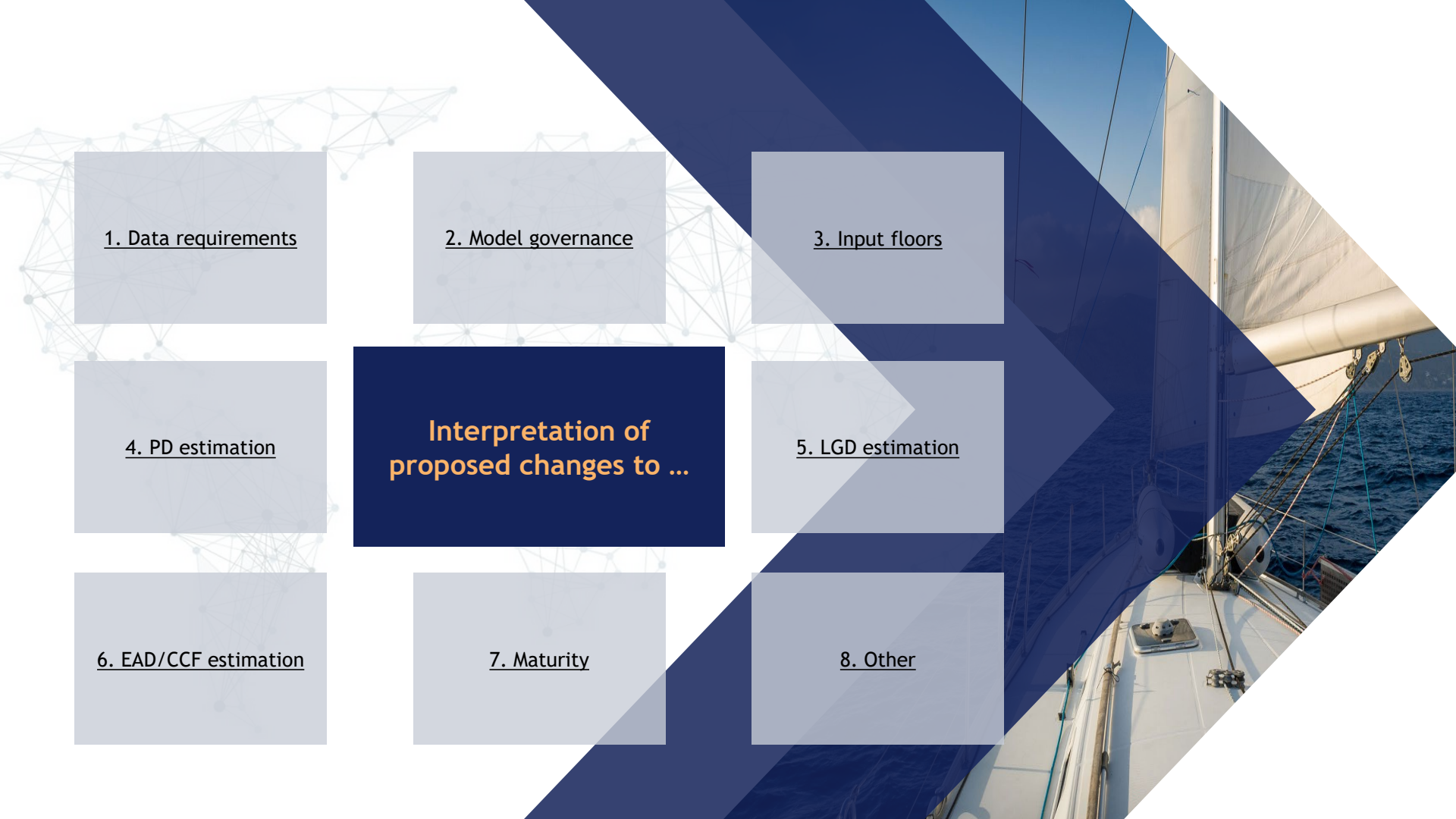TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Interpretation of proposed changes

This paper is our second of two papers covering the proposed changes to ***non-retail exposures***. In this paper we outline our interpretation of the proposed changes related to IRB modelling requirements and techniques for non-retail exposures.

Previous posts in this series can be found ***on our website***.

1. Data requirements

2. Model governance

3. Input floors

4. PD estimation

Interpretation of proposed changes to …

5. LGD estimation

6. EAD/CCF estimation

7. Maturity

8. Other

Changes to data requirements

Data requirements
Minimum requirements and data quality

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Minimum data requirement for parameter estimation ▪ UK firms are currently subject to a *five-year minimum data requirement* for all parameters for non-retail portfolios, which can be met with internal, external, or pooled data ▪ Firms are *expected* to use data from a representative mix of good and bad economic periods to calibrate PD and data from *downturn periods* to calibrate LGD and EAD	▪ The use of data from a representative mix of good and bad economic periods for PD modelling will be a *minimum data requirement* rather than only an expectation ▪ The below CRR provision will be *removed*: – Firms can apply for permission to reduce the minimum data requirements from five years to two years for retail exposures and for non-retail exposures under the FIRB approach, for up to 5% of a firm's total credit risk exposures ▪ Thus, the minimum five-year data requirement will be *mandatory* and firms with *limited internal data can use external data or pooled data* in order to meet the minimum requirement ▪ The use of internal, external and/or pooled data is allowed to meet the minimum data requirements

Data quality
 	
 ▪ In order to demonstrate that rating systems provide for meaningful assessment, the PRA expects that a firm's documentation relating to data include *clear identification* of responsibility for data quality
 	
 ▪ The PRA expects a firm to set *standards for data quality*, aim to improve them over time and measure its performance against those standards
 	
 ▪ Furthermore, the PRA expects a firm to ensure that its *data are of sufficiently high quality* to support the firm's risk management processes and the calculation of its capital requirements
	▪ Additional data quality requirements, or rather *expectations*, have been added. Note that these were already covered under in paragraphs 15 to 16 of EBA/GL/2017/16
	   – The PRA expects that firms should have *sound policies, processes, and methods* for assessing and improving the *quality of data* used for the purpose of credit risk measurement and management processes
	   – Firms should ensure that those policies *apply to all data* used in model *development and calibration*, as well as to the data used in the *application* of the risk parameters
	   – Data inputs to model development and application of risk parameters need to be *sufficiently precise* such that they are *accurate, complete and appropriate* as well as they do not introduce any *material distortions or biases*
	   – The PRA expects that where firms identify deficiencies in either the quality of data used, or in their processes for maintenance of the data, they take steps to *address these deficiencies in a timely manner*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Data requirements
Data collection and storage

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Data collection and storage	

Data collection and storage

- Exhaustive data collection and storage requirements exist under CRR, however components of loss for each defaulted exposures are not specified

- A number of *amendments* have been introduced to *improve data quality within IRB models*. Firms will be required to collect and store the following data:
  - key borrower and facility characteristics to:
    i. provide effective support to the institution's internal credit risk measurement and management processes;
    ii. enable the institution to meet the other data maintenance related requirements;
    iii. serve as a basis for supervisory reporting; and
    iv. support retrospective re-allocation of obligors and facilities to grades.
  - realised default rates; and
  - the *components of loss for defaulted exposures* including:
    i. amounts recovered and source of recovery;
    ii. time period requirement for recovery; and
    iii. administrative costs

- A new rule has been introduced under data maintenance that, *data on limits and balances used to derive CCFs or EAD estimates*, as well as *realised CCFs* and *realised EAD* need to be collected and stored

Changes to model governance

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Model governance
Validation, Internal Audit and CRCU

|	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Validation of internal estimates	▪ The existing requirement on validation of internal estimates includes:
	  – The *methods and data* used for quantitative validation shall be *consistent through time*
	  – *Changes* in estimation and validation methods and data (both data sources and periods covered) shall be *documented*
		▪ The requirement relating to the *consistency of quantitative validation through time has been enhanced* by requiring that the methods and data used by firms should not vary systematically with the economic cycle
		
		▪ More specifically, the requirement has been amended as:
		  – The methods and data used for quantitative analysis shall be *broadly* consistent through time *and in any event shall not vary systematically with the economic cycle*
		  – Changes in estimation and validation methods and data (both data sources and periods covered) shall be documented

Responsibility of Internal Audit	▪ Article 191 outlines responsibility of Internal audit as
	  – Internal audit or another comparable independent auditing unit *shall review at least annually the institution's rating systems and its operations*, including the operations of the credit function and the estimation of PDs, LGDs, ELs and CCFs
	  – Areas of review shall include adherence to all applicable requirements
		▪ The requirements of internal audit remains unchanged with an addition of explicit requirement for internal audit functions to *document their findings*

Responsibility of the Credit Risk Control Unit (CRCU)	▪ Article 190 outlines the responsibility of a firm's CRCU including *production and analysis of summary reports* from the institution's rating systems	▪ The following is now required be included in the summary reports of the institution's rating systems:
		  – *historical default data sorted by rating at the time of default* and one year prior to default;
		  – *grade migration* analyses; and
		  – monitoring of *trends in key rating criteria*.

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Model governance
Senior management and annual model inventory

	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Corporate governance	- Article 189 describes the corporate governance requirements as: - All *material aspects of the rating and estimation processes* shall be approved by the institution's management body or a designated committee thereof and senior management - These parties shall possess a *general understanding of the rating systems* of the institution and detailed comprehension of its associated management reports	A small change has been introduced in the corporate governance, that is, the firm's management body or a designated committee thereof, would be solely responsible for approving all material aspects of a firm's rating and estimation processes (*thus removing the requirement of approval by senior management on this*)
Senior management responsibilities	Senior management responsibilities are also outlined in article 189	- The senior management responsibilities remain unchanged with addition of the below requirement: - senior management would *approve all material differences between established procedures and actual practice* for parameter rating and estimation processes
Submission of annual model inventory	Requirement on submission of annual model inventory *firm specific* under s55M FSMA	*All firms* will need to submit an annual model inventory to the PRA

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA
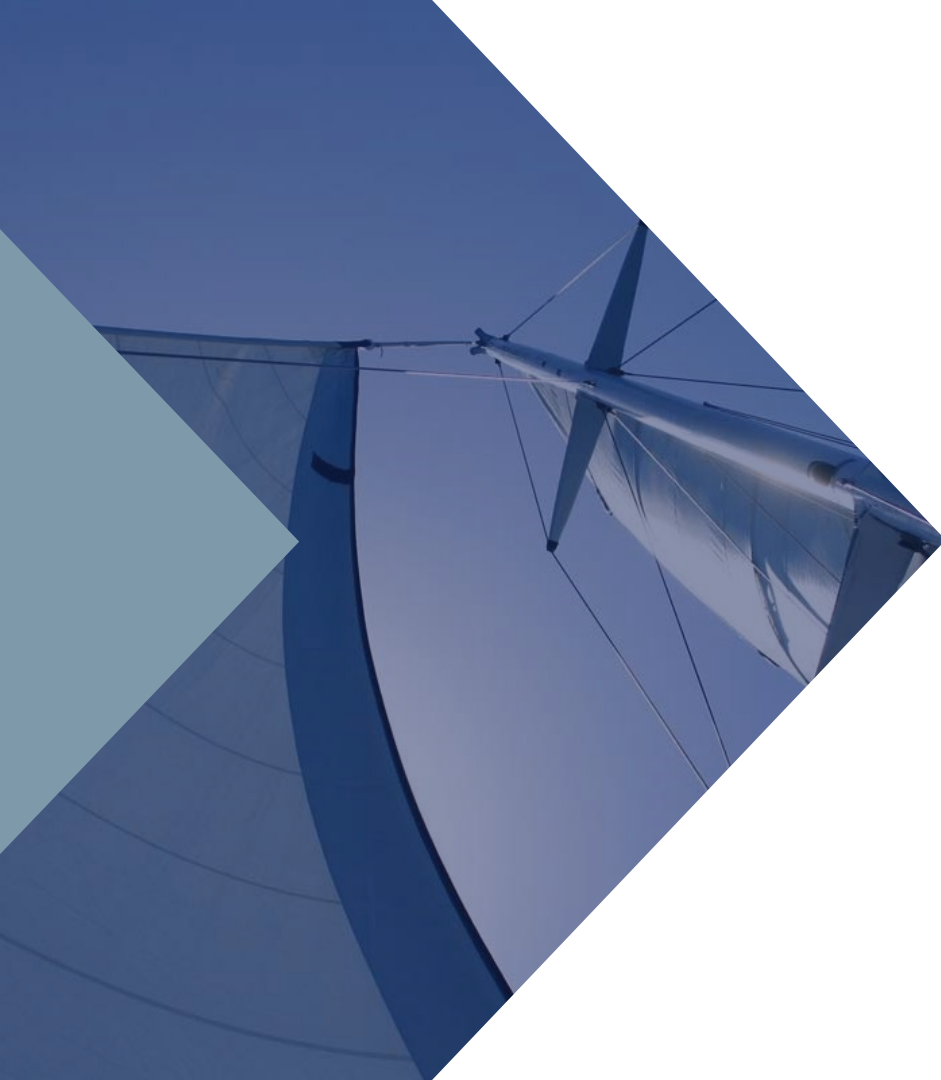
Changes to parameter estimation

Parameter estimation
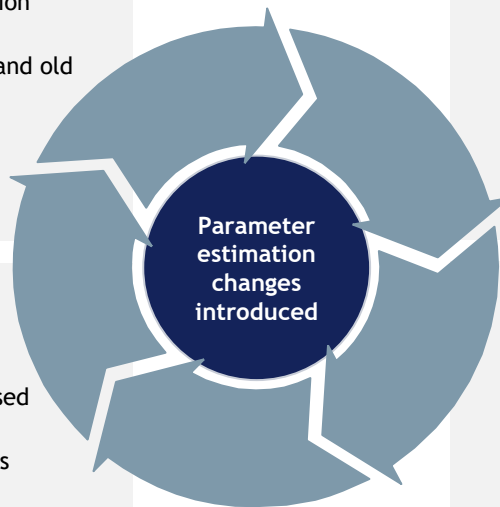## *High level summary*

PD estimation
- Only discrete rating scale will be allowed
- Additional clarity and requirements provided for adjustment to obligor grade assignments and parameter substitution method
- Expectations related to treatment of missing ratings and old financial statements have been revisited

LGD estimation
- FIRB LGD value for senior claims for exposures to non-financial corporates has been changed
- LGD modelling collateral method has been specified in detail as well as when collaterals can be derecognised
- More details have been provided for LGD adjustment method, Risk Weight Substitution Method and Parameter substitution method
- LGD for dilution risk for Purchased receivables modified
- Additional drawings, incomplete recoveries, LRA LGD and downturn LGD revised

Parameter estimation changes introduced

- Scope of EAD modelling restricted
- Only use of 12-month fixed-horizon approach allowed
- Distortions to CCF estimates caused by low undrawn limits or being close to fully drawn have been addressed
- A few new expectations have been introduced for probability of increases in limits and accrued interests

EAD/CCF estimation

- Calculation of Maturity under FIRB modified
- Scope of reduced maturity floors under master netting agreements amended
- Scope of applying one-day maturity floor clarified
- Specifications added for revolving exposures
- Effective maturity for purchased receivables amended

Maturity calculation

- Higher PD floor
- Introduction to LGD and EAD/CCF floors

Input floors

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Changes to input floors

Parameter estimation
Input floors

	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
PD	▪ The PD of an exposure to a corporate or an institution is floored at *0.03%*	▪ PD floor for all exposures, except UK retail residential mortgage exposures and for QRREs categorised as transactors, will be *0.05%*

LGD	▪ *No LGD input floor* for non-retail exposure class	The following LGD floors will be applicable:
		▪ Unsecured corporate exposure - 25%
		▪ For secured LGD:
		  – 0% for financial collateral
		  – 10% for receivables
		  – 10% for residential or commercial immovable property
		  – 15% for other physical collateral
		▪ *Variable LGD floors* will be applicable for *fully or partially secured exposures*. This will be calculated at exposure level as a *weighted average* of the relevant unsecured floor and secured floors
		▪ The weights would be determined by the *value of the exposure covered by each type of collateral after application of haircuts* specified in the 'foundation collateral method' (collateral not eligible under this method would not be recognised). See LGD section for more information on the 'foundation collateral method'

EAD	▪ EAD is *floored at current drawings* and, consequently CCF estimates are not less than zero	▪ The below floors have been proposed:
		  – where a firm provides *own estimates of CCFs*, these CCF estimates will be *floored at 50% of the SA CCF*; and
		  – where a firm provides *own estimates of EAD*, these EAD estimates will be floored at the *current balance plus 50% of the SA CCF multiplied by the off-balance sheet exposure*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

Changes to PD estimation

Parameter estimation
PD (1 of 3)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Rating scale
 	
 ▪ Firms are permitted to apply *either discrete or continuous rating scales for PD estimation*:
   – for discrete rating scales, exposures are grouped into rating grades based on risk characteristics, with a PD estimated for each grade; and
   – for continuous rating scales, exposures are not grouped together – instead, each exposure is assigned an individual PD estimate based on risk characteristics
	▪ The *use of continuous rating scales in PD models will be prohibited* and firms will be required to use discrete rating scales instead
	 ▪ As a consequence, *variable scalar approach will no longer be permitted*

Adjustments to obligor grade assignment
 	
 ▪ For exposures to corporates and institutions, for which the exposures to the obligor are subject to a guarantee, firms are generally required to *assign all exposures to an obligor to the same obligor grade*, irrespective of differences in the nature of each transaction
 ▪ However, the CRR sets out a number of *exceptions to this requirement and adjustments to obligor grade are allowed*, i.e. separate exposures are allowed to result in multiple grades for the same obligor, when the below apply:
   – country transfer risk, this being dependent on whether the exposures are denominated in local or foreign currency;
   – the treatment of associated guarantees to an exposure may be reflected in an adjusted assignment to an obligor grade; and
   – consumer protection, bank secrecy or other legislation prohibit the exchange of client data
	▪ It has been clarified that *adjustments to obligor grade assignments could be made outside the credit risk mitigation (CRM) framework* and therefore the CRM eligibility criteria would not apply for this matter
	 ▪ However adjustments to obligor grades would only be permitted where the s*upport arrangements are in writing*, in particular:
	   – undocumented support arrangements will be excluded from the requirements to incorporate 'all available information' in IRB rating systems and firms will need to disregard this information for the purpose of assignment of exposures to obligor grades;
	   – firms will need to disregard undocumented support arrangements when assessing model overrides; and
	   – Firms have to clarify that all documented support arrangements and not just guarantees could potentially be recognised
	 ▪ Requirements on *country risk and consumer protection remain unchanged*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
PD (2 of 3)

	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Unfunded credit protection (UFCP) - flooring of risk weights	▪ Firms reflecting UFCP in PD or LGD are required to *floor risk weights* at the risk weight that would apply to a *comparable direct exposure to the protection provider*	▪ The scope of this floor will be *extended to firms using obligor grade adjustments* in order to provide a further safeguard against the effect of protection arrangements being over-reflected in RWAs ▪ Further details of the PRA's proposals on PD substitution (which the PRA proposes to retain), PD adjustment (which the PRA proposes to withdraw) and UFCP in general will be covered subsequently
Mix of good and bad years	▪ Firms are expected to derive PD estimates based on a *representative mix of good and bad economic periods* ▪ Additionally, EBA GL had the below specification on the assessment of mix of good and bad years: – the variability of all observed one-year-default rates; – the existence, lack or prevalence of one-year default rates relating to bad years as reflected by economic indicators that are relevant for the considered type of exposures within the historical observation period; – significant changes in the economic, legal or business environment within the historical observation period	▪ The existing expectation will be *formalised as a rule* ▪ Firms are to consider the below as part of this assessment (similar to requirements specified in EBA GL): – the variability of all observed one-year default rates; – the relative frequency of good and bad years as reflected by economic indicators that are relevant for the type of exposures within the selected period; and – significant changes in the economic, legal, or business environment within the mix of periods.
Requirement on LRADR	▪ Firms are required to estimate PDs by obligor grade from *long run averages of one-year default rates* (LRADR)	▪ As mentioned above firms will be required to estimate PDs by obligor grade from long run averages of one-year default rates over a *representative mix of good and bad economic periods*. Additionally, PD for each rating grade or pool should be estimated based on the observed historical average one-year default rate that is a *simple average based on the number of obligors (count weighted)*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

Parameter estimation
PD (3 of 3)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Parameter substitution method	• *No specification* is mentioned regarding parameter substitution method in the context of PD model development	• Under the new proposals, some expectations have been mentioned for parameter substitution method in the context of PD model development, such as firms applying the Parameter Substitution Method should nonetheless *collect and store information on the characteristics and performance of the obligor and use this information in PD estimation where appropriate*
Time horizon	• Institutions should *use the risk drivers and rating criteria consistently*, in particular with *respect to the considered time horizon*, in model development, model calibration and model application	• The existing expectations relating to the *consistency of time horizons in different stages of the modelling process will be withdrawn*, since the PRA considers it can be desirable for firms to apply different time horizons in certain circumstances
Considerations for old financial statements	• Currently EBA GL specifies that PD model should provide for an *adequate and conservative adjustment* in both of the following situations: – in case of *financial statements older than 24 months* where information stemming from these financial statements is a *relevant risk driver*; – in the case of *credit bureau information that is older than 24 months*, if still relevant at that point in time, where credit bureau information is a *relevant risk driver*	• The existing expectations relating to making conservative adjustments due to old financial statements and external ratings will be *withdrawn*. However it is expected that an *adequate margin of conservatism* (MoC) is applied when a *higher degree of uncertainty* exists use to lack of up-to-date information
Considerations for missing ratings[2]	• Institutions should calculate the *one-year default rate for the subset of obligors with missing ratings*, even if these obligors were assigned to a rating grade or pool in a *conservative manner* for the purpose of calculation of own funds requirements	• Existing expectations related to the treatment of missing ratings to be *withdrawn* as the PRA considers that *all exposures within the scope of a rating system should be rated*, and should be rated in a conservative manner where there is missing information

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Changes to LGD estimation

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
LGD modelling collateral method	

LGD modelling collateral method

Current Requirements column:

- Currently under the AIRB approach, when recognising collateral in LGD estimates firms are required to establish internal requirements for collateral management, legal certainty and risk management that are generally consistent with those set out in the CRM chapter of the CRR

Proposed Requirements of CP 16/22 (B3.1) column:

- The **LGD modelling collateral method** has been introduced – in which existence of collateral is taken into account in LGD estimates. This method is only allowed when an institution meets the *below requirements*:
  - established internal requirements for collateral management, operational procedures, legal certainty and risk management in respect of the types of collateral that it takes into account in its LGD estimates; and
  - those internal requirements are generally consistent with those required for the Foundation Collateral Method, that is, the relevant CRM standards are those that apply to firms using the FIRB approach
- Collaterals that do not meet these requirements should be classed as *'ineligible'* for the purpose of applying the LGD modelling collateral method
- A firm applying the LGD Modelling Collateral Method, can determine its own LGD estimates if:
  - the institution chooses to reflect the existence of a type of collateral in relation to recoveries in a particular jurisdiction in LGD estimates;
  - the exposures to which it applies are fully or partially secured by a type of collateral in relation to recoveries in a particular jurisdiction; and
  - the institution does not have sufficient data to model the effect of that type of collateral on recoveries in a particular jurisdiction
- When a firm *can determine its own LGD estimates* there are two situations: 1. in the case of a *single type of collateral*, apply formula 1 (see appendix) and 2. in the case of *multiple types of collateral*, apply formula 2 (see appendix); and, in applying these formulae:
  - LGD_U shall represent the institution's *own estimate of unsecured LGD* for the exposure disregarding recoveries from collateral;
  - the institution shall meet the requirements in respect of their own estimates of unsecured LGD, although the institution *shall not take collateral into account for the purpose of assigning exposures to facility grades or pools and recoveries from collateral shall not be taken into account in LGD estimates*; and
  - all other parameters in the formula shall be calculated in accordance with the *Foundation Collateral Method*. Accordingly, only collateral which is *eligible* under the Foundation Collateral Method may be recognised for the purpose of determining the secured part of the exposure

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
LGD (2 of 8)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

When to disregard or derecognise collateral (and recoveries)

- There is some ambiguity in the CRR regarding whether firms using the AIRB approach have the option to *disregard eligible collateral*
- This is because firms are required to use *'all relevant information'* when developing their models

- Firms will be *allowed to disregard eligible collateral when using the LGD modelling collateral method*, should they wish to, particularly in cases where the collateral is difficult to model. In such cases, a firm would treat the part of the *exposure covered by disregarded collateral as being unsecured*

- Firms are expected to *include recoveries from ineligible collateral in estimates of unsecured LGD*, but with *appropriate adjustments* to avoid bias in their LGD estimates

- Firms using the LGD modelling collateral method will be required to **exclude recoveries from ineligible and disregarded eligible collateral when calculating unsecured LGD**
- Additionally, firms *will not be allowed* to include ineligible and disregarded eligible collateral as a *risk driver in LGD models*

- Firms are subject to an expectation that, where they *do not regularly sell credit obligations* as part of their recovery processes, and the allocation of the part of the price related to collaterals is *too burdensome to make or too unreliable*, they can decide *not to take these observations into account* in the model development process

- This expectation will be simplified, and firms will be required to *simply derecognise the collateral for these cases*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
LGD (3 of 8)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Alternative methodology ▪ **PRA's wholesale LGD framework** provides a schema for assessing the conservatism of firms' wholesale LGD models for which there are a low number of defaults (fewer than 20 relevant data points) ▪ Although not a current "requirement", there is a general consensus that **modelling robust LGD estimates is challenging where there is limited collateral data available**	▪ An **alternative methodology** has been proposed as part of the LGD modelling collateral method, where there are **data limitations** for estimating LGD ▪ Under the alternative methodology, firms calculate LGD by combining **modelled LGD estimates for the unsecured part** of an exposure with **FIRB LGD parameters for the secured part** of an exposure ▪ The alternative methodology would be applied in cases where f**irms lack sufficient data to model collateral recoveries** (data would be considered insufficient where firms have fewer than 20 relevant data points for any nonfinancial collateral that the firm wishes to recognise in their LGD models) ▪ The LGD under the alternative methodology would be calculated using formula 1 (see appendix) where a single type of collateral is recognised or formula 2 (see appendix) where multiple collateral types are recognised ▪ Firms using the alternative methodology would be required to estimate LGD_U using an **approved IRB model** and would not be permitted to take account of collateral recoveries in the model used to estimate unsecured LGD to **avoid double counting the effect of the collateral**
Netting and LGD adjustment method ▪ The PRA considers that there is scope within the CRR for firms to recognise **on-balance sheet netting** (including in respect of cross-currency balances) **through EAD as an alternative to LGD** in those cases where the general conditions for on-balance sheet netting set out in CRR Article 205 are met	▪ Firms estimating LGDs are expected to **reflect any recognised netting agreements in the EAD parts of the LGD calculation**, when calculating realised LGDs, but should not treat any cash flows arising from netting as post-default recoveries in the economic loss part

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Adjustment method for unfunded credit protection (UFCP)

- CRR is open to interpretation about whether firms can combine the LGD adjustment method with adjustments to obligor grades

- *LGD adjustment method* has been introduced where firms can make adjustments to *modelled LGD values to reflect the credit protection*
  - Under *AIRB approach*, firms can recognise unfunded credit protection (UFCP) through LGD adjustment method when a *comparable direct exposure to the protection provider is also subject to the AIRB approach*
  - Firms applying the LGD adjustment method, however, would not be permitted to also reflect the effect of the guarantee by adjusting obligor grades
- Firms applying LGD adjustment method will need to *meet the below requirements*
  - firms should have clear policies for assessing the effects of UFCP that are consistent with internal risk management practices; and
  - firms should take the below elements in a conservative manner in the LGD estimates
    i. any currency mismatch between the underlying obligation and the UFCP
    ii. the degree to which the protection provider's ability to fulfil the contractual obligation under the UFCP agreement is correlated with the obligor's ability to repay; and
    iii. the defaulted status of the protection provider and its resulting reduced ability to fulfil the contractual obligation under the unfunded credit protection
- Recognition of UFCP within LGD adjustment method is *optional* and therefore firms can choose to disregards UFCP
- Recognition of UFCP in LGD models is *prohibited* if firms are *not using LGD adjustment method* or where *UFCP is ineligible or has been disregarded*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
LGD (5 of 8)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Risk Weight substitution method and Parameter substitution method
 	
■ EBA GL on PD and LGD estimation (EBA GL 2017/16) advises institutions to take *reasonable steps to recognise the sources of the cash flows and allocate them adequately to the specific collateral or unfunded credit protection that has been realised*. Furthermore, to the extent that LGD estimates take into account the existence of unfunded credit protection institutions should specify the criteria and methodology for recognising and including in their LGD estimates the protection in the form of guarantees and credit derivatives that meet some specific criteria
■ *EBA GL on CRM do not apply in the UK*
	■ Firms using the AIRB approach that wish to recognise the effects of UFCP would be required to apply the risk weight substitution method under certain circumstances, and would be required or permitted to use the parameter substitution method in specific other circumstances. In order to apply either of these methods, it would be necessary for *firms using the AIRB approach to estimate LGD values for the exposures as if there were no UFCP*
	■ The PRA expects that for this purpose firms should apply the following principles:
	  – cash flows received from the protection provider should not be taken into account;
	  – cash flows received from funded credit protection (FCP) associated with the exposure may be taken into account in respect of the part of the exposure covered by the FCP;
	  – indirect costs should be taken into account in line with the principles and techniques that firms use in their own cost accounting systems;
	  – direct costs that are directly linked to the exercising of the UFCP would not be taken into account, but all other direct costs should be taken into account; and
	  – direct costs relating to the realisation of FCP should be taken into account in respect of the part of the exposure covered by the FCP

Other changes related to LGD estimation ■ Currently there is *no specifications or expectations* of using *elements of the standardised and the FIRB approach* in LGD estimates under *AIRB approach*	■ Firms applying the AIRB approach can *incorporate elements of the standardised and the FIRB approach within their LGD models in specific circumstances* (for example by incorporating the supervisory haircuts used in the 'financial collateral comprehensive method' (FCCM)), however, firms will be expected provide appropriate justification for their approach

Parameter estimation

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Wholesale LGD framework	
• The *PRA's wholesale LGD framework* was introduced by the Financial Services Authority (FSA) in 2012 to *address modelling deficiencies for low default portfolios*. The framework aims to help ensure that LGD estimates do not assume a level of recoveries that is not supported by data	• *PRA's wholesale LGD framework will be withdrawn* in the light of the below changes proposed under the CP: – LGD modelling for exposures to institutions, financial corporates, and large corporates will be prohibited – for specific corporate exposures, where LGD modelling is still permitted, LGD input floors are being introduced – LGD alternative methodology are being introduced under the LGD modelling collateral method where there is limited data to model collateral recoveries
Calculation of dilution risk for purchased receivables	
• For the calculation of dilution risk for purchased receivables, firms that do not decompose their EL estimates into PD and LGD, *currently set their PD estimates equal to their EL estimate and apply a 75% LGD*	• New proposal sets *LGD equal to 100%* if the decomposed approach is not used • This has been proposed because EL is defined as the product of PD and LGD, so setting PD equal to the EL estimate implies that LGD should be set at 100%
Additional drawings	
• Institutions' estimates of *CCF should reflect the possibility of additional drawings* by the obligor up to and after the time a default event is triggered. However, in the case of retail exposures, institutions may reflect future drawings either in their CCFs or in their LGD estimates	• Firms modelling CCFs or EADs using the AIRB approach are required to reflect the possibility of additional drawings by the obligor *up to the time of default* (pre-default additional drawings) in their *estimates of CCFs/EADs*, however, additional drawings by the obligor *after the moment of default* (post-default additional drawings) can be reflected in *either the CCF/EAD estimates or the LGD estimates* for *both non-retail and retail exposures*

Parameter estimation
LGD (7 of 8)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Incomplete recoveries
 	
▪ Firms are expected to *model incomplete recoveries for their LGD estimates*
▪ EBA GL outlines that institutions should obtain the long-run average LGD by adjusting the observed average LGD taking into account the information related to processes that were not closed ('incomplete recovery processes') and where the time from the moment of default until the moment of estimation is shorter than the maximum period of the recovery process specified for this type of exposures. For these processes, institutions should comply with both of the following:
  – they should take into account all observed costs and recoveries;
  – they may estimate future costs and recoveries, both those stemming from the realisation of the existing collaterals and those to be realised
	▪ Firms will be *permitted to assume zero recoveries for incomplete workouts* as an alternative to applying the approach to modelling of incomplete workouts that is currently set out in its expectations
	▪ Therefore, for incomplete recovery processes, firms should do both of the following:
	  – take into account all observed costs and recoveries; and
	  – either estimate future costs and recoveries or assume zero future costs and recoveries. Where a firm estimates future costs and recoveries these may include both those stemming from the realisation of the existing collateral and those to be realised without the use of collateral within the maximum period of the recovery processes

Long-run average LGD ▪ There is an expectation that long-run average (LRA) LGD should reflect a *representative mix of good and bad economic periods*	▪ The expectation that long-run average (LRA) LGD should reflect a *representative mix of good and bad economic periods will be withdrawn* ▪ Instead, the LRA LGD would *reflect all observed defaults within the data sources* ▪ It has been clarified that firms will only need to *calculate LRA LGD at portfolio level if they are calibrating LGD estimates at portfolio level*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
LGD (8 of 8)

	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Downturn LGD	▪ EBA GL on downturn LGD estimation suggests to base the downturn LGD calibration on an *observed impact* for a considered downturn period where loss data are not available ▪ *Where sufficient data points are not available* to quantify downturn LGDs for the downturn period under consideration based on observed or estimated impact, EBA GL permit a *15 percentage points add-on to the LRA LGD*	▪ The *hierarchy of approaches for calibrating downturn LGD has been amended*, so that firms would be able to base LGD estimates on estimated impact without having to first show that they do not have sufficient and relevant loss data to base LGD estimates on observed impact ▪ Prior to quantifying downturn LGD estimates, firms are able to *choose the most relevant methodology* based on the appropriateness of the methodology to estimate the impact of the downturn period and the need to use a combination of the methodologies to ensure that the resulting downturn LGDs for the downturn period under consideration adequately reflect a potential downturn impact on all material components of economic loss ▪ This option has been *withdrawn* and firms are required to estimate downturn LGD based on observed or estimated impact
Best estimate of expected loss	▪ EBA GL 2017/16 advises that the best estimate of expected loss should be adjusted to reflect current economic conditions where necessary	▪ It has been clarified that firms which base estimates of 'best estimate of expected loss' on LRA estimates, should *adjust these to reflect current economic conditions* where necessary and that in certain circumstances, no adjustment is necessary
FIRB LGD for Senior Claims	▪ Firms using the FIRB approach currently apply a *45% LGD for all unsecured exposures* to corporates that are *senior claims*	▪ FIRB LGD value for exposures to *non-financial corporates* that are *senior claims will be reduced to 40%* ▪ FIRB LGD value for exposures to *financial corporates* that are *senior claims will remain at 45%*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

Changes to EAD/CCF estimation

Parameter estimation
EAD/CCF (1 of 5)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Scope of EAD modelling under the AIRB	

▪ Firms using the AIRB approach provide own estimates of CCFs or EAD for *most off-balance sheet exposures*	▪ Scope of EAD modelling will be *restricted to revolving commitments in the form of revolving loan facilities only*, that is,
	   – for issued off-balance sheet items, non-revolving commitments, and all commitments to issue off-balance sheet items or purchase assets, firms would apply the CCFs in line with standardised or FIRB approach in order to calculate exposure value; and
	   – for on-balance sheet exposures, firms would calculate exposure value in line with the FIRB approach with the below exception
	     i. exception for on-balance sheet exposures that are connected to a revolving facility (e.g., a credit card exposure that is partly drawn down or is at, or over, its limit) are:
	       a. if an on-balance sheet exposure and a revolving commitment relate to the same facility, firms' models should incorporate increases in EAD arising from the on-balance sheet exposure as well as the revolving commitment; and
	       b. if a revolving exposure is at or over its limit, firms should continue to model EAD

Modelling EAD directly in place of the CCF estimates	
▪ The PRA has an expectation that enables firms to *model EAD directly in place of the CCF estimates* that are required by the CRR	▪ This expectation will be *formalised in a rule* ▪ Additionally, for revolving exposures that are at or over limit, firms would be required to model EAD directly as the PRA considers that CCFs are not a meaningful concept for on-balance sheet exposures ▪ The PRA proposes to make a number of related changes to its rules and expectations relating to the modelling of EAD and CCFs

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

Parameter estimation
EAD/CCF (2 of 5)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Scope of EAD modelling under the Slotting approach	
▪ Firms are able to *model EAD for specialised lending exposures that are risk-weighted using the slotting approach* if they have received permission from the PRA	▪ Modelling of EAD for exposures subject to the slotting approach will be *prohibited* (for further reference, please see our post on changes related to specialised lending exposures)
Modelling horizon for EAD models	
▪ Firms are able to define the *modelling horizon* for EAD models in one of *two ways* – – the '*cohort approach*' where facilities are observed on a given date and default could occur at any point in the 12 months following the observation point (resulting in an average time horizon of 6 months); and – the '*fixed-horizon approach*' where the observation point is fixed at 12 months prior to the point of default	▪ Firms can only use a *12-month fixed-horizon approach* for EAD modelling ▪ The PRA notes that firms could incur operational costs in redeveloping their EAD models in cases where the 'cohort approach' is currently used. However, the PRA considers that these costs would be reduced due to the PRA's proposed timelines for model submission. The proposed timelines would enable firms, in many cases, to make changes arising from these proposals at the same time as other changes needed to implement the IRB roadmap
Estimation of post-default additional drawings	
▪ Firms are currently required to estimate *post-default additional drawings for non-retail exposures in their EAD estimates*	▪ Firms would be permitted to *recognise post-default additional drawings in either EAD or LGD for non-retail exposures as well as for retail exposures*. Additionally, – There is an existing PRA expectation that additional drawings beyond a 12-month time horizon need not be incorporated in model estimates – this will be withdrawn – It has further been clarified that pre-default additional drawings would be required to be reflected in EAD estimates as currently outlined in an existing expectation
Data used in the long-run average EAD	
▪ Currently there is an expectation that long-run average (LRA) EAD should *reflect a representative mix of good and bad economic periods*	▪ The expectation is that estimates of long-run average EAD reflecting a representative mix of good and bad economic periods *will be withdrawn* ▪ Instead, the PRA proposes that long-run average EAD estimates would *reflect all observed defaults within the data sources*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
EAD/CCF (3 of 5)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
PRA's wholesale EAD framework	• The PRA currently would expect firms to apply its *wholesale EAD framework for low-default portfolios*. Under this framework, firms with limited data could either: – rank-order the off-balance sheet product types (separately for lending and trade finance) according to their drawdown risk. The CCF for a product with 20 or more default observations could then be applied to low-default products with a lower drawdown risk; or – use 50% of the CCF for committed credit lines to determine the CCFs for uncommitted credit lines; or – apply the FIRB approach parameters	• *PRA's wholesale EAD framework will be withdrawn* • This is because the PRA's existing framework is mainly targeted at exposures to institutions, financial corporates, and large corporates, which the PRA proposes would move to the FIRB approach. In addition, the PRA proposes to implement input floors for EAD estimates, which would help ensure a minimum level of prudence of EAD estimates
Probability of increases in limits between observation and default date in EAD/CCF estimates	• Currently, firms are *not expected to include in their EAD/CCF estimates the probability of increases in limits between observation and default date*. If the reference data set included the impact of such increases, the PRA expects firms to be able to adjust their estimates accordingly with the aim of assessing what the exposure would have been at default if the limit had not been increased	• It has been clarified that the PRA has *not set an expectation* that firms should include the probability of increases in limits between observation and default date in their EAD or CCF estimates • If the impact of such increases is reflected in the RDS, firms may adjust EAD or CCF estimates to reflect what the exposure would have been at default if the limit had not been increased • The PRA expects that firms should only make such adjustments if they can be made in a robust manner

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
EAD/CCF (4 of 5)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Low undrawn limits	

Current Requirements[1]

- Currently, there are *some expectations* in SS 11/13 regarding distortions to CCF estimates caused by low undrawn limits

- In cases where firms estimate CCFs directly, using a reference data set that includes a significant number of high CCFs as a result of very low undrawn limits at the observation date, the PRA expects firms to:
  - investigate the distribution of realised CCFs in the reference data set;
  - base the estimated CCF on an appropriate point along that distribution that results in the choice of a CCF appropriate for the exposures to which it is being applied and consistent with the requirement in CRR Article 179 for estimates to include a margin of conservatism related to errors; and
  - be cognisant that while the median of the distribution might be a starting point, they should not assume without analysis that the median represents a reasonable unbiased estimate. The PRA expects firms to consider whether the pattern of distribution in realised CCFs means that some further segmentation is needed (e.g. treating facilities that are close to full utilisations differently)

Proposed Requirements of CP 16/22 (B3.1)

- A new expectation has been introduced regarding distortions to CCF estimates caused by low undrawn limits, that is, when firms are estimating CCFs directly, they should *ensure that their CCF estimates are appropriate for the exposures upon which they are based and that CCF estimates should not be biased by facilities that are close to limit*

- In order to ensure that CCF estimates are not biased due to facilities being close to fully drawn at the observation date, the PRA expects that where the RDS contains a significant number of such observations, firms should:
  - investigate the distribution of realised CCFs in the RDS;
  - base the estimated CCF on an appropriate point along that distribution that results in the choice of a CCF appropriate for the exposures to which it is being applied and a CCF consistent with the requirement in Article 179(1)(f) of the Credit Risk: Internal Ratings Based Approach (CRR) Part for estimates to include a MoC related to estimation errors;
  - be cognisant that while the median of the distribution might be a starting point, they should not assume without analysis that the median represents a reasonable unbiased estimate. The PRA expects firms to consider whether the pattern of distribution in realised CCFs means that some further segmentation is needed (eg treating facilities that are close to full utilisation differently); and
  - *apply the more conservative of long-run average (LRA) CCF or the downturn CCF estimate, including where percentile approaches estimation are used*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
EAD/CCF (5 of 5)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Accrued interest

- Currently, the PRA expects below regarding accrued interest:
  - accrued interest to date should be included in current exposure for performing exposures;
  - firms may choose whether estimated increases in accrued interest up to the time of default should be included in LGD or EAD;
  - in the estimation of EAD increases in accrued interest may be offset against reductions in outstanding;
  - estimation of changes in accrued interest needs to take account of changes in the contractual interest rate over the time horizon up to default, and in a way consistent with the scenario envisaged in the calculation of the downturn/default weighted average;
  - inclusion of estimates of future post-default interest is not necessary for either EAD or LGD; and
  - firms' accounting policies will determine the extent to which interest accrued to date is reflected in current exposure as opposed to LGD for defaulted exposures

- A few new expectations have been introduced for EAD or CCF reference data, such as:
  - accrued interest, other due payments, and limit excesses should be *included in EAD or CCF reference data*
  - estimation of accrued interest should take account of *changes in the contractual interest rate over the time horizon up to default*, in a way that is *consistent with the scenario envisaged in the estimation of the LRA*, or downturn EADs or CCFs
  - inclusion of post-default interest does not need to be included in estimates of either EAD or CCF, or LGD
  - measures of realised EADs or CCFs in reference data *should not be capped to the principal amount outstanding or facility limits*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Changes to maturity

Parameter estimation
Maturity (1 of 4)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Calculation of Maturity under FIRB

- The CRR sets out *two methods* for firms that apply the FIRB approach can use to calculate maturity:
  - a *fixed parameter approach*, where maturity is set at 0.5 years for certain short-term transactions and at 2.5 years for all other exposures; and
  - an *effective maturity approach*, where firms calculate effective maturity according to prescribed formulae. If a firm is unable to calculate effective maturity under this approach, contractual maturity is instead applied. A one-year floor applies to the maturity calculated for most transactions, but certain transactions are subject to a reduced maturity floor

- The PRA specifies within IRB permissions that firms using the FIRB approach must calculate effective maturity rather than apply fixed parameters

- Firms using the *FIRB approach* would continue to be required to apply the *effective maturity approach*

- PRA has proposed to remove the option currently set out in the CRR that allows firms that are otherwise calculating maturity to instead apply fixed maturity values for exposures to small UK corporates

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
Maturity (2 of 4)

Scope of reduced maturity floors

- CRR lists cases where *reduced maturity floors apply to transactions in the scope of master netting agreements*:
  - M (effective maturity) shall be the weighted average remaining maturity of the transactions where M shall be at least 10 days for exposures arising from fully or nearly-fully collateralised derivative instruments and fully or nearly- fully collateralised margin lending transactions which are subject to a master netting agreement
  - M shall be the weighted average remaining maturity of the transactions where M shall be at least five days (the notional amount of each transaction shall be used for weighting the maturity) for repurchase transactions or securities or commodities lending or borrowing transactions which are subject to a master netting agreement

- The scope of reduced maturity floors that apply to transactions in scope of master netting agreements will be *amended* as below:
  - the scope of the reduced floors will be *expanded* to also *apply a floor of 20 days for secured lending subject to a master netting agreement*, and a *floor of either 10 or 20 days for master netting agreements including more than one transaction type*;
  - the scope of the reduced floors will be *restricted* to those transactions where the *documentation requires daily re-margining or revaluation and includes provisions allowing for prompt liquidation or set-off in the event of default or failure to re-margin* (for all such exposures, i.e., for exposures arising from fully or nearly-fully collateralised derivative instruments and fully or nearly- fully collateralised margin lending transactions which are subject to a master netting agreement, for repurchase transactions or securities or commodities lending or borrowing transactions which are subject to a master netting agreement, for secured lending transactions which are subject to a master netting agreement and for a master netting agreement including more than one type of transaction); and
  - in all such cases, the *notional amount of each transaction* would be used for *weighting the maturity*

Parameter estimation
Maturity (3 of 4)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Scope of transactions under the one-day maturity floor	• For *qualifying short-term exposures which are not part of the institution's ongoing financing of the obligor*, M shall be at least *one day*. One of such qualifying short-term exposures include the below trade finance transaction: – self-liquidating short-term trade financing transactions connected to the exchange of goods or services with a residual maturity of up to one year (where 'trade finance' means financing, including guarantees, connected to the exchange of goods and services through financial products of fixed short-term maturity, generally of less than one year, without automatic rollover)	• The definition of trade finance transactions that are in scope of a one-day maturity floor has been *clarified* as below: – *self-liquidating trade finance* transactions with a *residual maturity of up to one year* (definition of trade finance remains unchanged)
Effective maturity for revolving exposures	• There are *no explicit specifications* regarding the calculation of effective maturity for revolving exposures	• Some specifications have been added for revolving exposures, such as, the effective maturity for revolving exposures would be determined by using the *maximum contractual termination date of the facility* and that firms *should not use the repayment date of the current drawing* to estimate the effective maturity

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Parameter estimation
Maturity (4 of 4)

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)
Effective maturity for purchased receivables	
▪ An institution that has received the permission of the competent authority to use own PD estimates for purchased corporate receivables, for drawn amounts M shall equal the purchased receivables exposure weighted average maturity, where M shall be *at least 90 days*. This same value of M shall also be used for undrawn amounts under a committed purchase facility provided the facility contains effective covenants, early amortisation triggers, or other features that protect the purchasing institution against a significant deterioration in the quality of the future receivables it is required to purchase over the facility's term. Absent such effective protections, M for undrawn amounts shall be calculated as the sum of the longest-dated potential receivable under the purchase agreement and the remaining maturity of the purchase facility, where M shall be at least 90 days	▪ For purchased receivables, the effective maturity has been amended to a *minimum of one year* instead of the existing 90-day minimum ▪ In particular, an institution that has received IRB permission to use its own PD estimates for purchased corporate receivables, for drawn amounts M shall equal the purchased receivables exposure weighted average maturity, where M shall be at least one year. This same value of M shall also be used for undrawn amounts under a committed purchase facility provided that the facility contains effective covenants, early amortisation triggers, or other features that protect the purchasing institution against a significant deterioration in the quality of the future receivables it is required to purchase over the facility's term. Absent such effective protections, M for undrawn amounts shall be calculated as the sum of the longest-dated potential receivable under the purchase agreement and the remaining maturity of the purchase facility, where M shall be at least one year
Dilution risk of purchased receivables	
▪ For dilution risk of purchased receivables, the *effective maturity is one year*	▪ For dilution risk of purchased receivables, it has been clarified that effective maturity is – *one year if an institution can demonstrate that the dilution risk is appropriately monitored* and can be resolved within one year; and otherwise – *the period over which dilution risk can be resolved*, subject to a *maximum period of five years*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Other changes, including definition of default

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Other changes
Definition of Default

Standardised, FIRB, AIRB approaches

- The PRA proposes to *move the following expectations relating to the definition of default to the PRA Rulebook to become formal requirements for firms*:
    - expectations relating to the ability for firms applying the SA to treat exposures as retail exposures for the purpose of applying the definition of default;
    - certain provisions relating to the circumstances in which the counting of days past due could be suspended;
    - the specific treatment for exposures to central governments, local authorities, and PSEs, which would enable firms to treat exposures relating to the supply of goods and services as non-defaulted for up to 180 days past due in certain circumstances. The scope of this treatment would continue to be limited and would not extend to bonds issued by such entities;
    - the period over which defaulted exposures remain classified as being in default once the triggers of default cease to apply; and
    - the definition of distressed restructuring, including clarifying the definition of forbearance according to which a distressed restructuring is considered to have occurred. This would align the concept of forbearance used with that set out in the CRR

Days past due criteria

- Some *amendments have been introduced related to days past due criteria*, such as:
    - This PRA discretion to permit use of a 180 days past due criteria will be removed and instead firms will be required to use a 90 days past due criteria in line with existing PRA expectations;
    - the materiality threshold for retail exposures will be applicable to all exposures that meet the standardised retail criteria where a firm applies the standardised approach, including where it has an IRB permission for other exposures

Assignment of default status when there is a credit risk mitigation technique

- An expectation has been introduced to clarify that exposures should be *classified as being in default where a trigger of default applies, regardless of any credit risk mitigation technique used*

- In particular, the PRA proposes to clarify that firms using the IRB approach and applying the 'parameter substitution method' should *class defaulted exposures that are guaranteed by an entity that is not in default as being in default for the purpose of the 'EL – P' calculation*

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Other changes
Alignment of rank ordering, MoC C and Revocation of PRA Standards Instrument

	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Alignment of rank ordering	▪ There is an existing expectation that the *rank-ordering of the IRB rating system* should be *exactly the same* as *the rank-ordering of the rating system used for internal risk management purposes*
	
	▪ In particular, article 144(1)(b) states that the internal ratings and default and loss estimates used in the calculation of own funds requirements and associated systems and processes play an essential role in the risk management and decision-making process, and in the credit approval, internal capital allocation and corporate governance functions of the institution
		▪ This expectation will be *removed*, instead it will be expected that the *rank-ordering of the IRB rating system* should *play an essential role* in the *rank-ordering used for internal risk management and decision-making purposes*
		
		▪ In particular, firms to ensure that:
		  – any deviations between parameters used for internal purposes and for capital requirements purposes are justified and appropriate for the specific area of use; and
		  – the rank-ordering in the assignment of obligors or facilities to grades and pools within a calibration segment plays an essential role in the rank-ordering used for internal risk management and decision-making processes

Margin of Conservatism (MoC) C	▪ EBA/GL/2017/16 specifies that the *MoC stemming from the general estimation error* (i.e. MoC C) must be *greater than zero*	▪ Under the CP, firms will be *permitted to apply a zero MoC C* where they can *demonstrate* that the general estimation error is *immaterial*
Revocation of the Technical Standards (Economic Downturn) 2021	▪ Currently PRA Standards Instrument: Technical Standards (Economic Downturn) 2021 defines the specification of nature, severity and duration of an economic downturn and the relevant indicators set	▪ PRA Standards Instrument: Technical Standards (Economic Downturn) 2021 *will be revoked and embedded in the PRA Rulebook*

1: Current requirements in the UK firms as per CRR and Supervisory Statements and RTS issued by the PRA

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

Appendix A: Who are we

Get in touch with our team of Basel 3.1 credit risk experts

Dr. Lutz Baumgarten

20+ years - M Eng in Engineering Science, M Phil and D Phil in Economics (Oxford)

Vijay Krishnaswamy

20+ years – BSc in Mathematics (Madras), MBA in Finance (Ahmedabad), FRM

Peter Rindfleisch

20 years - MA in Politics, Philosophy & Economics (Oxford), MSc Economics (LSE), First Diploma Economics (LMU)

Raymond Sinclaire CFA, FRM

15+ years – Bachelor's degree Accounting, Master's in Economics (Witwatersrand)

Derek Alston

15 years – CA (SA), B Comm (Hons) in Management Accounting (Witwatersrand)

Christoph Saleh FRM

12+ years – MSc (Frankfurt School of Finance & Management), BA (DHBW Karlsruhe)

Dr. Writam Chakraborty

12+ years – MSc in Applied Mathematics (Jadavpur), PhD in Mathematics (IIEST Shibpur)

Stefanie Rynboom CFA

8+ years – BSc Actuarial Science and Statistics, BSc (Hons) in Advanced Mathematics of Finance (Witwatersrand)

Please reach out to:
- derek.alston@tnp.eu
- stefanie.rynboom@tnp.eu or
- writam.chakraborty@tnp.eu

for any further information or to put you in touch with the rest of the TNP team

True North Partners in a nutshell

Who we are
A unique consulting boutique

Independent LLP in London

- Local staff and subsidiaries in London, Frankfurt, Johannesburg, Madrid, Amsterdam and Dubai

- Founded in 2010 (precursor track record since 2006)

- 14 partners and 100+ permanent staff

- Additional network of senior experts

What sets us apart
A unique consulting approach

A true partner to our clients

- Owner-management for flexibility and long term commitment

- Delivery of real impact, with hands-on senior involvement and oversight

What we do
Excellence in financial services

Deep knowledge of finance, risk and strategy domains

- Risk Management

- Balance Sheet Management

- Finance and Strategy

- Advanced analytics

- Public Sector and Development Finance

- Technologies and tools

Appendix B: Themes considered

Themes considered by the PRA when proposing CP 16/22

The consideration of the Consultation Paper (CP) is to align with Basel III standards and promote safety and soundness of the firms it regulates. It has been highlighted that PRA considered the below aspects, if not more, for this CP, which are referred as "have regards" factors by the PRA

Relative standing of the UK as a place to operate and competitiveness	to support the *competitiveness* and the *relative standing* of the UK while ensuring the *safety and soundness* of firms and *strengthening UK financial stability*
Relevance to international standards	to ensure adherence to *international standards*, which in turn supports the *relative standing of the UK* and positions the UK as one of the largest global financial centres
Proportionality	even if some of the proposals are expected to create cost for the firms in the short term, these costs will not persist over time and the firms are expected to benefit from a clearer clarification of requirements which would justify any increase in costs. Some of the proposed changes will also bring *proportionality between IRB aspirant firms and IRB incumbent firms*, thus ensuring a *level playing field* and *reducing barriers to entry* to using IRB approaches
Sustainable growth	to ensure that firms are *appropriately capitalised* for the risks that they face, such that they can continue providing finance for the real economy throughout the economic cycle
Efficient and economic use of PRA resources	having more *visibility and clearer guidance* on systems and processes as well as limiting modelling choices will ensure an efficient use of PRA's resources in areas that need ongoing monitoring and engagements, such as monitoring firms' initial implementations and ongoing applications
Climate Change and 2050 net-zero target	although specific climate risk related measures are not in scope of the CP or Basel 3.1 standards, some of the proposals are *motivated by net-zero target*, such as changes proposed in Specialised Lending exposures can enable firms to model certain Specialised Lending exposures (A-IRB and F-IRB) and in turn encourage them to invest in green finance projects
Different business models	while the proposed changes ensure *capital adequacy and risk-sensitivity*, the impact of the changes can have varying influences on firms based on their *business mix* and *risk profile* and therefore aligning with one of the objectives of Basel 3.1 standards

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

45

Appendix C: LGD modelling collateral method

LGD estimation
LGD modelling collateral method

Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Formula 1

Under the IRB Approach, institutions shall use the effective LGD (LGD^*) is calculated as:

$$LGD^* = LGD.\left(\frac{E^*}{E}\right)$$

Where
- LGD = the LGD that would apply to the exposure where the exposure was not collateralised;
- E = the exposure value in accordance with Article 223(3);
- E^* = the fully adjusted exposure value in accordance with Article 223(5).

Effective LGD (LGD^*) is calculated as

$$LGD^* = LGD_U.\left(\frac{E_U}{E.(1 + H_E)}\right)LGD_S.\left(\frac{E_S}{E.(1 + H_E)}\right)$$

Where
- E = the exposure value (CRR 223(3)
- H_E = the volatility adjustment appropriate to the exposure (CRR 224, 226, 227)
- E_S = the current value of the collateral received after the application of volatility:
  - the volatility adjustment applicable for the type of collateral;
  - a volatility adjustment for any currency mismatches between the exposure and the collateral (H_C)
  - an adjustment for any maturity mismatches as per outlined in the new proposals (Section 5 of new rulebook)
- E_S is capped at the value of $E.(1 + H_E)$
- E_U is the value of the unsecured exposure calculated as $E.(1 + H_E) - E_S$
- LGD_U = is the estimated LGD of the exposure disregarding collateral (i.e. treating the exposure as unsecured);
- LGD_S = is the foundation collateral method secured LGD applicable to the collateral type as below
- E is the current value of the exposure after the effect of on-balance sheet netting;
- H_C is the volatility adjustment applied to the collateral as described below

Type of collateral	LGD	H_C
Financial collateral	0%	
Receivables	20%	40%
Immovable property	20%	40%
Other physical collateral	25%	40%

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

LGD estimation
LGD modelling collateral method

	Current Requirements[1]	Proposed Requirements of CP 16/22 (B3.1)

Formula 2	- An institution shall calculate the value of LGD^* that it shall use as the LGD where both the following conditions are met:
	   – the institution uses the IRB Approach to calculate risk- weighted exposure amounts and expected loss amounts;
	   – an exposure is collateralised by both financial collateral and other eligible collateral.
	 - Institutions shall be required to subdivide the volatility- adjusted value of the exposure, obtained by applying the volatility adjustment as set out in Article 223(5) to the value of the exposure, into parts so as to obtain a part covered by eligible financial collateral, a part covered by receivables, a part covered by commercial immovable property collateral or residential property collateral, a part covered by other eligible collateral, and the unsecured part, as applicable.
	 - Institutions shall calculate LGD^* for each part of the exposure obtained in paragraph 2 separately in accordance with the relevant provisions.
		Where an institution has obtained multiple types of collateral for an exposure, it shall calculate effective LGD (LGD^*) as
		
		$$LGD^* = LGD_U \cdot \left(\frac{E_U}{E.(1+H_E)}\right) + \sum_i LGD_{S_i} \cdot \left(\frac{E_{S_i}}{E.(1+H_E)}\right)$$
		
		Where
		 - E= the exposure value (CRR 223(3)
		 - H_E=the volatility adjustment appropriate to the exposure (CRR 224, 226, 227)
		 - $E_{S_1} = \min\{C_1, E.(1+H_E)\}$
		 - C_1 is capped at the value of $E.(1+H_E)$
		 - $E_{S_i} = \min\{C_i, E.(1+H_E) - \sum_{k=1}^{i-1} E_{S_k}\}$ for $i \geq 2$,
		 - $\sum_{k=1}^{i-1} E_{S_k}$ is capped at the value of $E.(1+H_E)$
		 - C_i = the current value of the collateral i received after the application of
		   – the volatility adjustment applicable for the type of collateral;
		   – a volatility adjustment for any currency mismatches between the exposure and the collateral (H_C), as specified in formula 1;
		   – an adjustment for any maturity mismatches calculated as per outlined in the new proposals (Section 5 of new rulebook)
		 - $E_U = E.(1+H_E) - \sum_i E_{S_i}$;
		 - LGD_U = the LGD applicable for an unsecured exposure as per outlined in the new proposals (CRR 161 of new rulebook)
		 - LGD_{S_i}= the LGD applicable to exposures secured by the type of collateral used in the transaction as specified in formula 1
		 - I = the index that denotes all separate types of collateral obtained for the exposure. The institution may assign types of collateral to this index in any order;
		 - K = the index that denotes all separate values of the index i.

TRUE NORTH PARTNERS
FINANCE | RISK | STRATEGY

True North Partners LLP is an independent consulting firm based in London, Frankfurt, Amsterdam, Madrid, Johannesburg and Dubai. We specialise in finance, risk and strategy and have extensive global experience and industry recognition in the financial services, risk management and finance communities.

We have a track record as an independent partnership since 2006. Our clients are leading financial institutions, predominantly in Europe, Middle East and Africa.

Our distinctive value proposition includes three key elements

- Leading practice expertise and experience in risk and finance to develop, tailor and communicate superior solutions

- Strong analytical grounding of our work, be that through financial, economic or statistical modelling

- Hands-on senior involvement and oversight to drive change at our clients, which ensures that we deliver real impact rather than just "PowerPoint concepts"

www.tnp.eu