Consultation Paper | CP5/17

Internal Ratings Based (IRB) approach: clarifying PRA expectations

March 2017

Prudential Regulation Authority
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Responses are requested by Wednesday 28 June 2017.

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Contents

1	Overview	5
2	Proposals	6
3	The PRA’s statutory obligations	11
Appendix		19

1 Overview

1.1 This consultation paper (CP) sets out the Prudential Regulation Authority's (PRA) proposed changes to Supervisory Statement (SS) 11/13 'Internal Ratings Based (IRB) approach'[1] to clarify the PRA's expectations for firms applying for IRB model approval as to:

- how they can demonstrate that they meet the requirements of the Capital Requirements Regulation (CRR)[2] on 'prior experience' of using IRB approaches; and
- on the use of external data to supplement internal data for estimating Probability of Default (PD) and Loss Given Default (LGD) for residential mortgages.

1.2 The PRA is also proposing to set two reference points for estimating Probability of Possession Given Default (PPGD) for residential mortgages for firms that lack significant possession data.

1.3 The proposals are relevant to UK banks, building societies, and PRA-designated investment firms.

1.4 The PRA reviews firms' Internal Ratings Based (IRB) applications and applies judgement as to whether the requirements of the CRR are met on a case-by-case basis. Firms are responsible for ensuring they comply with relevant legislation and rules.

1.5 The proposals in this CP are part of a suite of enhancements to improve the IRB model application process and to clarify the PRA's expectations regarding areas of the IRB framework that have been identified by firms as lacking clarity. These areas were set out in the PRA's 2016 Annual Competition Report (ACR).[3]

Background

1.6 The PRA's secondary competition objective, as set out in the Financial Services and Markets Act 2000 (FSMA), came into force on 1 March 2014. It states that: 'When discharging its general functions in a way that advances its objectives, the PRA must so far as is reasonably possible act in a way which, as a secondary objective, facilitates effective competition in the markets for services provided by PRA-authorised persons in carrying on regulated activities'.

2016 Annual Competition Report

1.7 The PRA's 2016 ACR set out some of the ways in which the PRA has delivered, and intends to deliver, against its secondary competition objective. The ACR included a review of the PRA's approach to IRB model applications from smaller firms. Feedback from the industry on the IRB approach covered three broad issues: i) process, (ii) clarity about regulatory requirements for IRB model approval; and iii) data inadequacies.

1.8 The PRA committed in the ACR to respond to these issues by:

- enhancing the application process;
- clarifying the PRA's expectations regarding the IRB approach; and

1 November 2015: www.bankofengland.co.uk/pra/Pages/publications/ss/2015/ss1113update.aspx.
2 http://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32013R0575.
3 June 2016: www.bankofengland.co.uk/publications/Documents/annualreport/2016/compreport.pdf.

- providing further information regarding data requirements, including the use of external data to supplement a firm's own data.

Empirical evidence

1.9 The PRA is concerned by empirical evidence that suggests that the difference between Standardised Approach (SA) and IRB risk weights may distort incentives in the mortgage market. Research conducted by the Bank of England finds evidence that suggests that firms using IRB models tend to specialise in low loan to value (LTV) mortgages, given their risk weights for such exposures are typically lower than for SA firms, while firms using the SA tend to specialise in high-LTV mortgages for which the gap in risk weights between the two approaches is narrower.[1] This gap may create an incentive for firms using the SA for credit risk to specialise in riskier exposures. This could affect their safety and soundness.

1.10 Similar concerns have been raised by Sam Woods, Deputy Governor for Prudential Regulation at the Bank of England and CEO of the PRA, in his Mansion House speech in October 2016,[2] and in a letter published in the Financial Times in February 2017.[3]

1.11 The Competition and Markets Authority also expressed similar concerns in its retail banking market investigation in August 2016.[4]

CP3/17 'Refining the PRA's Pillar 2A capital framework'

1.12 The PRA has also proposed to tackle concerns regarding the difference in risk weights under the SA and IRB and the consequent risks by proposing refinements to the PRA's Pillar 2A capital framework in CP3/17 'Refining the PRA's Pillar 2A capital framework', published in February 2017.[5]

Responses and next steps

1.13 This consultation closes on Wednesday 28 June 2017. The PRA invites feedback on the proposals set out in this consultation. Please address any comments or enquiries to CP5_17@bankofengland.co.uk.

1.14 The PRA aims to issue the updated SS11/13 in October 2017. The proposals are set out in the appendix to this CP.

1.15 This policy has been designed in the context of the current UK and EU regulatory framework. The PRA will keep the policy under review to assess whether any changes would be required due to changes in the UK regulatory framework, including those arising once any new arrangements with the European Union take effect.

2 Proposals

2.1 The PRA proposes to update SS11/13 with its minimum expectations for firms applying for permission to use the IRB approach in respect of the following areas:

1 Benetton, M, Eckley P, Garbarino N, Kirwin L, Latsi G (2016), 'Specialising in risky mortgages: unintended consequences of Basel II', Bank of England: www.bankofengland.co.uk/research/Pages/workingpapers/2017/swp639.aspx.
2 October 2016: www.bankofengland.co.uk/publications/Documents/speeches/2016/speech933.pdf.
3 February 2017: www.ft.com/content/e2aedf92-fab4-11e6-bd4e-68d53499ed71.
4 assets.publishing.service.gov.uk/media/57ac9667e5274a0f6c00007a/retail-banking-market-investigation-full-final-report.pdf.
5 www.bankofengland.co.uk/pra/Pages/publications/cp/2017/cp317.aspx. The consultation closes on Wednesday 31 May 2017.

- prior experience of using the IRB approach;
- the use of external data in the estimation of PD;
- the use of external data in the estimation of LGD; and
- the use of PRA reference points for calculating PPGD for residential mortgages.

2.2 The proposals in this CP relating to the use of external data apply to models covering residential mortgage exposures. They are potentially applicable to other exposure classes. The PRA will review the appropriateness of the application of these expectations to other exposure classes on a case-by-case basis.

Prior experience of using IRB approaches

2.3 CRR Article 145 sets out requirements for prior experience of using IRB approaches. Article 145(1) states 'An institution applying to use the IRB Approach shall have been using for the IRB exposure classes in question rating systems that were broadly in line with the requirements set out in Section 6 for internal risk measurement and management purposes for at least three years prior to its qualification to use the IRB Approach'.

2.4 The CRR requires firms to have experience in using their internal rating systems to a standard broadly in line with the CRR requirements for at least three years prior to approval. With the proposed expectations below, the PRA proposes to clarify that, in order to meet this experience requirement, a firm is expected to have in place a mature process through which it monitors and reviews its IRB framework, rather than a need for every aspect of the final IRB framework to have been completed and reviewed for three years prior to approval.

2.5 In order to be satisfied that the requirements in CRR Article 145 are met, the PRA proposes that firms should be able to evidence that:

(i) its complete IRB governance framework has been through at least one annual cycle since internal approval, in accordance with CRR Article 191;

(ii) it has used its internal rating systems in credit decisions, lending policies, risk appetite polices and credit risk monitoring for at least three years; and

(iii) there has been at least three years of monitoring, validation and audit of the firm's IRB framework, recognising that the IRB framework is likely to be subject to development and refinement during this period.

2.6 The three years of evidence of using internal rating systems set out in paragraph 2.5 (ii) need not necessarily relate to the use of the final, fully CRR compliant, framework for all of that period. It could, for example, initially involve the use of internal credit risk models which are broadly in line with CRR requirements rather than the final, fully compliant IRB rating systems. At approval however, applicants would be expected to have undertaken at least one annual review cycle of the completed framework. The PRA will not accept evidence of a third party exercising governance of models (e.g. bureau scores monitored by the bureau) as evidence of a firm's ability to monitor the models itself.

2.7 The PRA proposes that the depth and detail of the monitoring, audit and annual reviews set out in paragraph 2.5 (iii) may be proportionately lower at the start of the three year period,

provided that firms provide a sufficiently accurate analysis of progress, and fully meet the required standard by the end of the three year period.

The use of external data in the estimation of Probability of Default (PD)

2.8 The aim of this proposal is to clarify the extent to which external data can be used in estimating PD for residential mortgages. This is aimed at addressing concerns raised by firms (set out in the PRA's 2016 ACR) that perceived data inadequacies prevent IRB aspirants from developing IRB frameworks and submitting an application for IRB permission.

2.9 In particular, when estimating PD, firms are expected to assign borrowers to a particular risk grade based on their relative riskiness, with discrimination between different borrowers based upon borrower and loan characteristics. In quantifying PD for a borrower, firms should use all relevant data available, with at least five years of history from one source. Attaining internal default data for residential mortgages can prove difficult, particularly in a low interest rate environment. The proposed clarification of the PRA expectations on use of external data is aimed at addressing this issue.

2.10 Where firms have low levels of actual internal default data, the PRA proposes that external data may be used as a supplement to internal data for the purposes of rank-ordering different borrowers by credit quality and to help adjust for seasoning as credit quality changes with loan vintage. This is in addition to use of external data for calibration purposes (as proposed in CP29/16 'Residential mortgage risk weights').[1] The PRA proposes an expectation that firms attempting to evidence comparability with third-party data should include a comparison of default rates.

2.11 The PRA proposes that the CRR Article 180(2) requirement for internal data to be the 'primary source' may be met where an applicant assigns sufficient weight to internal data, including security (LTV), loan (arrears history), and borrower (applicant information) factors, as inputs into their rank-ordering but uses external data to achieve greater discrimination. The PRA expects such firms to apply appropriate margins of conservatism at every step to account for uncertainty in their estimates and to mitigate against incomplete data or where external data are not wholly representative.

2.12 Where firms lack sufficient internal defaults to support rank-ordering or a reliable calibration, the PRA proposes to accept models that rank order using an early-arrears definition (which tends to be correlated with default) which are calibrated with an additional margin of conservatism, provided the CRR requirements are met.

2.13 The PRA is of the view that Council of Mortgage Lenders (CML) data are representative of mainstream established UK mortgage lending. But there is a risk that rank-ordering based on earlier arrears data, in the absence of actual defaults, may not guarantee stability of estimates when back-casting to estimate a long run average default rate using CML data. To mitigate this risk, firms with low levels of internal default data will be expected to include an additional margin of conservatism at every step of the process, which the PRA will assess. As internal data is developed, the PRA would expect firms to adjust this conservatism as appropriate.

2.14 Where third-party recovery data from other legal regimes are relied upon (e.g. US or other non-UK recoveries), the PRA believes it is unlikely that this could be shown to be comparable to UK data.

1 July 2016: www.bankofengland.co.uk/pra/Pages/publications/cp/2016/cp2916.aspx.

The use of external data in the estimation of Loss Given Default (LGD)

2.15 The PRA proposes to clarify its expectations regarding the use of external data to estimate LGD for residential mortgages.

2.16 The aim of this proposal is to clarify the extent to which external data can be used in estimating LGD for residential mortgages. This should address concerns raised by firms (set out in the PRA's 2016 ACR) that perceived data inadequacies prevent IRB aspirants from developing IRB frameworks and submitting an application for IRB permission. Firms indicated that it could prove difficult to attain sufficient data to meet the IRB requirements using internal data alone, particularly in a low interest rate environment.

2.17 The PRA proposes that firms with limited internal default data may use external data as a supplement when estimating LGD. Where external data are used, the PRA would expect firms to apply additional margins of conservatism. The level of added conservatism is likely to be significant until additional internal data are available to support its reduction, particularly as LGD is loan specific given that losses are influenced by the nature of collateral and historical recoveries.

2.18 In particular, the PRA proposes that firms add conservatism in order to:

(a) recognise the difference between downturn recoveries from established firms with the experience and processes to realise high recoveries, and those from firms with more limited experience and less established processes;

(b) recognise any differences in portfolio comparability between the external data and the firm's lending; and

(c) address unobservable differences.

2.19 In the case of a firm with no internal repossession data for use in their Forced Sale Discount (FSD) modelling, the PRA proposes to set an expectation that it may accept that the firm could initially rely on external data, along with an internal expectation on costs and an appropriate margin of conservatism. This would not remove the requirement for firms to run an FSD model with appropriate governance and monitoring requirements. The PRA expects that a firm would move to a solely internal data based estimate of FSD as internal possession data build up.

2.20 Where third-party recovery data from other legal regimes are relied upon (e.g. US or other non-UK recoveries), the PRA believes it is unlikely that this could be shown to be comparable to UK data.

2.21 The PRA also notes existing PRA expectations on the estimation of LGD that should ensure the prudence of firms' estimation of LGD. Paragraph 13.8 of SS11/13 sets a reference point for estimating downturn LGD for UK mortgage exposures as follows: 'The PRA believes that an average reduction in property sales prices of 40% from their peak price, prior to the market downturn, forms an appropriate reference point when assessing downturn LGD for UK mortgage portfolios. This reduction captures both a fall in the value of the property due to house price deflation as well as distressed forced sale discount.'

2.22 Also, the PRA proposed in CP29/16 'Residential mortgage risk weights' that for UK residential mortgage LGD models, firms will be expected to apply a house price fall assumption of at least 25%.

The use of PRA reference points for calculating Probability of Possession Given Default (PPGD)

2.23 The PRA proposes to set reference points for calculating PPGD margins of conservatism to be used by firms with low levels of internal default and possession outcome data. The PRA expects that firms that have considerable residential mortgage lending history and associated possession data will not need to refer to the reference points but will still be required to include margins of conservatism in accordance with the CRR.

2.24 The LGD formula most typically used by UK firms to model residential mortgage credit risk consists of three main components: PPGD, a house price fall assumption and FSD, alongside various ancillary parameters (including discount rate and time from default to possession). PPGD is one of the main drivers of LGD and it is a firm-specific parameter linked to banks' recovery and repossession processes.

2.25 The aim of this proposal is to set PPGD reference points from which firms with limited data points for repossession and the PRA can begin the assessment of an appropriate margin of conservatism in PPGD estimates. This should address concerns raised by firms (set out in the PRA's 2016 ACR) that perceived data inadequacies prevent IRB aspirants from developing IRB frameworks and submitting an application for IRB permission.

2.26 The PRA believes the following reference points to be appropriate:

(a) PPGD reference point of 100% where there are very low default volumes, regardless of the length of observed outcomes; and

(b) PPGD reference point of 70% where firms are able to demonstrate they have greater, but still not considerable, volume and history of data to estimate future possession rates.

2.27 The proposed reference points are based on PRA analysis of existing IRB firm data. In determining which reference point to apply, the firm and the PRA will have to assess the quality and quantity of data.

2.28 The 70% and 100% reference points reflect the PRA's baseline expectation of a conservative estimate where there is limited internal data evidence. The PRA would expect firms to assess on a case-by-case basis whether they should sit above or below these levels (although PPGD cannot be higher than 100%). Indicators supporting a PPGD level set higher than 70% include: high LTV lending; non-owner occupied lending (i.e. buy-to-let); and levels of default data towards the lower end of the mortgage lenders cohort. Indicators supporting a PPGD level set lower than 100% or 70% include: low LTV lending; high share of owner-occupied lending; and more data than typical of the cohort.

2.29 As required by the CRR, firms using the PRA reference points as a guide for calculating PPGD margins of conservatism will still need to run an LGD model subject to appropriate governance and monitoring requirements. As a firm gains more internal data, and the modelled PPGD estimates rely upon internal data to a greater extent, the PRA would expect the additional margin of conservatism to decline.

3 The PRA's statutory obligations

3.1 The PRA has a statutory duty to consult when introducing new rules and a public law duty to consult widely on any other measures that significantly affect firms.

Compatibility with the PRA's objectives

3.2 The PRA has a general objective to promote the safety and soundness of the firms it regulates and a secondary objective to facilitate effective competition.

General objective to promote safety and soundness

3.3 These proposals advance the PRA's general objective to promote the safety and soundness of the firms it regulates by clarifying the PRA's supervisory expectations for meeting the requirements for use of the IRB approach. This is aimed at ensuring that the level of capital firms are expected to maintain is adequate in relation to the risks they are, or may be, exposed to.

Secondary objective to facilitate effective competition

3.4 When discharging its general functions in a way that advances its objectives, the PRA has, as a secondary objective, a duty, as far as reasonably possible, to act in a way that facilitates effective competition in markets for services provided by PRA-regulated firms carrying on regulated activities.

3.5 These proposals will help advance this objective, in conjunction with the process enhancements for IRB applications referenced in the PRA's 2016 ACR, by improving the ability of firms currently using the SA to understand how they can move to the IRB approach.

3.6 The policy clarifications proposed in this CP are relevant to all firms using, or considering an application to use, the IRB approach and are not specific to any type of firm. In practice however, the clarifications are likely to be most relevant and beneficial to smaller and newer banks that do not have existing IRB permissions and currently use the SA.

3.7 The IRB approach allows a firm to use its own parameters, subject to meeting minimum standards and obtaining permission from the PRA, to calculate a risk-weighted capital requirement for credit risk. Capital requirements for IRB firms should therefore be more closely linked to the firm's assessment of the risks in its lending than for firms using the SA where risk weights are based on regulator-set parameters which typically will be less closely linked to the firm's assessment of risk.

3.8 For certain exposure classes, and in particular low LTV mortgages, average risk weights at IRB firms are materially lower than for firms who use the SA (as set out in the PRA credit risk IRB benchmark proposed in Appendix 1 of CP3/17). This creates the risk of an unlevel playing field between firms using the SA and firms using IRB, as SA firms may be required to have significantly more capital for the same amount of risk. The measures proposed in this CP should help enable firms to understand how the PRA expects that they may be able to meet the relevant prudential standards to obtain IRB permission. This should improve the ability of smaller firms to compete with larger firms in low LTV mortgage lending.

Cost benefit analysis

3.9 The PRA is required to perform a cost benefit analysis of the impact of its policy proposals.

Overall costs and benefits

3.10 The proposals in this CP will clarify the PRA's supervisory expectations for certain elements of the IRB approach. The PRA expects that the proposals should help firms currently using the SA approach that are working towards applying for IRB in the future.

Impact on capital

3.11 The proposals may result in more firms using the IRB approach in future. This will likely result in a greater volume of PRA regulated firms' credit risk being capitalised under the IRB approach. IRB risk weights on mortgage exposures increase with the LTV ratio. In contrast, SA risk weights are fixed at 35% for LTV ratios up to 80%, and are then 75% on incremental balances above the 80% LTV threshold. IRB risk weights tend to be lower than SA risk weights across most LTV ratios, but the gap is larger for lower LTV ratios. In 2015, the gap between the average IRB risk weight and the SA risk weight was about 30 percentage points for LTV ratios below 50%, compared to less than 15 percentage points for LTV ratios above 80%.

3.12 Given that SA residential mortgage risk weights are typically higher than IRB risk weights for all but very high LTVs, greater use of IRB can be expected to reduce the overall amount of capital held against the credit risk of UK mortgages. As IRB risk weights are not a perfect reflection of underlying risk, this could increase the potential for an inadequate aggregate amount of capital being held in the system against mortgage credit risk. But this risk should be mitigated by ensuring that prudent margins of conservatism are applied to IRB firms' calculation of risk weights where appropriate. Also, to the extent that any reduction in overall capital reflects an overly conservative and not fully risk-sensitive calibration of current SA risk weights, the new level of capital will better reflect the overall level of credit risk in the UK mortgage market.

3.13 For new IRB firms who make use of external data to supplement internal data, the proposals are initially unlikely to reduce UK mortgage risk weights to the levels of average IRB risk weights proposed in the PRA's credit risk IRB benchmark in CP3/17. This is because firms using external data as part of their calculation of PD and LGD will be required to apply an additional margin of conservatism to account for uncertainty in their estimates and to mitigate against the risk of external data not being wholly representative of their mortgage exposures. Some firms will also be expected to refer to PRA-set PPGD reference points which are prudently calibrated.

3.14 This additional margin of conservatism is likely to be significant until sufficient internal data are available to support its reduction. This can be expected to reduce the capital benefit that results from moving from the SA to the IRB approach immediately after obtaining an IRB permission. Over time however, firms can be expected to build up additional internal data that may justify a lowering of the level of conservatism and a consequent reduction of their capital requirements.

Impact on risk distribution

3.15 While firms using the SA for credit risk have tended to specialise in high LTV mortgages, firms that are successful in obtaining permission to use IRB may be incentivised to expand into lower LTV mortgage lending.

3.16 Recent Bank of England research shows that the introduction of internal models under Basel II has led to specialisation and concentration of credit risk in the UK mortgage market.[1] Specifically, IRB lenders gain a comparative advantage in capital requirements compared to SA lenders, particularly at low LTV ratios. This comparative advantage is reflected in prices and quantities.

3.17 The research indicates that, for the period 2009-2015, a 1 percentage point reduction in risk weights causes a 1 basis point reduction in interest rates. With an average 30 percentage point gap between IRB and SA risk weights for LTV ratios below 50%, this corresponds to an economically significant price advantage of 30 basis points.

3.18 From a financial stability perspective, the specialisation mechanism causes concentration of mortgage risk in lenders who have not secured permissions to use internal models for regulatory capital requirements. Such lenders are likely to have less sophisticated risk management practices, but also to be less systemically important. Concentration of higher risk (higher LTV) mortgages in smaller lenders with less sophisticated risk management may increase the expected average failure rate among the overall population of lenders, reducing their safety and soundness and with potentially systemic effects in the event of simultaneous failures. It may decrease the probability of failure among systemically important lenders although some systemically important lenders do operate in the high LTV lending mortgage market and they are already subject to more stringent regulatory standards.

Impact on credit risk management

3.19 The proposals should increase the overall standards of credit risk management in PRA regulated firms. In order to gain permission to use the IRB approach, firms must be able to demonstrate that they meet specified requirements that are set out in the CRR. At a high level, firms are required to demonstrate that their systems for the management and rating of credit risk exposures are sound and implemented with integrity. Key IRB requirements include that the firm's rating systems provide for a meaningful assessment of obligor and transaction characteristics, a meaningful differentiation of risk and accurate and consistent quantitative estimates of risk. IRB firms are also required to have appropriate governance requirements in place.

3.20 Firms using the SA for credit risk are not subject to these specific credit risk management requirements. Firms that move from the SA to IRB approach can therefore be expected to develop their credit risk management capabilities in order to satisfy the IRB requirements. This should lead to a better understanding and management of risk within these firms. This should increase the prudential soundness of such firms and increase the overall prudential soundness of the UK banking system.

Direct costs

3.21 The proposals in the CP do not impose any direct costs on firms. This is because the proposals do not require existing SA firms to seek IRB permission. Rather, firms currently using the SA for credit risk may choose, at their own discretion, to apply to the PRA for IRB permission. SA firms can therefore choose not to apply and thus not be impacted by the proposals. For those SA firms that successfully move to the IRB approach, the initial and ongoing costs will be significant relative to the costs of operating under the SA. These costs relate to model development and ongoing monitoring and governance. The requirements for both SA and IRB firms to calculate expected credit losses (ECL) under International Financial

1 Benetton, M, Eckley P, Garbarino N, Kirwin L, Latsi G (2016), 'Specialising in risky mortgages: unintended consequences of Basel II', Bank of England: www.bankofengland.co.uk/research/Pages/workingpapers/2017/swp639.aspx.

Reporting Standard (IFRS) 9 (which will apply for accounting periods beginning on or after 1 January 2018) may result in firms developing credit risk management capabilities for IFRS 9 purposes that are complementary to those required for IRB purposes.

Costs and benefits of the individual policy clarifications

3.22 The following section assesses the costs and benefits of each of the individual policy clarifications proposed in the CP.

Prior experience of using IRB approaches

3.23 The PRA is proposing an expectation that a firm's monitoring should, as a minimum, focus on the key areas of its IRB framework for three years and that all aspects of the IRB framework should have been reviewed once (i.e. one full annual cycle since internal approval) as evidence that the CRR requirement is met.

3.24 A benefit of this approach is that it clarifies the CRR Article 145 'broadly in line' experience requirement. It should enable a firm to apply for IRB at a stage where a finalised, fully compliant rating system has not been in place for three years.

3.25 A potential risk of a firm lacking experience of using IRB approaches is that the firm's governance structures and staff may not be sufficiently experienced in understanding and evaluating model risk. Firms in this position may fail to escalate appropriate information to senior management, or may take inappropriate decisions on the basis of the information they do review. As a result, a firm's model may, post-approval, produce capital requirements that do not adequately reflect risk and negatively impact the prudential soundness of a firm.

3.26 The PRA's proposed approach mitigates this risk by clarifying that in meeting the CRR experience requirements, firms will be required to evaluate their model governance over a full annual cycle. This means that internal committees will have at least twelve months of post-development outcomes available to review and be assessed against. Monitoring of key model elements (such as bureau scores) over three years provides a good level of assurance of experience, even in cases where finalised, fully compliant models are not available for that entire period. The PRA would not accept evidence of a third party exercising governance of models as evidence of a firm's ability to monitor the models itself meaning the firm itself would need to develop the understanding of its model. This provides additional assurance and is an important safeguard against a lack of senior management understanding.

The use of external data in the estimation of PD

3.27 The PRA is proposing to clarify its expectations on the extent to which it considers that firms are able to supplement internal PD data with external data in CRR compliant models, provided certain conditions are met and an appropriate margin of conservatism is applied.

3.28 A benefit of this approach is that it should help a firm with a low number of defaults in its portfolio to assess the extent to which use of external data can help it to meet the CRR requirements for obtaining IRB permission. It should also reduce the potential incentive for an SA firm to undertake riskier lending with the specific intention of generating defaults so that it purports to meet IRB requirements on the basis of internal default data alone. Such risk shifting would increase risk and undermine prudential soundness so it is beneficial to the PRA's safety and soundness objective to reduce the incentives for such behaviour.

3.29 A potential cost of the proposals is an increase in prudential risk if the external data are not fully comparable to the firm's own lending, which could lead to an under-calibrated PD estimation. This could happen where there are credit risk drivers that cannot be controlled for.

To address this risk, firms will be required to meet the CRR Article 180(2)(c) requirements on representativeness of external data and the PRA will expect firms to apply additional margins of conservatism in their estimates until they have sufficient internal data to evidence its reduction.

The use of external data in the estimation of LGD

3.30 The PRA is proposing to clarify its expectations that firms should be permitted to supplement internal LGD data with external data provided certain conditions are met and an additional margin of conservatism is applied.

3.31 A key benefit of the proposal is to clarify to firms with low amounts of default and loss data the expectations around CRR compliance and hence potentially enable them to apply for IRB permission at an earlier stage.

3.32 Due to conservative lending, or a low interest rate environment, the modelling of residential mortgage LGD may become the largest constraint in the development of a firm's IRB framework if it relies on internal data alone. This arguably limits the possibility of SA firms with robust lending standards gaining IRB permissions. It also creates the incentive discussed in paragraph 3.28 for an SA firm to undertake riskier lending with the specific intention of generating some defaults so that it has sufficient internal default data to meet the IRB requirements. The proposed clarification on the extent to which firms may supplement internal data with external data in meeting CRR requirements should enable firms with limited data to apply for IRB permission.

3.33 A potential cost of the proposals is an increase in prudential risk, should the external data be insufficiently representative of the firm's own lending and result in an under-calibrated LGD estimation. To mitigate this risk, the PRA will expect firms to include material amounts of conservatism in their estimates, in accordance with CRR requirements, until they have sufficient internal data to justify reducing the margin of conservatism.

3.34 In addition, SS11/13 (paragraphs 13.8 – 13.9) already sets supervisory expectations of an appropriate reference point when assessing downturn LGD for UK mortgage portfolios (the reference point is an average reduction in property sales prices of 40% from their peak price, prior to the market downturn). This mitigates against the risk of the use of external data leading to imprudent LGD calculations.

Use of reference points for calculating PPGD for residential mortgages

3.35 The PRA is proposing to clarify that firms lacking sufficient possession and workout data for the modelling of PPGD could use PRA-derived PPGD reference points. This would enable IRB aspirants without significant data depth (number of defaults) or length (time to observe outcomes) to gain IRB approval.

3.36 A key benefit of this proposal is to clarify how firms with low amounts of possession and workout data can potentially meet the CRR requirements for obtaining IRB permission.

3.37 The significant amount of time needed to attain sufficient possession and workout data for the modelling of PPGD means that downturn LGD can be seen as the most fundamental challenge for new and established smaller firms wishing to apply for IRB permissions. For new firms with a prudent risk appetite, it is possible that they would never have sufficient internal data in a low interest rate environment to estimate PPGD without the use of a very significant margin of conservatism. The use of PPGD reference points should help clarify what the PRA considers to be an appropriate margin of conservatism.

3.38 A potential cost of the use of PRA-derived PPGD reference points is that the proposed calibration of the reference points will reduce the capital benefit that SA banks can achieve from moving onto the IRB approach. This is because the proposed calibration is based on existing IRB firm estimates of downturn high risk (by LTV and product) lending. But the PRA believes such a calibration is appropriate to mitigate prudential risk where there is limited internal firm data. Use of the reference points should still deliver capital benefits for current SA firms focused on mortgage lending below 70% LTV.[1]

3.39 The PRA is also proposing PPGD reference points rather than floors, and firms will be able to apply lower or higher reference points in cases where they can robustly demonstrate that a different PPGD level would be appropriate. Firms can also expect to be able to apply lower PPGD levels over time as they build up additional internal data.

Regulatory principles

3.40 In developing the proposals in this CP, the PRA has had regard to the regulatory principles as set out in FSMA. Three of the principles are of particular relevance.

3.41 The principle that a burden or restriction which is imposed on a person, or on the carrying on of an activity, should be proportionate to the benefits, considered in general terms, which are expected to result from the imposition of that burden or restriction: the PRA considers that the burden of the proposals (as set out in the cost benefit analysis) would be proportionate to the benefits of improved access to the IRB approach while not undermining prudential safety and soundness.

3.42 The principle that the PRA should use its resources in the most efficient and economic way: the PRA considers that the proposals are consistent with this principle. Clarifying the PRA's supervisory expectations in respect of certain conditions that must be met in order to obtain permission to use the IRB regime will result in better and more efficient engagement between the PRA and IRB applicants and should increase the efficiency of the IRB application process.

3.43 The principle that the desirability where appropriate of the PRA exercising its functions in a way that recognises differences in the nature of, and objectives of, businesses carried on by different persons (including different kinds of persons such as mutual societies and other kinds of business organisation) subject to requirements by or under FSMA: the PRA considers that the proposals are consistent with this principle. They recognise differences in the experience levels and data availability of different firms and clarify supervisory expectations of how minimum conditions for use of the IRB approach can be met for all potential applicants.

Impact on mutuals

3.44 FSMA requires that the PRA assesses whether, in its opinion, the impact of the proposed rules on mutuals will be significantly different from the impact on other firms, and if so, details of the difference. In the PRA's opinion, the impact of the proposed rule changes on mutuals is expected to be no different from the impact on other firms.

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1 In order to calibrate the PPGD reference points, the PRA has undertaken analysis of existing IRB firms' PPGD model estimates and compared these to what the PRA terms a 'Standardised equivalent' PPGD (ie a PPGD that would give rise to Standardised risk weights if IRB firms applied it). The analysis reflects IRB's greater risk-sensitivity over the SA, and indicates that:
(a) below 70% LTV, the SA equivalent PPGD is greater than 100%. This implies that any PPGD reference point, including 100%, would result in lower IRB risk weights than the SA; and
(b) above 70% LTV, the IRB risk weights are likely to be higher than for SA, reflecting IRB's greater risk sensitivity.

Equality and diversity

3.45 The PRA is required by the Equalities Act 2010 to have due regard to the need to eliminate discrimination and to promote equality of opportunity in carrying out its policies, services and functions. The PRA has performed an assessment of the policy proposals and does not consider that the proposals give rise to equality and diversity implications.

Government economic policy

3.46 On Wednesday 8 March 2017, HM Treasury made recommendations to the Prudential Regulation Committee[1] about aspects of the Government's economic policy to which the Committee should have regard when considering how to advance the objectives of the PRA and apply the regulatory principles set out in FSMA. The PRA has considered the implications of the proposals in this CP on each of these aspects and considers that three of these aspects of economic policy are of particular relevance to these proposals.

Competition

3.47 The government is keen to see more competition in all sectors of the industry, particularly retail banking. This includes minimising barriers to entry and ensuring a diversity of business models within the industry.

3.48 The PRA has a secondary competition objective and the PRA considers that the proposals are consistent with this objective and the government's economic policy consideration to see more competition in retail banking. As set out in paragraphs 3.4 – 3.8, the proposals should improve the ability of firms that currently use the SA to understand how they can move to the IRB approach should they wish to do so. This will benefit new entrants and smaller firms that typically use the SA. For SA firms that obtain IRB permission, this should improve their ability to compete with existing, typically larger, IRB firms. This is likely to be the case in low LTV mortgage lending in particular.

Innovation

3.49 The Government is keen to see innovation in the financial services sector and how this can support the wider economy, through new methods of engaging with consumers of financial services and new ways of raising capital. This includes recognising differences in the nature and objectives of business models and ensuring burdens are proportionate.

3.50 The PRA considers that the proposals are consistent with the government's economic policy consideration to recognise differences in the nature and objectives of business models and ensure burdens are proportionate. The proposals recognise that new market entrants, or established firms that have recently moved into residential mortgage lending for the first time, may have lower levels of internal data than firms with a longer history of residential mortgage lending. The proposals clarify the PRA's supervisory expectations for data when estimating IRB parameters which should help firms with lower levels of data understand how they can meet the CRR requirements for IRB. To the extent that new entrant firms have different or innovative business models relative to existing firms, the proposals should be consistent with innovation. The potential use of external data to supplement internal data to estimate PD and LGD should help inform firms' investment decisions when deciding whether to seek IRB permission, particularly those with limited data or length of operation.

1 March 2017: www.bankofengland.co.uk/pra/Documents/chancellorletter080317.pdf.

Better outcome for consumers

3.51 The government wants to see financial services work in the best interests of the consumers and businesses they serve. This is supported by improved competition in financial services and the securing of an appropriate degree of protection for consumers, including policyholders.

3.52 The PRA considers that the proposals are consistent with the government's economic policy consideration for improved competition in financial services and the securing of an appropriate degree of protection for consumers. The proposals should help to improve the ability of new entrant and smaller firms to compete with larger banks with existing permissions to use the IRB approach. This should improve the ability of new entrants and smaller banks to offer competitively priced residential mortgage lending and increase the choice of products available to consumers.

Appendix 1: Draft amendments to Supervisory Statement 11/13 – Internal Ratings Based (IRB) approaches

This appendix outlines proposed amendments to SS11/13 'Internal Ratings Based (IRB) approaches'. Underlining indicates new text and striking through indicates deleted text.

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10 Overall requirements for estimation

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Prior experience of using IRB approaches

10.6A In order to be satisfied that the requirements in CRR Article 145 are met, the PRA expects firms to be able to evidence that:

(a) its complete IRB governance framework has been through at least one annual cycle since internal approval;

(b) it has used its internal rating systems in credit decisions, lending policies, risk appetite polices and credit risk monitoring for at least three years; and

(c) there has been at least three years of monitoring, validation and audit of the IRB framework, recognising that the IRB framework is likely to be subject to development and refinement during this period.

10.6B The three years of evidence of using internal rating systems set out in 10.6A(b) need not necessarily relate to the use of the final, fully CRR compliant framework for all of that period. It could, for example, initially involve the use of internal credit risk models which are broadly in line with CRR requirements rather than the final, fully compliant, IRB rating systems. At approval however, applicants would be expected to have undertaken at least one annual review cycle of the completed framework.

10.6C The depth and detail of the monitoring, audit and annual reviews set out in 10.6A(c) may be proportionately lower at the start of the three year period, provided that firms provide a sufficiently accurate analysis of progress, and fully meet the required standard by the end of the three year period.

10.6D The PRA will not accept evidence of a third-party exercising governance of models (e.g. bureau scores monitored by the bureau) as evidence of a firm's ability to monitor the models itself.

(CRR Article 145)

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12 Probability of default in IRB approaches

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PD - use of external data for residential mortgages

12.35 The PRA expects that, for residential mortgages, where a firm's internal experience of defaults for a rating system is low, it may use external data to supplement internal data for rank-ordering different borrowers by credit quality and to help adjust for seasoning as credit quality changes with loan vintage. This is in addition to use of external data for calibration purposes. The PRA expects that firms attempting to evidence comparability with third-party data should include a comparison of default rates.

12.36 The PRA believes internal data may be considered to be the 'primary source' for residential mortgages where a firm assigns sufficient weight to internal data, including security (LTV), loan (arrears history) and borrower (applicant information) factors, as inputs into their rank-ordering but uses external data to achieve greater discrimination.

12.37 The PRA expects firms to apply appropriate margins of conservatism at every step to account for uncertainty in their estimates and to mitigate against incomplete data and where external data are not wholly representative.

12.38 Where firms lack sufficient internal defaults to evidence rank ordering or a reliable calibration, firms may use models that rank order on an early arrears definition (which tends to be correlated with default), provided they are calibrated with sufficient conservatism.

(CRR Articles 171, 179 and 180)

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13 Loss Given Default in IRB approaches

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LGD - use of external data for residential mortgages

13.17A The PRA expects that, for residential mortgages, where a firm's internal experience of defaults for a rating system is low, the firm may use external data to supplement internal data when modelling LGD.

13.17B Where external data are used, the PRA expects firms to apply additional margins of conservatism in order to:

(a) recognise the difference between downturn recoveries from established firms with the experience and processes to realise high recoveries, and those from firms with more limited experience and less established processes;

(b) recognise any differences in portfolio comparability between the external data and the firm's lending; and

(c) address unobservable differences.

13.17C The PRA expects the level of added conservatism to be significant until sufficient internal data are available to support the firm's reduction.

13.17D Firms using external data in their LGD estimates should run a Forced Sale Discount (FSD) model and PPGD model with appropriate governance and monitoring requirements.

Firms with no internal repossession data for use in their FSD modelling could rely on external data, along with an internal expectation on costs and an additional margin of conservatism, as part of their FSD estimation.

13.17D The PRA considers that firms would be unlikely to be able to demonstrate that third party recovery data from non-UK legal regimes are comparable to UK data. The PRA therefore expects only UK data to be used when estimating LGD for UK residential mortgage exposures. For non-UK mortgage exposures, the PRA expects firms to demonstrate that data is representative for the local mortgage market in order to be used to supplement internal data where appropriate.

13.17E The PRA expects firms to incorporate internal data as it builds up.

(CRR Articles 171, 179 and 181)

Probability of Possession Given Default for residential mortgage exposures

13.23 For firms with low internal experience of possessions, the PRA expects firms to assess the appropriate margin of conservatism in the calculation of PPGD against PRA reference points.

13.24 The PRA believes the following reference points to be appropriate:

(a) PPGD reference point of 100% where there are very low default volumes, regardless of the length of observed outcomes; and

(b) PPGD reference point of 70% where firms are able to demonstrate they have greater, but still not considerable, volume and history of data to estimate future possession rates.

13.25 The PRA expects firms to assess whether on a case-by-case basis they can apply a PPGD level above or below the reference point relevant to their circumstances. Indicators supporting a PPD level set higher than 70% include: high LTV lending; non-owner occupied lending (ie buy-to-let); and levels of default data towards the lower end of the mortgage lenders cohort. Indicators supporting a PPD level set lower than 100% or 70% include: low LTV lending; owner-occupied lending; and more data than typical of the cohort. The PRA will consider a firm’s proposal to use a lower level of PPGD than the relevant reference point on a case-by-case basis.

13.26 As required by the CRR, firms using the PRA reference points as a basis for calculating PPGD margins of conservatism will still need to run an LGD model subject to appropriate governance and monitoring requirements. As a firm gains additional data, and the modelled PPGD estimates rely upon internal data to a greater extent, the PRA expects the appropriate margin of conservatism to decline.