

Capital Requirements Directive Implementation

Industry Feedback: Mortgages, Credit Cards and Unsecured Personal Loans

March 2005

We have recently completed a programme of visits focusing on 'rating systems' for mortgages, credit cards and unsecured personal loans. The visits, which took place between May and December 2004, were intended to assess industry readiness for the new Capital Requirements Directive ('CRD') and also to help inform our FSA processes. We appreciate that firms will have developed their approaches further since our visits. However, we set out below the issues that arose.

Context of the feedback

As you are aware, the eventual UK Standardised Approach and Internal Ratings Based Approach requirements will only be known following finalisation of the CRD and the drafting and finalisation of the implementing text for the FSA's Handbook of Rules and Guidance. We clearly cannot prejudge the outcome of the legislative and consultation processes that form part of the above. Moreover, in order to give comments to firms now, we have done so, in some cases, before the FSA has decided what its own position should be. All FSA views below are, therefore, provisional. When decided, the FSA's position may be different from that described below. This note should, as a consequence, be read in the light of these qualifications.

Firms should also note that the comments below relate specifically to what we observed during the visits. For the avoidance of doubt, firms should not take omission of an issue from this document as an indication that FSA has no view. Other issues have been covered in our Consultative Papers and our answers to FAQs raised by the industry. In particular, we refer firms to CP05/03 Strengthening Capital Standards, where many of the issues set out below are discussed more fully.

General Feedback

A. Overall progress

Overall we found that firms have devoted most of their time to date on the design and build of their rating systems and any underlying scorecards. Work which naturally follows this is less well developed, including those elements of work needed to complete the rating systems and those needed to embed them. Completing the rating systems will involve work on allocation of model outputs to homogeneous pools, validation and, stress testing. We will expect substantial near term progress in these areas for firms who are due to apply in H2 2005. In line with previous feedback given on Large Corporate rating systems, there is also still significant work needed on those elements of work needed to embed the rating systems such as documentation, use test and senior management understanding where firms are broadly at the more conceptual stage.

The following feedback is divided into sections on Model Build & Validation (including homogenous pools etc.) and Governance & Use Test.

B. Model Build and Validation

1. Data Quality and Ownership

We were encouraged by the quality of firms' systems for the capture and retention of data which was in general of a good standard although the length and range of data available for use in model building may have been subject to historical changes in systems and data capture standards. We noted that the ownership of data was not always clear and firms are reminded of the need for responsibility for the ongoing control and retention of data to be clearly identified.

We do not think it is appropriate for the FSA to directly audit firms' data quality. Rather, we will normally rely on the firms themselves to set out the quality standards they apply to their data within the waiver pack and certify that their data are of appropriate quality. Based on our visits, firms will currently have difficulty meeting this. We think firms should be able to certify and support the completeness and accuracy of the data (both in quantitative and qualitative terms) used in the capital calculation (including that used within model validation and rating determination).

2. PD Model Development

Firms have taken one of two approaches to developing PD models to meet CRD requirements:

- Mapping of business as usual scorecards to the default criteria specified by the CRD; and,
- Development of models specifically for CRD purposes.

Each method has its own advantages and disadvantages and neither approach will be ruled out. However, in order to satisfy the FSA of the approach taken, firms that have developed models specifically for CRD purposes will need to demonstrate that the resulting internal ratings and default and loss estimates play an essential role in sufficient business functions to meet an overall test of use. An 'essential role' does not necessarily mean an exclusive or primary role. In these instances we did not see sufficient linkage between the rating systems and the credit approval process (at application or further advance). Firms using a mapping approach will need to demonstrate that the mapping process is sound, that the assumptions made are justified and the variables used to build the scorecard are sufficiently predictive of the CRD default definition. Firms will be expected to demonstrate the appropriateness of their modelling techniques and to support this by sensitivity analysis to assess, for example, the weightings and suitability of the variables.

Additionally, firms using a mapping approach will not normally base their estimation of loss characteristics on an observation period of "at least 5 years". Firms will need to explain how they plan to make use of at least five years data in their rating systems.

Where firms incorporate a broad range of lending into one model, they will be expected to explain in their model build documentation the methodology and rationale for the inclusion of different segments of their population (e.g. different products, customer types) with varying levels of default, in one model.

Finally, we remind firms that all accounts (including new accounts as part of the approval process) must be allocated to a risk pool, thereby assigning risk estimates. It will not be sufficient to wait until behavioural information is available before assigning risk estimates.

3. Definitions of Default

In several instances firms had not taken into account the full range of definitions of default as found in the CRD. Firms will need to consider all CRD definitions (including bankruptcy and unlikelihood to pay) and explain the definitions they use in this light. The position on each of the definitions will need to be documented.

Additionally, we would like to reiterate that the 180 days time definition of default is a backstop definition. If firms believe that an earlier definition is appropriate as accounts are 'unlikely to pay' then they are free to use such definitions. In these instances firms will need to explain why an earlier definition implies unlikelihood and to demonstrate that their alternative definition is used in their internal processes and is not being adopted solely with a view to minimising the capital requirement.

4. Use of behavioural data

Where firms did not have links to in house current account information, a number of different methods of ongoing risk assessment of credits were being pursued. As with all methodology we expect firms to explain why they have chosen a specific route. In particular, firms without current account data should consider what other information, which would be “relevant” in CRD terms, should be obtained from internal and external sources in support of the model’s predictiveness. FSA would be open to firms creating a risk based approach to this assessment.

Where firms were using in-house behavioural data to take over from an application score at some point in time, we found that industry practice varies on when and at what pace this should happen (due to the predictive power of static application data degrading over time relative to behavioural data). What was not immediately clear to us was the rationale for decisions taken and we would expect to see appropriate analysis to support each firm’s approach to replacing application data with behavioural data, where applicable. Additionally, firms will need to explain and document the impact of their chosen approach on PD estimates (including any jumps in estimates that might occur on transition).

5. Allocation to Pools

We noted that firms had, by and large, yet to decide on the basis for allocating loans to homogeneous pools or how this segmentation would allow for the meaningful quantification of loss characteristics at the pool level. It was not always clear how firms intended to use the pools in their management information and decision making.

Where firms had considered their approach there was little consistency and this varied between the use of PDs, a combination of PDs and LGDs, or EL. Consequently we were unable to form an opinion on the range of pools that firms will adopt or the level of granularity that these will provide; we remind firms that the homogeneity of the pools must be demonstrated.

6. Validation

Naturally firms have been focussed on building PD, EaD and LGD models; validation of actuals against estimates has often not been completed and is scheduled for the next phase of the project. Firms are reminded that in order to support the model validation process, they will need to set out clear standards on validation and backtesting of models and perform regular tests against these standards. The FSA will be looking to see that firms are addressing issues of model non-performance in a timely fashion, supported by appropriate trigger points. Substantial progress will be needed on these issues by the time a waiver application is submitted.

In particular the low default experience of mortgage portfolios in recent years has meant that, for these portfolios, firms have often used all their internal defaults to develop their models without setting aside a sub-section of the population for out-of-sample validation. Furthermore, some firms had not yet taken the opportunity to carry out out-of-time performance testing as part of their validation approach. Firms are reminded that both forms of validation (out-of-sample and out-of-time) are specifically required by the CRD where statistical models have been employed in the rating process.

7. Use of Third Party Suppliers

It is common practice for firms to use scorecards that have been built by external specialist providers. We have no objection to this in principle but the CRD is clear that the same requirements for rating systems, including documentation, apply to external models as to internal models. In particular, we would expect firms to be aware of the nature of the population on which the model was built and to be able to articulate why it should be regarded as comparable to the target market on which they are using it. Firms should also be able to describe the drivers of the model and explain their relevance. Firms are reminded that standards here are no lower than for internal models.

A specific case where external scorecards are commonly used is when a firm enters a new market where it has no historical experience of its own. In such circumstances, firms will often make use of a generic scorecard developed for that market by a specialist provider. Firms should be able to describe the drivers

of the model, explain their relevance and be able to demonstrate that the population on which the model was built is comparable to its target market. Where this is not the case, firms should consider the use of the standardised approach for those portfolios until the scorecard has been redeveloped and validated using the firm's own data.

Firms also regularly use generic scores provided by credit reference agencies and other data such as valuation indices as inputs to their in-house models. Direct testing of the relevance, stability and accuracy of this data seems to be limited. We do not wish to discourage the use of such data but would note that, where used, firms will need to provide plausible documented explanation of the inputs (key risk drivers) used in a model and should be able to demonstrate the statistical power of the data and its relevance for their own portfolio.

8. Drivers of LGD

Our reviews have suggested that in certain portfolios (specifically unsecured personal lending and credit cards) firms are finding it difficult to identify material risk drivers of LGD. We recognise that the impacts of material drivers may sometimes be weak in advance of default but would point out that the burden remains on the firm to demonstrate that its models are appropriate for the circumstances in which they are applied.

In addition, the directive defines loss as: “economic loss, including material discount effects, and material direct and indirect costs associated with collecting on an instrument”. In some cases, firms have yet to include costs and material discount effects in their LGD estimates as required by the CRD.

9. Stress Testing

We often found that PD models did not adequately reflect behaviour through an economic cycle. Firms will need to consider how they will develop stress tests that are appropriate to their business and that overcome the lack of economic downturn data in their Pillar 1 work, and, to the degree this fails to fully reflect procyclicality, how this will be reflected in Pillar 2. Where stress testing had been performed we sometimes saw a significant increase in the capital requirement compared with that calculated by non stressed models.

Additionally, it was not apparent from our reviews how economic downturns had been built into LGD estimates. Work on economic downturn LGDs is being progressed within CEBS working groups. However, firms should be carrying out their own analysis of how economic downturns might be built into LGD estimates.

10. Conservatism

Firms should ensure that model documentation includes reference to the use of conservatism, identifies model specific weaknesses (relating these to specific conservative adjustments) and covers controls and security over the model. Firms should give more specific thought to the need to build in a margin of conservatism related to the expected range of estimation errors. Where methods and data are less satisfactory and the expected range of errors is larger, the margin of conservatism should be larger. Whether firms build conservatism into models directly or build conservatism in afterwards will be left up to firms to decide.

11. Application of EAD in Capital Calculations

In general, we found that firms had yet to develop their RWA calculation engine and as such, have not addressed the floor on EaD: EaD must be at least equal to current drawings which must include interest accrued to date. This requirement may be applied to the pool as a whole rather than at an account level for Retail IRB exposures.

C. Governance & the Use test

12. Independent Review

We see independent model review as an important and necessary control over the model suite. We noted the proposed use of internal peer group review or the use of suitably qualified external parties. Structural independence of itself will not guarantee meeting this requirement, nor will it be the only means of achieving effective independence. We would expect senior management to be able to explain how the particular structure they have put in place achieves the independence criterion. We would also expect them to support and provide a challenge to the quality and independence of that review and for this to be demonstrable.

13. Use Test Requirements

The degree to which a firm uses the output from its rating system in day to day business decision taking is an important indicator of the confidence placed in the model. The FSA stresses that it will be assessing carefully how much, in practice, a firm uses the ratings output in its business decision taking. Our current view (based on the visits completed) is that the firms' plans to ensure that rating system outputs play an essential role in risk management, decision making, credit approval, internal capital allocation and corporate governance functions may need further development if they are to meet the requirements of the CRD. We have not been able to assess the degree to which firms plans and preparations will result in the use test being met and we believe many firms still have a significant amount of work to do to embed their rating systems, and that this extends across much of the industry.

14. Quality and Availability of Documentation

One area key to the waiver application process will be the availability and completeness of documentation covering all aspects: model policy, design, build and validation standards, and their operation together with performance reporting and governance. We recognise that firms have been busy developing their modelling approaches and have yet to complete their work in this area but note that not only is documentation an important part of the waiver application requirements but will be of benefit to firms particularly in the areas of validation and audit. Firms with small model build teams, who are exposed potentially to key man risk should take particular care to apply those resources to the capture and documentation of the build process details and supporting rationale.

15. Senior Management Understanding of Rating System Design and Operation

We recognise that firms have been concentrating their energies on project management and designing the rating systems to ensure CRD compliance. Whilst firms in general had established senior level steering committees and appointed a sponsoring senior executive, the level of "senior management" involvement was varied. There was in general a lack of breadth in the involvement of senior executives with only a limited number of executives involved in any detail. This we see as integral to demonstrating the firm's embedding of the CRD principles. We will expect to see at what level senior management are involved and how the governance structure reflects their involvement (for example the membership, terms of reference and responsibilities of senior level committees) and the form and content of reporting they will receive.

We also noted that whilst the senior management of firms had been involved in the early development of the their CRD plans, firms should ensure that appropriate senior management (and Board) training is undertaken so that senior management is in a position to understand and challenge the model process and reports.

16. Access to information

We found that a handful of firms had concerns around handing over information relating to the detail of underlying scorecards. FSA understands the commercial sensitivities around scorecard documentation and is accustomed to handling securely a range of highly sensitive information, including within the operation of the CAD market risk model approval regime. Firms will need to provide access to FSA to all documentation that FSA deems necessary. This could include the need to take and retain copies of detail scorecard documentation.