



Basel Committee Newsletter No. 4 (January 2005)

Update on work of the Accord Implementation Group related to validation under the Basel II Framework

The purpose of this update is to inform the banking industry, the supervisory community and other interested parties about the work that is underway within the Basel Committee's Accord Implementation Group (AIG) in the area of validation under the Basel II Framework.

One of the greatest challenges – for both banks and supervisors – of the Basel II Framework is the need to validate the systems used to generate the parameters that serve as inputs into the internal ratings-based (IRB) approach¹ to credit risk. The Basel II Framework that was released in June 2004 requires banks to assess the ability of a borrower to perform despite adverse economic conditions. Thus, when considering the appropriateness of any rating system as the basis for determining capital, there will always be a need to ensure objectivity, accuracy, stability, and an appropriate level of conservatism.

Internal ratings and default and loss estimates must play an essential role in the credit approval, risk management, internal capital allocation, and corporate governance functions of banks using the IRB approach. The Framework recognises that bank management continues to bear responsibility for validating the inputs to the IRB approach. Supervisors have responsibility for assessing compliance of banks' validation of rating systems and their inputs with the minimum standards of the IRB framework for credit risk. Supervisors must ensure that these requirements are being met, both as qualifying criteria and on a continuing basis. However, it should be noted that "...supervisors will focus on compliance with the minimum requirements as a means of ensuring the overall integrity of a bank's ability to provide prudential inputs to the capital calculations and not as an end in itself."²

Validation is thus a fundamental aspect of the IRB approach, so much so that the AIG has established a Subgroup to examine issues related to validation. This Subgroup is chaired by Mr Lorey Hoffman of the Canadian Office of the Superintendent of Financial Institutions and consists of both Basel Committee member countries and non-G10 countries. The Validation Subgroup (Subgroup) has already begun exploring a range of issues related to validation, and this update will describe the scope of their work plan.

¹ The Validation Subgroup is focusing primarily on the IRB approach, although the principles should also apply to validation of advanced measurement approaches for operational risk. A separate Subgroup has been established to explore issues related to operational risk.

² *International Convergence of Capital Measurement and Capital Standards: A Revised Framework*, Basel Committee on Banking Supervision, June 2004, paragraph 6.

What is meant by the term “validation”?

Despite the importance of validation as a requirement for the IRB approach, the Framework does not explicitly specify what constitutes validation. Consequently, following its workshop in June 2004, the Subgroup reached agreement on what constitutes validation for the purposes of its work going forward. In the context of rating systems, the term “validation” encompasses a range of processes and activities that contribute to an assessment of whether ratings adequately differentiate risk, and whether estimates of risk components (such as PD, LGD, or EAD) appropriately characterise the relevant aspects of risk.

Several principles that underlie the concept of validation will lay the groundwork for future work of the Subgroup. These principles can be summarised as follows:

Principle 1: Validation is fundamentally about assessing the predictive ability of a bank’s risk estimates and the use of ratings in credit processes

A bank’s IRB estimates are intended to be predictive. While grounded in historical experience, they should also be forward-looking. Rating systems should effectively discriminate risk (i.e. credits with worse ratings should have a higher risk of loss) and calibrate risk (i.e. they should accurately quantify the risk of loss). Rating systems should also be consistent. If the processes that are used in assigning risk estimates are not accurate, then the risk estimates may fail to be sufficiently predictive and may under- or over-state required regulatory capital. Consequently, validation should focus on assessing the forward-looking accuracy of the bank’s risk estimates, the processes for assigning those estimates, and the oversight and control procedures that are in place to ensure that the forward-looking accuracy of these estimates are preserved going forward. As a general rule the validation process should prompt a reassessment of the IRB parameters when the actual outcomes diverge materially from the expected results.

Principle 2: The bank has primary responsibility for validation

Supervisors do not have the primary responsibility for validating bank rating systems. Rather, a bank has the primary role, and consequently must validate its own rating systems to demonstrate how it arrived at its risk estimates and confirm that its processes for assigning risk estimates are likely to work as intended and continue to perform as expected. Supervisors, on the other hand, should review the bank’s validation processes and outcomes and may rely upon additional processes of its own design, or even those of third parties, in order to have the required level of supervisory comfort or assurance.

Principle 3: Validation is an iterative process

Validation is likely to be an ongoing, iterative process in which banks and supervisors periodically refine validation tools in response to changing market and operating conditions. Banks and supervisors will need to engage in an iterative dialogue on strengths and weaknesses of particular rating systems.

Principle 4: There is no single validation method

While some validation tools (e.g. backtesting, benchmarking, replication, etc.) may prove especially useful, there is no universal tool that can be used for all portfolios in all banks. Backtesting, for example, may prove difficult for portfolios where there is a low level of historical defaults. Validation techniques may converge over time, but in practice there will

likely be differences in validation techniques across portfolios (e.g. retail vs. wholesale credit) and across markets. In addition, the underlying philosophy of the rating system must be well-understood and properly taken into account when determining which validation tools and techniques should be applied in assessing both the accuracy and stability of a rating system, as well as the appropriateness of stress tests being applied to that system.

Principle 5: Validation should encompass both quantitative and qualitative elements

While it might be possible to think of validation as a purely technical/mathematical exercise in which outcomes are compared to estimates using statistical techniques—and indeed in some circumstances such technical tools may play a critical role in such assessments—it will likely be insufficient to focus solely on comparing predictions and outcomes. In assessing the overall performance of a rating system, it is also important to assess the components of the rating system (data, models, etc.) as well as the structures and processes around the rating system. This should include an assessment of controls (including independence), documentation, internal use, and other relevant qualitative factors.

Principle 6: Validation processes and outcomes should be subject to independent review

It is important that a bank's validation processes and results should be reviewed for integrity by parties within the banking organisation that are independent of those accountable for the design and implementation of the validation process. This independent review is a process that may be accomplished using a variety of structural forms. The activities of the review process may be distributed across multiple units or housed within one unit, depending on the varying management and oversight frameworks of banks. As an example, internal audit could be charged with undertaking this review process using internal technical experts or third parties independent from those responsible for building and validating the bank's rating system. Regardless of the bank's control structure, internal audit has an oversight responsibility to ensure that validation processes are implemented as designed and are effective.

Components of the Subgroup's Work Plan

The Subgroup has parsed its work on validation into discrete components of work, or modules, for discussion within the Subgroup. Throughout these modules, the Subgroup is exploring both tools and techniques that banks use in validating their own rating systems and those that supervisors use in reviewing bank validation processes and outcomes.

- 1) Rating System Design – This module covers issues members see in rating system design, including rating dimensions, structure, criteria, and horizon; retail segmentation; use of models; documentation challenges; and assessment of technical rating methodologies.
- 2) Risk Quantification – This module covers issues members see arising from a wide variety of risk quantification issues, including use of pooled data; definition of default; accuracy and robustness of risk parameters; special issues arising from retail, bank, and sovereign exposures; and general issues in the estimation of PD, LGD, and EAD. In this regard, the Subgroup is giving consideration to issues arising from portfolios that may have very low levels of historical default.

- 3) Risk Rating System Operations – This module covers issues members see in coverage of ratings, integrity of the ratings process, ratings overrides, stress testing, IT infrastructure, challenges related to data quality and retention, and issues arising from use of external or vendor models.
- 4) Oversight and Control Functions – This module covers issues members see related to credit risk control functions (including scope and independence), as well as the broader corporate governance framework surrounding rating systems.
- 5) Use of Ratings – This module covers issues members see in use of internal ratings and associated risk estimates by banks, including challenges related to the “use test”.
- 6) Specific Portfolio Issues – This module covers specific credit portfolios, including issues arising from sovereign and other low-default portfolios, guarantees, purchased receivables, specialised lending, equity exposures, and qualifying revolving retail exposures.

The preceding modules constitute an initial list of topics to be considered in establishing a reasonable means to break up what is a large topic of discussion. In practice, the Subgroup recognises that there may be substantial overlap across some of these modules and that work in some areas may depend to a large extent on the work that is being undertaken within banking organisations.

Steps

The AIG has reviewed the preceding validation principles and work plan components and has approved the work plan of the Validation Subgroup going forward. The Subgroup has already begun to discuss the topics listed above, and work in this regard will accelerate over the coming months.

Consistent with the mandate of the AIG, it should be noted that the Validation Subgroup is not responsible for developing a uniform, prescriptive approach to validation. The intent is that the Validation Subgroup will serve as a clearinghouse for sharing and cataloguing information. To the degree that some common themes and approaches come forward, the Validation Subgroup will document those findings and share them as appropriate within the supervisory community or more broadly.

Since banking organisations have the primary responsibility for validation, the Validation Subgroup expects to keep abreast of developments within the industry regarding validation processes and tools. The Validation Subgroup will therefore arrange occasional dialogue with technical experts from banks and/or industry groups. Expert input in this regard will be very useful.