

- Oversight and control mechanisms that ensure the system is functioning as intended and producing accurate ratings (Chapter 4).

Together these rating, quantification, data, and oversight mechanisms present a framework for defining and improving the evaluation of credit risk.

It is expected that rating systems will operate dynamically. As ratings are assigned, quantified and used, estimates will be compared with actual results and data will be maintained and updated to support oversight and validation efforts and to better inform future estimates. The rating system review and internal audit functions will serve as control mechanisms that ensure that the process of ratings assignment and quantification function according to policy and design and that noncompliance and weaknesses are identified, communicated to senior management and the board, and addressed. Rating systems with appropriate data and oversight feedback mechanisms foster a learning environment that promotes integrity in the rating system and continuing refinement.

IRB systems need the support and oversight of the board and senior management to ensure that the various components fit together seamlessly and that incentives to make the system rigorous extend across line, risk management, and other control groups. Without strong board and senior management support and involvement, rating systems are unlikely to provide accurate and consistent risk estimates during both good and bad times.

The new regulatory minimum capital requirement is predicated on an institution's internal systems being sufficiently advanced to allow a full and accurate assessment of its risk exposures. Under the new framework, an institution could experience a considerable capital shortfall in the most difficult of times if its risk estimates are materially understated. Consequently, the IRB framework demands a greater level of validation work and controls than supervisors have required in the past. When properly implemented, the new framework holds the potential for better aligning minimum capital requirements with the risk taken, pushing capital requirements higher for institutions that specialize in riskier types of lending, and lower for those that specialize in safer risk exposures.

Supervisors will evaluate compliance with the supervisory standards for each of the four components of an IRB system. However, evaluating compliance with each of the standards

individually will not be sufficient to determine an institution's overall compliance. Rather, supervisors and institutions must also evaluate how well the various components of an institution's IRB system complement and reinforce one another to achieve the overall objective of accurate measures of risk. In performing their evaluation, supervisors will need to exercise considerable supervisory judgment, both in evaluating the individual components and the overall IRB framework. A summary of the key supervisory expectations for each of the IRB components follows.

Ratings Assignment

The first component of an IRB system involves the assignment and validation of ratings (see Chapter 1). Ratings must be accurately and consistently applied to all corporate credit exposures and be subject to initial and ongoing validation. Institutions will have latitude in designing and operating IRB rating systems subject to five broad standards:

Two-dimensional risk-rating system—IRB institutions must be able to make meaningful and consistent differentiations among credit exposures along two dimensions—obligor default risk and loss severity in the event of a default.

Rank order risks—IRB institutions must rank obligors by their likelihood of default, and facilities by the loss severity expected in default.

Calibration—IRB obligor ratings must be calibrated to values of the probability of default (PD) parameter and loss severity ratings must be calibrated to values of the loss given default (LGD) parameter.

Accuracy—Actual long-run actual default frequencies for obligor rating grades must closely approximate the PDs assigned to those grades and realized loss rates on loss severity grades must closely approximate the LGDs assigned to those grades.

Validation process—IRB institutions must have ongoing validation processes for rating systems that include the evaluation of developmental evidence, process verification, benchmarking, and the comparison of predicted parameter values to actual outcomes (back-testing).

Quantification

The second component of an IRB system is a quantification process (see Chapter 2). Since obligor and facility ratings may be assigned separately from the quantification of the associated PD and LGD parameters, quantification is addressed as a separate process. The quantification process must produce values not only for PD and LGD but also

for EAD and for the effective remaining maturity (M). The quantification of those four parameters is expected to be the result of a disciplined process. The key considerations for effective quantification are as follows:

Process—IRB institutions must have a fully specified process covering all aspects of quantification (reference data, estimation, mapping, and application).

Documentation—The quantification process, including the role and scope of expert judgment, must be fully documented and updated periodically.

Updating—Parameter estimates and related documentation must be updated regularly.

Review—A bank must subject all aspects of the quantification process, including design and implementation, to an appropriate degree of independent review and validation.

Constraints on Judgment—Judgmental adjustments may be an appropriate part of the quantification process, but must not be biased toward lower risk estimates.

Conservatism—Parameter estimates must incorporate a degree of conservatism that is appropriate for the overall robustness of the quantification process.

Data Maintenance

The third component of an IRB system is an advanced data management system that produces credible and reliable risk estimates (see Chapter 3). The broad standard governing an IRB data maintenance system is that it supports the requirements for the other IRB system components, as well as the institution's broader risk management and reporting needs. Institutions will have latitude in managing their data, subject to the following key data maintenance standards:

Life Cycle Tracking—Institutions must collect, maintain, and analyze essential data for obligors and facilities throughout the life and disposition of the credit exposure.

Rating Assignment Data—Institutions must capture all significant quantitative and qualitative factors used to assign the obligor and loss severity rating.

Support of IRB System—Data collected by institutions must be of sufficient depth, scope, and reliability to:

- Validate IRB system processes,
- Validate parameters,
- Refine the IRB system,
- Develop internal parameter estimates,
- Apply improvements historically,
- Calculate capital ratios,
- Produce internal and public reports, and