

warehouses. IRB data requirements can be achieved by melding together existing accounting, servicing, processing, workout and risk management systems, provided the linkages among these systems are well documented and include sufficient edit and integrity checks to ensure the data can be used reliably.

Institutions without electronic databases would need to resort to manual reviews of paper files for ongoing back-testing and ad hoc "forensic" data mining and would be unable to perform that work in the timely and comprehensive manner required of IRB systems. Forensic mining of paper files to build an initial data warehouse from the institution's credit history is encouraged. In some instances, paper research may be necessary to identify data elements or factors not originally considered significant in estimating the risk of a particular class of obligor or facility.

Data Gaps

Rating histories are often lost or are irretrievable for loans acquired through mergers, acquisitions, or portfolio purchases. Institutions are encouraged wherever practical to collect any missing historical rating assignment driver data and to re-grade the acquired obligors and facilities for prior periods. In cases where retrieving historical data is not practical, institutions may attempt to create a rating history through a careful mapping of the legacy system and the new rating structure. Mapped

ratings should be reviewed thoroughly for accuracy. The level of effort placed on filling data gaps should be commensurate with the size of the new exposures to be newly incorporated into the institution's IRB system.

V. Control and Oversight Mechanisms

A. Overview

Banks' internal rating systems are the foundation for credit-risk management practices and play an important role in pricing, reserving, portfolio management, performance measurement, economic capital modeling, and long-term capital planning. Banks adopting the IRB approach will also use their credit-risk ratings to determine regulatory capital levels. The pivotal and varied uses of such risk ratings put enormous, sometimes conflicting, pressure on banks' internal rating systems. The consequences of inaccurate ratings and their associated estimates are significant, particularly as they affect minimum regulatory capital requirements.

As risk ratings and their related parameters become better integrated in institutions' decision making, conflicting incentives arise that, if not well managed, can lead to overly optimistic or biased ratings. For example, sales and marketing staff (relationship managers or RMs) are typically compensated according to the volume of business they generate. That may predispose the RMs to assign more

favorable ratings in order to achieve rate-of-return and sales objectives. More favorable ratings may create the appearance of higher risk-adjusted returns and business line profitability. Banks need to be aware of the full range of incentive conflicts that arise, and must develop effective controls to keep these incentive conflicts in check.

Banks will have latitude in designing and implementing their control structures subject to the following principle:

IRB institutions must implement a system of controls that includes the following elements: independence, transparency, accountability, use of ratings, rating system review, internal audit, and board and senior management oversight. While banks will have flexibility in how these elements are combined, they must incorporate sufficient checks and balances to ensure that the credit risk management system is functioning properly.

Banks additionally will want to embody the following more generic principles in their control system: separation of duties, balancing incentives, and layers of review. Table 4.1 lists the key components of an IRB control and oversight system. How these control mechanisms can best be combined to reinforce one another is a key challenge for banks implementing IRB systems:

Table 4.1 Control and Oversight Mechanisms

<i>Independence</i>	The parties responsible for approving ratings and transactions should be separate from the sales and marketing staff and be principally compensated on risk-rating accuracy.
<i>Transparency</i>	The rating system and ratings should be sufficiently transparent to enable third parties, such as rating system reviewers, auditors and supervisors, the ability to understand the operations of the rating system and the rating rationale.
<i>Accountability</i>	Accountability is holding people responsible for their actions and establishing adverse consequences for inaccurate ratings.
<i>Use of Ratings</i>	Ratings should be used to guide day-to-day risk management activities.
<i>Rating System Review</i>	Ratings and rating system performance should be evaluated by an area independent of those responsible for assigning and approving ratings.
<i>Internal Audit</i>	Responsibility for ensuring the adequacy of control and oversight mechanisms and overall compliance with the IRB standards should rest with the internal audit function.
<i>Board and Senior Management Oversight</i>	Ultimate responsibility for the performance of the rating system rests with senior management and the board.