Credit Management Information Systems: A Forward-Looking Approach

The ability to identify and manage credit risk is a critical part of a bank's overall risk management program. Banks with sound credit risk management programs are well-positioned to proactively modify policies and underwriting practices to respond to emerging risks. A key component of an effective risk management program is a strong credit management information system (MIS), which uses loan-related data to develop timely and meaningful reporting for a bank's board of directors and senior management. Credit MIS reports are used by senior management and board members to oversee lending activities and support strategic decision making. The complexity of credit reporting may vary based on the size of the institution and the nature of the lending activities, but the principles of sound credit MIS apply to all institutions.

The FDIC conducted an analysis of the credit MIS programs at 24 large state nonmember banks[1] representing a range of lending activities and geographic markets. Typically, these credit MIS programs did a good job tracking loan delinquencies, charge-offs, and other measures of current loan portfolio performance. Such metrics tend to be "lagging" indicators of risk, in the sense that they provide after-the-fact evidence of a credit-quality issue. Many of the credit MIS programs in our review had significantly less coverage of "forward-looking" risk indicators, which can be indicative of future performance and should be the focus of a sound credit MIS program to proactively identify and mitigate risk exposure. This article illustrates how banks can strengthen credit MIS by incorporating forward-looking risk indicators and establishing a sound governance framework. The article is intended as an informational resource for interested persons. It does not create new requirements or supervisory expectations and is not required reading for any banker.

Forward-looking and Lagging Risk Indicators

Performance metrics — such as charge-off rates, delinquency ratios, nonaccrual loans, and restructured loans — are an integral part of a credit MIS program. The board and senior management can use these ratios to help assess the bank's current asset quality and overall financial condition. Management often will establish thresholds for these ratios to help define the institution's risk appetite.[2] However, once these ratios fall outside risk thresholds, it can be difficult for senior management to prevent further deterioration in asset quality. Regular review of more forward-looking indicators can help management to proactively assess risks that drive these performance ratios. The following scenario describes how a credit MIS program that relies too heavily on performance-based, lagging risk indicators can result in inadequate risk identification, and lead to decisions based on an incomplete understanding of the risks facing the institution.

[1] The analysis included state nonmember banks with over $10 billion in total assets.

[2] A risk appetite statement defines the types and levels of risks that the bank is willing to accept in key areas in order to achieve its strategic goals.

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Bank A

The President of Bank A reviews various loan-related reports monthly with the board. At the most recent meeting, the President states that current credit quality is excellent: delinquencies remain low, charge-offs are at historical lows, and nonaccrual loans are minimal. She points to the loan performance reports that support her conclusion, and requests that the board approve an increase in the commercial real estate (CRE) concentration limit from 350 percent to 400 percent of total capital. The President states that the portfolio has experienced strong growth during the past two years, and the Bank does not want to turn away profitable business. In addition, the President indicates that consideration should be given to making a reverse provision to the allowance for loan and lease losses (ALLL) this quarter as charge-offs during the past two years have been a fraction of the current allowance for loan and lease losses (ALLL) balance. The Bank is improving its reporting practices based on recommendations at the last FDIC examination, namely tracking loan policy exceptions and trends in underwriting. However, the President emphasizes that the Bank has maintained strong asset quality for many years without the benefit of those reports and has a seasoned group of lenders. The board approves the concentration limit increase and the reverse ALLL provision. The bank also continues with an aggressive dividend payout policy.

Two years later, the Bank is experiencing deterioration in the CRE loan portfolio as the market softens. The board engages an independent party to perform a thorough review of the CRE portfolio. The review determines that the bank was in significant non-compliance with its own underwriting policy, including a significant number of loans with liberal interest-only repayment terms that were underwritten using very low capitalization (cap) rates. The independent party recommends numerous credits be downgraded to adverse classification and placed on non-accrual. The Bank's adverse classification ratio more than doubles to 80 percent of the Bank's capital. Management realizes that the institution's ALLL is significantly underfunded, and that the Bank will need to raise additional capital as the condition of the portfolio likely will continue to deteriorate.

Bank B

Bank B operates in the same market as Bank A. Bank B's President reviews loan-related reports monthly with the board. At the most recent meeting, the President states that current credit quality is excellent: delinquencies remain low, charge-offs are at historical lows, and nonaccrual loans are minimal. However, she reviews several of the Bank's internal credit MIS reports with the board that indicate some emerging risks. The President states that although some competing institutions in the Bank's market area are rapidly growing loan portfolios, that growth appears to be largely fueled by those institutions' willingness to offer liberal repayment terms and approve weaker deals. Bank B is adhering to its underwriting standards, closely tracking loan policy exceptions, and is in compliance with all board-approved limits. However, the concentration report notes that the overall risk in the CRE concentration was changed from "stable" to "increasing" earlier this year due to concern that speculation is driving the rapid rise in CRE prices. Loan migration graphs indicate some downward loan grade migration in the CRE portfolio. The President notes migration within the Pass grades as these movements do not emerge in the Bank's Classified or Criticized reporting. The President states that although the portfolio is performing well now, she is recommending that the ALLL allocation for CRE concentration risk be increased this quarter and that the Risk Management Committee update the capital adequacy analysis to incorporate these emerging risks. The board agrees with this approach and requests an update before the next meeting.

Two years later, Bank B is also experiencing some deterioration in performance metrics due to softening in the CRE market. The Bank's performance metrics experience a decline; however, they remain within the board's risk appetite. This outcome is attributable to the proactive risk management approach taken by senior management and the board.

These examples are intended to suggest the importance of forward-looking risk indicators as part of credit MIS programs in driving strategic decisions regarding lending. Bank A's board and senior management did not consider what was driving loan growth (e.g., underwriting quality), or how it potentially skewed the Bank's performance metrics. Poor underwriting practices can take time to manifest in performance ratios, particularly when growth inflates the denominator of those ratios. Effective risk management practices were lacking in Bank A. The board should have understood what was fueling the Bank's loan growth before making strategic decisions.

Forward-Looking MIS Considerations

The federal bank regulatory agencies have communicated the importance of forward-looking MIS reporting. *Part 364 of the FDIC's Rules and Regulations – Standards for Safety and Soundness* states that an institution should provide periodic asset reports with adequate information for management and the board of directors to assess the level of asset risk.[3] For commercial loans, useful forward-looking information that often is tracked by effective credit MIS programs includes portfolio stratification by loan-to-value (LTV) for loans secured by real-estate, debt service coverage ratio (DSCR) policy exceptions, and loan grade migrations. For retail loans, effective credit MIS programs often track production and portfolio trends by product, credit score, LTV, debt-to-income (DTI) ratio, lien position, market, and property type as applicable. The table on page 6 provides an overview of selected metrics that credit MIS programs can track to provide useful, forward-looking risk information that supports strategic decisions regarding banks' lending programs.[4]

[3] Section 39 of the *Federal Deposit Insurance Act* requires the federal banking agencies to prescribe, by regulation or guidelines, standards for safety-and-soundness that include, in relevant part for purposes of this article, standards regarding information systems, internal controls and credit underwriting. The FDIC codified these standards as guidelines in Appendix A of Part 364 of its rules and regulations.

[4] Further discussion and recommendations regarding credit MIS systems are contained in the interagency releases, "Concentrations in Commercial Real Estate Lending, Sound Risk Management Practices," 71 *Federal Register* 74580–74588, December 12, 2006, https://www.federalregister.gov/documents/2006/12/12/06-9630/concentrations-in-commercial-real-estate-lending-sound-risk-management-practices, and "Home Equity Lending: Credit Risk Management Guidance," FDIC FIL-45-2005, May 24, 2005.

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Report Type	Purpose	Wholesale Metrics	Retail Metrics	Effective Practices
	FORWARD-LOOKING CREDIT METRICS			
Loan Policy Exceptions	Monitor compliance with board approved policies. Evaluate changes to policies and/or practices based on results.	• LTV • DSCR • Amortization requirements • Maximum maturity • Guarantor requirements • Interest reserves[5] • Hard equity • Financial statements • Loan Extensions	• Credit Bureau scores • Debt-to-Income ratios • Advance rates and down payments • LTV • Co-signer requirements • Maximum maturity • Amortization • Payment Extensions / Deferrals	• Exceptions are tracked based on number and dollar amount.[6] • Exceptions are segmented by loan type as well as type of exception. • Formal exception limits are established and monitored. • Reports are provided on volume of loans that were approved with exceptions.
Underwriting Trends	Track trends in key underwriting metrics to help assess level and direction of portfolio credit risk.	• LTV • DSCR • Amortization • Cap rates by property type	• LTV • Debt-to-Income Ratios • Amortization • Credit Bureau scores	• Use of risk layering (combining metrics to further segment risks) is implemented. For example, reporting focuses on the distribution of loans by LTV and certain DSCRs.
Loan Grading	Analyze distribution of loan grades and migrations over time.	• Includes Pass, Watch List, Special Mention, and Adversely Classified risk grades.	• As retail loans are not typically subject to loan grading, refreshed credit bureau scores are frequently used as a proxy.	• Shows loan grade distributions for new originations vs. the portfolio. • Shows migrations in and out of individual loan grades over time (particularly Watch, Special Mention, and Adversely classified grades). • "Roll rate" reports[7] on past-due loans are useful for the retail portfolio.
Concentrations	Track large credit exposures in relation to capital.	• Loan category – C&I, CRE • C&I breakout by industry • CRE breakout by property type • Geographic • Individual borrower • Related borrowers • Amortizing/interest-only	• Loan category (auto, 1-4 family, Home Equity Line of Credit, unsecured) • Prime/subprime • Geographic • Payment resets (conversion from interest-only to amortizing)	• Provides insights into concentrations that highlight trends in loan grades within concentrations and industry/economic conditions. • Identifies concentrations that are approaching or have exceeded limits. • Establishes exposure strategies (decrease, maintain, increase).
Risk Appetite	Monitor performance and risk indicators against policy limits and risk appetite statement.	• Considers volume of loan policy exceptions, underwriting trends, loan grade migrations, and concentration risks. • Measures key metrics against risk limits and policy parameters.	• Considers volume of loan policy exceptions, underwriting trends, loan grade migrations, and concentration risks. • Measures key metrics against risk limits and policy parameters.	• Conveys metrics that are approaching or have exceeded limits. • Banks may use green, yellow, and red indicators (low, medium, high) to illustrate risk levels.

[5] An interest reserve allows a lender to periodically advance loan funds to make interest payments on the borrower's debt. Improper use of interest reserves can result in the masking of delinquencies and the failure to identify and report problem loans.

[6] Appendix A to Part 365 of the *FDIC's Rules and Regulations* requires that real estate loans originated in excess of Supervisory LTV Guidelines be identified in the institution's records, and their aggregate amount reported at least quarterly to the institution's board of directors. The aggregate amount of all loans in excess of the supervisory loan-to-value limits should not exceed 100 percent of total capital. Moreover, within the aggregate limit, total loans for all commercial, agricultural, multifamily or other non-1-to-4 family residential properties should not exceed 30 percent of total capital. An institution will come under increased supervisory scrutiny as the total of such loans approaches these levels.

[7] A roll-rate report uses historical delinquency and default data to analyze the migration of delinquent loans. For example, a bank may track monthly delinquency volume to determine what percentage of retail borrowers that become 30 days delinquent typically become 60 days elinquent, and what percentage of those 60 day delinquencies result in defaults. This analysis is beneficial in analyzing delinquency trends, as well as providing support for allocations to the ALLL.

In summary, the Effective Practices highlighted in the table share a common theme: the need for reporting that effectively identifies and analyzes existing and potential risks. For example, looking at the Concentrations category, it is not uncommon for banks to simply list the concentration limit and the outstanding exposure, without providing additional information. An institution relying on this type of reporting may not have an adequate basis for considering whether that limit continues to be appropriate, and if new risks are emerging. As illustrated in the table, Effective Practices include analyzing the risks within those exposures, including the distribution of internal loan grades that comprise that concentration and what stage of the economic cycle that particular industry is in. Simply put, credit MIS should provide a meaningful tool for the board and management to effectively address the inherent and emerging risks facing the bank.

There is no "one size fits all" approach to determining the content and format of credit MIS, and tracking all the items described above may not be necessary for some institutions. For any institution, however, credit MIS reports that track forward-looking metrics of risk in the loan portfolio (that is, that go beyond tracking lagging risk measures such as delinquencies and charge-offs) can enhance management's ability to make sound decisions about the strategic direction of the lending function.

Governance

An effective governance framework consists of sound policies and processes that provide a strong control environment and support strategic decisions. The formality and structure of a governance program can vary greatly depending on the size and complexity of an institution. However, governance as it relates to credit MIS is straightforward: the board and senior management should receive timely, meaningful, and accurate reporting in a format that clearly identifies risks and this information should be considered by management as it makes strategic decisions about the lending function. Consideration of a few basic questions can help ensure effective governance of a bank's credit MIS programs.

- Are credit MIS reports being used to inform decision-making as an integral part of the risk management process, and does adequate documentation exist to support this process?

  The FDIC has observed that often, board or committee minutes will simply state with regard to credit MIS, "reports reviewed and approved as presented," with no further discussion. Credit risk reporting is most effective when it assists bank management in monitoring risks, setting risk limits, and providing support for strategic decisions. For larger institutions, bank supervisors typically expect such reporting and metrics should be developed and analyzed as part of the bank's independent risk management process.

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- Are the reports being received in a timely manner, allowing sufficient time for review and discussion before important decisions are made?

  Committee and board packets are often lengthy. If the board or committee members receive the reports shortly before a meeting, there may be insufficient time for thoughtful review of the materials which is critical for informed decision-making.

- Is the complexity and detail of the reporting adjusted for different levels within the organization?

  Reporting is most effective when it is tailored to the specific audience. Although it may be appropriate for a line of business to have detailed reports, that level of reporting may not be helpful to board or senior management committee members. A more high-level report that succinctly describes key risks may be more suitable for this audience.

- Is ad hoc reporting effectively used?

  Assessing credit risk is a dynamic process. As new risks emerge, an effective credit MIS program is sufficiently flexible to expand or develop new reporting to assess the effect those risks may have on the institution's operations.

- Does reporting include appropriate trend analysis?

  Generally speaking, credit MIS reporting is likely to be most useful when it encompasses trend analysis looking back several years. A report that tracks the volume of loan policy exceptions only over recent quarters may suggest a rather nominal exception rate; however, when measured over the longer term, those exception rates may be material.

- Does reporting overly rely on the use of averages?

  Credit MIS reports that rely heavily on averages to capture the level of risk may miss important aspects of the risks facing banks. For example, using the average DSCR to conclude that a bank's loans have strong repayment capacity ignores the fact that an average may include loans with inadequate DSCRs that pose direct risk of loss to the bank.

Preserving data integrity also falls under the governance framework. To be useful for decision-making, credit MIS reports should be based on accurate and timely data. For larger institutions, the process may include the use of a data warehouse and a centralized reporting group. Challenges may occur when a bank converts to a new data processing system, or acquires another institution that that may have different data management and reporting capabilities. Developing and maintaining a strong data integrity function would typically involve:

- Coordinating with the institution's data service provider or internal Information Technology (IT) department to determine reporting options and the use of data fields.
- Developing a method to internally track and retain important loan-related data (LTV, net operating income (NOI), credit bureau scores, DSCR, etc.).
- Ensuring consistency of data use and calculations. For example, are the DSCRs used in reporting based on the most recent loan presentation, independent loan review report, or calculation provided by the applicable loan officer?
- Incorporating a review of data integrity within the internal or external audit scope.

Data availability and integrity challenges may vary between large and small banks; however, the quality of information used in credit MIS reports that support strategic decisions about lending is a topic of relevance to all institutions.

Conclusion

Credit risk management is a dynamic process that, to be effective, requires the use of meaningful reporting within a strong governance structure. An effective credit MIS program provides a bank's board of directors and senior management with critical information to identify and proactively respond to emerging risks and support strategic decisions. Strengthening credit MIS to reflect a more forward-looking view of credit risk may enhance an institution's risk management framework and contribute positively to its long-term success.

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