Commercial Risk Rating Considerations

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Executive Summary

Risk rating is integral to underwriting and managing commercial loans. The lifecycle of a risk rating system extends from policy development through individual risk rating assessments to monitoring the overall system. This eBook seeks to provide an overview of this lifecycle as it relates to individually managed credits. The conclusions and recommendations are based on regulatory guidance from the Federal Reserve Board of Governors (FRB), the Office of the Comptroller of the Currency (OCC), the Federal Deposit Insurance Company (FDIC), the National Credit Union Administration (NCUA), poll results from over 75 webinar participants and the writer's experience.[1] Each institution will need to determine the best way for it to integrate these practices based on its size and complexity.

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" Credit risk is the primary financial risk in the banking system and exists in virtually all income-producing activities. How a bank selects and manages its credit risk is critically important to its performance over time. Identifying and rating credit risk is the essential first step in managing it effectively. "

Office of the Comptroller of the Currency

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[1] Poll was conducted during a September 14, 2017, webinar, "*Most Often Asked Risk Rating Questions*." Respondents were bank and credit union credit analysts, chief operations officers, loan officers, chief lending officers, chief credit officers and chief executive officers.

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Policy Considerations

Policies are "the cornerstones for sound lending and loan administration,"[2] and risk rating policies are a key component. The regulatory agencies lay out topics that loan administration policies should cover, such as what types of loans an institution will make and what information will be required from borrowers, but they rarely dictate the details. An institution must develop appropriate policies and procedures based on its size and the complexity of its portfolio. These governing documents should require analysts to maintain timely and accurate risk ratings with appropriate oversight. Three key areas to cover when developing risk rating policies include determining grades based on portfolio complexity, vesting risk rating responsibility appropriately and requiring additional approval levels and reviews.

Three key areas to cover when developing risk rating policies

1	2	3
Determine Grades Based on Portfolio Complexity	**Vest Risk Rating Responsibility Appropriately**	**Require Additional Approval Levels and Reviews**

DETERMINE GRADES BASED ON PORTFOLIO COMPLEXITY

Regulators expect a lending institution to have a risk rating system that can distinguish criticized and classified assets. Additionally, even the smallest and least complex institution is expected to have some gradation within its non-criticized (i.e., Pass) assets. Larger, more complex institutions would have more stratification within grades. Regulators expect that these internal grades will translate to a regulatory risk classification of Pass, Special Mention, Substandard, Doubtful or Loss.

The majority of a healthy institution's loans should be rated Pass. However, if Pass assets have no further distinction, the institution will find it difficult to use

[2] https://www.federalreserve.gov/publications/files/cbem-2000-201704.pdf section 2040.1

risk rating to manage the portfolio. The rating system "should reflect the complexity of its lending activities and the overall level of risk involved."[3] Therefore, institutions should have stratification within Pass, and the number of levels would align with the portfolio complexity.

When a lending institution establishes its risk rating system it has to decide whether it will require analysts to separately rate the borrower (capacity) and the loan (facility) or to assign one rating that considers both factors together. Said another way, it has to decide between a dual or single rating system. There are benefits to each. On one hand, a single rating system is simple. On the other, the dual rating system allows for more distinction in risk grades, which could be beneficial to the institution. The answer to the question of which is better for a lending institution is the same as many other questions in credit risk: it depends.

A dual rating system has two ratings: one that captures the overall creditworthiness of the borrower and one at the facility level. Differences between the two ratings are generally because of secondary support factors such as collateral, guarantees or letters of credit that would impact a single facility and not the borrower's overall condition. In other words, the fact that a loan is secured by real estate may not reduce the risk of default, but it will mitigate the loss. Often loans that are unsecured or structured as cash flow loans will have a facility rating equal to the borrower rating because there is limited collateral or additional credit support to improve the facility rating.

The OCC and NCUA explain that while many institutions have moved to a dual rating system over the last 15–20 years, the regulatory agencies do not require institutions to do so. Smaller, less complex institutions may find that a single rating system is sufficient. What is important is that the risk rating system captures consistently, accurately and in a timely manner "the ability and willingness of the obligor to repay and the support provided by structure and collateral."[4] [5] Regardless of whether an institution is using a single or dual rating system, the process should provide consistent ratings across product types for similar risk. Dual rating systems will make differences by loan type explicit by highlighting the impact of collateral on the rating. Single rating systems also need to account for differences in collateral, as highlighted by the OCC and NCUA.

Typically, the benefits of using a dual rating system are tied to _loan pricing_, _allowance for loan and lease losses (ALLL)_, and capital requirements. For example, an analyst knows intuitively that two loans to the same borrower—one unsecured and one secured by a marketable piece of equipment—will have different levels of risk. Systematically distinguishing between these loans allows the institution to reflect this difference in risk consistently in pricing, capital requirements and other processes.

Typically, the benefits of using a dual rating system are tied to loan pricing, allowance for loan and lease losses (ALLL), and capital requirements.

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[3] _https://www.occ.treas.gov/publications/publications-by-type/comptrollers-handbook/rcr.pdf_ page 1

[4] _https://www.occ.gov/publications/publications-by-type/comptrollers-handbook/rating-credit-risk/pub-ch-rating-credit-risk.pdf_ page 5

[5] _https://publishedguides.ncua.gov/examiner/Pages/Content/ExaminersGuide/MBL/CreditRiskRatingSystems.htm_

Two factors make dual rating systems more prevalent today even at smaller institutions.

1   *Available software and other information systems make it relatively easy to capture and retrieve data.*

2   *Regulatory expectations are not likely to retreat on issues of safety and soundness.*

The discipline to evaluate how secondary sources of repayment and structural protections may improve the recoverability of one loan vs. another to the same borrower is part of strong risk management.

VEST RISK RATING RESPONSIBILITY APPROPRIATELY

Final authority for risk rating should be structured to ensure the rating is safeguarded from both undue influence and the perception of undue influence. For this reason, the credit department is typically empowered to assign the final rating. The credit analyst may consult with other constituents, such as the lender, to incorporate all relevant information. Some institutions may also use a committee structure to discuss risk ratings. However, the final responsibility should be separate from anyone compensated by loan volume. Additionally, the person responsible for assigning the final rating should not be the same person who approves the loan if loan approval authorities are governed by rating.

The institution should also ensure that the people analyzing and approving the ratings are experienced with commercial loans. If an analyst only has experience with CRE or consumer loans, it would be difficult for them to appropriately rate a C&I loan. A scorecard can aid in driving consistency and provide guidance to less seasoned personnel; however, final assignment requires expertise.

REQUIRE ADDITIONAL APPROVAL LEVELS AND REVIEWS

An institution may require additional approvals on the final risk rating in certain circumstances. Common reasons for additional approvals are a large loan size, a change in risk rating from the prior period or a final risk rating that differs from the scorecard output. Policies may further distinguish between situations that require approval before a rating is finalized and those that merit regular monitoring. Nearly half (44 percent) of webinar survey respondents indicated that their institutions require approval beyond the analyst in certain circumstances, and 20 percent always required additional approvals. The emphasis should be on ensuring risk ratings are assigned accurately and timely without unduly delaying final assignment.

There are a number of variants that an institution could employ. For example, an institution may allow a credit analyst to approve a final rating that either agrees with the scorecard or differs from by one grade and require a manager to approve all other ratings. The institution should review all differences

periodically.[6] Similarly, an institution's policy may require a manager to approve a change of two or more grades from the prior period because this level of change should occur rarely if ratings are being updated frequently. The policy should also mandate a review of overall migration periodically as part of portfolio monitoring.[7]

Additionally, an institution should monitor how often final ratings differ from the scorecard. Reviewing them regularly helps the institution identify when a scorecard needs to be revised. This review also provides a control to ensure analysts are exerting expert judgment appropriately. Regular reporting should also include confirmation that the final, assigned rating is recorded in the system of record.

44%
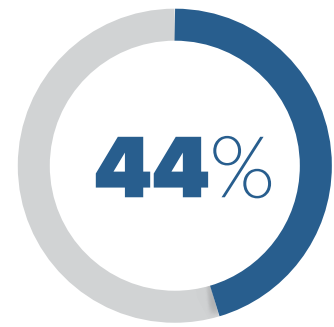
44% of respondents indicated that their institutions require approval beyond the analyst in certain circumstances.

20%
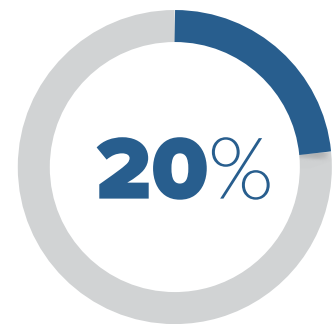
20% of respondents always required additional approvals.

Webinar survey by Sageworks, "Most Often Asked Risk Rating Questions" | September 14, 2017

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[6] The FDIC recommends a monthly review of cases where the final rating differs from the scorecard. *https://www.fdic.gov/regulations/safety/manual/section3-2.pdf* page 70.

[7] *https://www.occ.gov/publications/publications-by-type/comptrollers-handbook/rating-credit-risk/pub-ch-rating-credit-risk.pdf* See Section 6.3 for additional considerations on regular reporting and review of differences between scorecard generated ratings and final ratings.

Development & Use of Scorecards

Regulations do not require institutions to use a scorecard that assigns values to different inputs and then weighs those factors to calculate a risk rating score. However, they recognize the value that they provide to lending institutions. This value comes from the consistency that is afforded to the risk rating process. One of the key elements of a useful scorecard is whether it can distinguish between all the different grades within a risk rating system. The OCC states lending institutions "should use such systems to supplement more traditional tools of credit risk management: credit analysis, risk selection at origination, and individual loan review."[8] A secondary benefit to using a scorecard is that it provides a de facto underwriting checklist as the inputs should cover major areas of concern.

As mentioned above, each institution has the discretion to develop its own risk rating process. The institution may choose to develop a suite of scorecards to enable appropriate ratings. Scorecard development will not be one size fits all although there are some common elements lenders should contemplate.

INCLUDE QUALITATIVE AND QUANTITATIVE FACTORS

The vast majority of webinar respondents (83 percent) indicated their scorecards were at least half quantitative factors, and 42 percent said theirs were almost exclusively numbers driven. Quantitative inputs are a staple of credit analysis and contribute to meaningful decisions. However, limiting a risk rating matrix to only quantitative factors means that not all critical elements will be included, making it more likely that the analyst will disagree with the outcome. If this happens often, analysts will discount the usefulness of the matrix and regulators will question the process.

It may seem counterintuitive that a matrix can include qualitative factors and still drive consistency. The key is to develop well-written choices for inputs. A discrete list is necessary to assign a value to each choice that will then be used in the rating calculation. Well-written choices ensure that analysts respond consistently to a question.

Consider the difference in the following options to capture "Management Experience."

Option Set A	Option Set B
High	Senior management has 20+ years in the industry.
Medium	Senior management has 10–20 years in the industry.
Low	Senior management has < 10 years in the industry.

Quantitative inputs are a staple of credit analysis and contribute to meaningful decisions.

83%
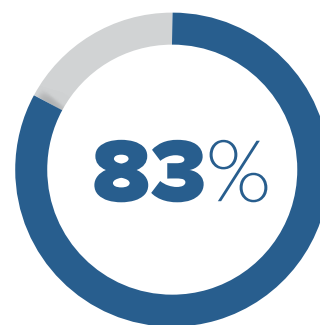
83% of respondents indicated that their scorecards were at least half quantitative factors.

Webinar survey by Sageworks, "Most Often Asked Risk Rating Questions" | September 14, 2017

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[8] https://www.occ.gov/publications/publications-by-type/comptrollers-handbook/rating-credit-risk/pub-ch-rating-credit-risk.pdf page 7.

Option Set B removes ambiguity from the answer set and makes the qualitative element a little more quantitative. These descriptions could be expanded to include other relevant factors, such as how well management steered the borrower during a downturn or management's ability to deliver on strategic objectives and budgets. What is important is to define the choices so that analysts apply them consistently.

FOCUS ON DRIVERS

This is likely one of the hardest recommendations to put into practice because institutions want their risk rating matrices to be comprehensive. After all, a secondary benefit of using a scorecard is having a credit analysis process checklist to ensure that the analyst has considered all the relevant factors for a particular loan. Why wouldn't the matrix include every factor possible?

The reason is that some factors are more important than others, and a critical element can be marginalized even with weighting. For example, debt service coverage ratios (DSCR) are a primary input in nearly every type of loan. Consider how the impact of this one factor would be significantly diluted if there are 20 factors being used versus 10 factors. If all factors other than DSCR are assigned 5 percent, then in the first case there is only 5 percent leftover for DSCR. In the second, you could allocate over 50 percent to DSCR. This is an extreme example but illustrates that more is not always better because extraneous factors will reduce the impact of what is truly critical.

Statistics such as the average debt service coverage ratio, change in sales period to period and net profit margin can give a view of the industry's overall health, particularly if the analyst evaluates their trends.

INCLUDE INDUSTRY CONSIDERATIONS

The analyst evaluates industry as a factor when risk rating a loan since the overall environment can impact the borrower's ability to repay the loan. The analyst can incorporate industry conditions and expectations in a few ways.

Consider the Current Industry Condition

The current state of the industry provides a baseline for the analyst as they evaluate a specific loan. One of the most efficient ways to get a snapshot of performance is to summarize data of individual companies. Statistics such as the average debt service coverage ratio, change in sales period to period and net profit margin can give a view of the industry's overall health, particularly if the analyst evaluates their trends. The analyst should ask a few questions

before relying on this information, as when working with any summary data. Is the underlying set of companies representative of the borrower? Are there enough data points to make conclusions meaningful? Are there outliers, and if so, why?

Consider the Industry Outlook

Risk ratings look to the future, although the past informs expectations. When including industry in risk rating, the analyst should not only think about the current performance but also about where the industry is going. Are there social trends that could impact the overall industry? For example, an analyst's view on the future of newspaper companies would have been very different in 1980 than in 2000 and more so today. Is the industry overall generating excess returns that will encourage new entrants? Are regulatory changes expected that will impact the industry? The financial industry is a prime example of how changes in regulation can impact nearly every company within an industry. What other leading indicators should the analyst assess?

CONSIDER HOW THE BORROWER FITS IN

How the borrower is performing relative to their industry is an important element, and it is a factor regardless of whether the industry is doing well or poorly as a whole. If the borrower is not able to capitalize on a growing and profitable industry and therefore the prospects for the loan in question are poor, then industry alone cannot support a better risk rating. On the flip side, the analyst should be careful not to put downward pressure on the risk rating of an otherwise acceptable loan solely because of the industry. There should not be a "to be conservative" discount if reasonable and supportable projections that took into account the industry outlook are used to determine the risk rating. It is possible that every company within an industry would be considered substandard, and the analyst should analyze each to come to that conclusion individually and not simply assume that the industry will be the driving factor.

When including industry in risk rating, the analyst should not only think about the current performance but also about where the industry is going.

Role of Expert Judgment

The scorecard is developed as a mechanism to drive consistency across teams and assets within an institution. An analyst is still responsible for analyzing the credit and assessing the risk rating.

Imagine the following scenario. An analyst is preparing a risk rating as part of an account's annual review. He has spread the most recent financial data and updated answers to qualitative questions in the scorecard. He knows this credit well because he has managed it for two years and talks to the CFO regularly. When the risk rating is calculated, however, the scorecard result does not match what he was expecting. What should he do?

The first step is simple: check the inputs. If they were input manually, he should check for transposed numbers, "fat finger" errors, and the like. Often the analyst will find a manual input mistake by confirming the calculated net income, total assets and shareholder equity.

The next question is, "Does the analyst know something significant that is not a scorecard input?" Scorecards are built to provide consistency in risk rating. They focus on common elements that will be applicable to nearly all credits. Sometimes there is a unique situation that the scorecard does not incorporate even though it will drive the risk rating. For example, the analyst may believe a pending lawsuit is likely to impact the borrower's ability to repay debt. His institution's scorecard does not include pending lawsuits as a factor since it developed the scorecard to cover most accounts and lawsuits are not the norm for its borrowers. In this case, the analyst must use his expert judgment to assign a risk rating that differs from what the scorecard indicates.

The last question is "Does the analyst know something significant that has not yet flowed into financial results?" This question is similar to the question above. Here, the analyst has forewarning of an event that will manifest in a scorecard input eventually. He correctly downgrades the risk rating when he becomes aware of the negative information and does not wait for cash flow to be impacted. For example, the borrower tells the analyst that a large contract was lost and cash flow next quarter will be down significantly. The analyst adjusts the risk rating immediately, even if the scorecard calculates a better rating. As the impact of the lost customer comes to fruition, the scorecard will reflect the same rating that was assigned with expert judgment.

The scorecard is developed as a mechanism to drive consistency across teams and assets within an institution. An analyst is still responsible for analyzing the credit and assessing the risk rating.

It is important to note that information that will positively impact the risk rating would not be treated the same way. In that case, the analyst would wait to upgrade until the positive event actually positively impacted the numbers. The analyst is expected to downgrade on expectations and upgrade on performance.

At the time the scorecard is created, the institution should have determined the percentage of occasions where the final rating was better than and the percentage of occasions where the final rating was worse than the scorecard. Each of these differences should have been investigated to ensure that expert judgment was being applied appropriately. This level becomes the baseline to which the institution will compare future deviations. The amount of loans that differ to the upside versus from the downside may vary by group. For example, special servicing or workout accounts by their nature are more likely to have some factor that is driving the rating down that is not captured in the scorecard.

Scorecards are built to provide consistency in risk rating.

Application of Risk Ratings

Regulators expect that lending institutions not only assign risk ratings accurately and timely but also that they use them in their processes.[9] Institutions should benefit from this expectation as aligning processes to risk rating can impact their financial performance and human resource efficiency. Some areas to consider using risk rating in the overall process include the following.

NEW ORIGINATIONS

Risk rating is a means for ensuring an institution is originating and renewing loans in a safe and sound manner. For that reason, the underwriting process should include an assessment of risk rating early and not leave it for a "check the box" exercise right before approval, or worse, closing. Accurate rating within the Pass grades is important to ensure that other processes are correlated to the proper risk levels.

An institution may also tie approval authority levels to risk rating. In this instance, it is especially important that the person responsible for assigning the risk rating is not influenced by the person with the approval authority so as to avoid biased results.

Risk rating may also govern commitment and hold levels as well as when a guarantor is required or what structures are available to a given borrower. Some borrowers have weaker cash flow that would result in an unacceptable rating unless there are structural enhancements that reduce that risk.

> Risk rating is a means for ensuring an institution is originating and renewing loans in a safe and sound manner.

LOAN PRICING

Intuitively, risk managers and lenders understand that higher risk loans should have higher fees or interest or a shorter tenure. Explicitly tying loan pricing to risk rating allows the institution to implement these structural elements more consistently. It also allows the institution to evaluate any exceptions to the pricing policy within a framework. In certain cases, the institution may deem it advantageous to stray from its own policy for a bigger purpose; having the policy in the first place allows it to understand the cost of doing so.

RESOURCE MANAGEMENT

Risk rating can be a powerful guide for managing resources. A starting point is to align experience levels with accounts from different risk grades. More experienced analysts should be the lead analyst on worse rated credits while less experienced analysts may have a secondary role on these accounts or a lead role on better rated assets with oversight.

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[9] https://www.occ.gov/publications/publications-by-type/comptrollers-handbook/rating-credit-risk/pub-ch-rating-credit-risk.pdf page 2.

When the portfolio is managed with risk rating, the institution can use data to understand how changes to the portfolio will affect the resources required to manage the assets effectively. For example, if the institution is planning to *acquire* a portfolio of loans and it knows A) the risk rating distribution of those assets and B) the amount of a full-time resource that each risk grade requires to manage to its standards, it can estimate the additional resources it will need. It can determine if it has enough current resources to absorb the acquisition, if it needs to find efficiencies, perhaps through the use of software or by streamlining processes, or if it needs to hire additional resources.

PORTFOLIO RHYTHMS

An institution should align distinctions in risk ratings to its on-going portfolio management processes. For example, the institution can tie the frequency of review to risk ratings. An institution with 5 grades of Pass along with Special Mention, Substandard, Doubtful and Loss might set account review frequency as follows:

Risk Rating	Review Frequency
Pass (1–2)	Annual
Pass (3–5)	Semi-Annual
Special Mention (6)	Quarterly
Substandard (7)	Monthly
Doubtful & Loss (8–9)	Weekly

Additionally, the institution can use its data to understand how changes to a process will impact it. For example, if an institution with the above structure decided it was spending too much time in meetings and wanted to move Pass 3 from semi-annual review to annual review, it could estimate how much time would really be saved. Performance of the Pass 3 credits should then be monitored separately for a time to make sure that the change did not have a detrimental impact to its overall portfolio quality.

ALLOWANCE FOR LOAN & LEASE LOSSES (ALLL)

There is a logical correlation between risk rating and ALLL as supported by the OCC calling risk rating the underpinning of ALLL.[10] Embedding risk rating in the ALLL process explicitly systematizes what institutions would be doing instinctively—aligning reserve levels with risk levels.

Most institutions are already using risk rating in their ALLL process. Based on the September 2017 webinar survey, 36 percent of respondents considered ALLL to be the most important use of risk rating. Those that are not currently using risk rating in ALLL are likely contemplating including it as part of the transition to their upcoming *Current Expected Credit Loss calculation*.

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[10] *https://www.occ.gov/publications/publications-by-type/comptrollers-handbook/rating-credit-risk/pub-ch-rating-credit-risk.pdf* page 2.

Maintaining an Accurate and Reliable System

An institution seeks to have a risk rating system that is both accurate and reliable. In order to ensure accuracy and reliability in the risk rating system, the institution should perform regular evaluations using portfolio data, as well as relying on credit review and regulatory examinations. An overall assessment should be based on the data and not look to a single anomaly as an indicator of an issue.

In addition to using the below tests, the institution should review and update risk rating policy and implementation documentation, including the scorecard, regularly. The Federal Reserve Board expects bank lending policies to be reviewed at least annually. Depending on the size and complexity of the lender, this frequency is likely appropriate for reviewing the risk rating system as well.[11]

FREQUENCY OF RISK RATING ASSIGNED

The distribution of risk ratings over an institution's level of grades will vary over time, especially as economic conditions change. A key element to look for in assessing the frequency chart is that the institution uses nearly all the ratings. The best and worst grades (in the example on the next page, Pass 1 and Loss 9) may have very few assets assigned considering they are at the extreme ends of the grading system. Generally, there will be a mode surrounded by tails that may or may not be symmetrical. The centering and distribution is likely to reflect overall economic conditions.

Depending on the portfolio make-up, it may also be appropriate to compare the institution's distribution of criticized and classified assets to available information for the lending industry.

Depending on the portfolio make-up, it may also be appropriate to compare the institution's distribution of criticized and classified assets to available information for the lending industry. For example, the 2017 Shared National Credit (SNC) Examination shows that for the $4.3 trillion SNC population, 3.1 percent of assets were rated Special Mention, 5.7 percent Substandard, 0.5 percent Doubtful and 0.3 percent Loss. Special Mention is often considered a transitory classification, so it is logical that there would be fewer assets in this category. This industry-level information can inform an assessment of an institution's rating system.

Example of a Distribution that Supports the Risk Rating System

The below example supports that the risk rating system is being used as expected. There is a distribution of risk ratings that center around the lower-rated Pass grades with a slightly wider tail on the better rated side. The levels of criticized and classified assets are in-line with the 2017 SNC exam results stated above.

Risk Rating Grade	Percentage of Portfolio
Pass (1)	0.0%
Pass (2)	4.4%
Pass (3)	14.5%
Pass (4)	26.0%
Pass (5)	44.5%
Special Mention (6)	4.0%
Substandard (7)	6.0%
Doubtful (8)	0.5%
Loss (9)	0.1%

Example of a Distribution that Does Not Support the Risk Rating System

The below example does not support that the risk rating system is being used as expected. The lack of loans rated 2, 3 and 5 is of particular concern. Having no 1 rated credits in and of itself is not suspicious considering that is an extreme value on the scale and would likely not be utilized in every period. The grouping within Pass 4 and alignment of criticized assets with available industry information indicates that the institution is identifying criticized assets appropriately but failing to make distinctions within the Pass grades.

Risk Rating Grade	Percentage of Portfolio
Pass (1)	0.0%
Pass (2)	0.0%
Pass (3)	0.0%
Pass (4)	89.4%
Pass (5)	0.0%
Special Mention (6)	4.0%
Substandard (7)	6.0%
Doubtful (8)	0.5%
Loss (9)	0.1%

RISK RATING TRANSITION MATRIX

Ratings that are being updated regularly, either from passage of time or to incorporate significant events, will show movement over time. A risk rating transition matrix will visually show these changes in a way that is easy to digest. At the same time, the institution should not expect large movements within a single period unless some external event has impacted borrowers universally.

Key elements of the transition matrix that would support the overall risk rating system are reasonable movement into and out of each rating period over period and reasonable movement both up and down period over period. It would be expected to see a lower percentage of ratings to stay in the Special Mention or Doubtful categories given their transitory nature. A large percentage of Special Mention loans would be expected to resolve to either Pass 5 or Substandard within 6–12 months. Additionally, a Substandard loan that showed improvement would be expected to move back to Pass 5 and not to Special Mention because it would not be upgraded until it had shown sustained performance consistent with a Pass asset.

Risk Rating	1	2	3	4	5	6	7	8	9
1	100%	0%	0%	0%	0%	0%	0%	0%	0%
2	0%	93%	5%	2%	0%	0%	0%	0%	0%
3	0%	0%	99%	0%	0%	0%	0%	0%	0%
4	0%	0%	3%	94%	2%	1%	1%	0%	0%
5	0%	0%	19%	8%	48%	12%	13%	0%	0%
6	0%	0%	11%	16%	17%	37%	20%	0%	0%
7	0%	0%	4%	0%	1%	6%	89%	0%	0%
8	0%	0%	0%	0%	0%	0%	0%	80%	20%
9	0%	0%	0%	0%	0%	0%	0%	0%	100%

Final Assigned Rating

Scorecard Rating

The above example of a risk rating transition matrix has some elements that support the overall risk rating system and some that do not. Some observations from the above example can inform an assessment of the system:

- The large percentage of Pass 1–4 that were rated the same or moved only one notch. Either one notch up or down is expected.

- The 2 percent that moved from Pass 2 to Pass 4 should be investigated to understand if there was a driver, such as a significant industry development, because institutions should generally seek to avoid a two-grade change period over period.

- The movement out of Pass 5 is both higher than would be expected and has an abnormally large amount moving two grades.

- The movement out of Special Mention (6) is not extraordinary given the transitory nature of this rating. However, loans would be expected to move either to Substandard (7) or Pass 5 as they resolve. The 27 percent of loans that are moving two or more grades indicates that the system is not being used as intended.

- The level of movement out of Substandard (7) is not extreme; however, upgrades would be expected to return to Pass 5.

- Doubtful (8) accounts are considered transitory; as such a large movement to Loss (9) to be charged off is not unusual.

DIFFERENCE BETWEEN SCORECARD AND FINAL RATING

Differences are expected to exist between the scorecard rating and the final rating assigned by expert judgment. At the time the scorecard is created, the institution should have determined the percentage of occasions where the final rating was better than and the percentage of occasions where the final rating was worse than the scorecard. This level of difference should be monitored over time for major deviations. The institution may set a threshold to review the scorecard officially if a certain number of deviations are experienced.

Final Assigned Rating

Risk Rating	1	2	3	4	5	6	7	8	9
1	100%	0%	0%	0%	0%	0%	0%	0%	0%
2	0%	97%	3%	0%	0%	0%	0%	0%	0%
3	0%	0%	99%	0%	0%	0%	0%	0%	0%
4	0%	0%	3%	95%	2%	1%	0%	0%	0%
5	0%	0%	19%	8%	48%	12%	13%	0%	0%
6	0%	0%	11%	16%	17%	37%	20%	0%	0%
7	0%	0%	4%	0%	1%	6%	89%	0%	0%
8	0%	0%	0%	0%	0%	0%	0%	100%	0%
9	0%	0%	0%	0%	0%	0%	0%	0%	100%

Scorecard Rating

The example matrix above indicates that there are some concerns with the calibration of the scorecard to final ratings, and therefore its output will be viewed less favorably by both users and regulators. Specifically, it aligns to the expert judgment in ratings Pass 1–3, Doubtful (8), and Loss (9) nearly 100 percent.

Pass 4 aligns 95 percent, although the differences are more varied. It would be worthwhile to monitor the scorecard output for that grade more closely to see if this particular period is an anomaly. However, the scorecard does not align to expert judgment for the Pass 5, Special Mention (6), and Substandard (7) ratings. The usefulness of the scorecard is diminished when it does not correlate for a significant portion of the portfolio.

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LOSS HISTORY / EXPECTED LOSS CORRELATION TO RISK RATING

The purpose of risk rating is to assess the credit risk in a given asset at a specified point in time. It would be expected that worse rated credits would show higher losses over time. The institution can look at this by analyzing the progression of historical loss rates and/or expected loss rate [*probability of default (PD) x loss given default (LGD)*] across risk rating. Although perfect alignment will not always be achieved, loss rates generally should increase as the risk rating deteriorates. Anomalies should be investigated before making a final conclusion on the overall risk rating system based on this assessment.

Example of Correlation that Supports the Risk Rating System

This example generally supports that the risk ratings predict default and loss given default reasonably well. The expected loss increases as the risk increases. Additionally, the difference between expected loss for rating 1 and 2 is much less than between 6 and 7. This relationship is expected.

Risk Rating	PD x LGD
1	0.43%
2	0.78%
3	1.16%
4	1.22%
5	1.75%
6	3.58%
7	9.62%

Example of a Correlation that Does Not Support the Risk Rating System

This example generally does not support that the risk ratings predict default and loss given default reasonably well. The expected loss (PD x LGD) shows no relationship to the risk rating, with many of the ratings having similar expected losses and no progression as risk increases.

Risk Rating	PD x LGD
1	0.43%
2	3.26%
3	1.16%
4	2.85%
5	1.75%
6	3.58%
7	4.62%

Conclusion

Risk rating is among the most important credit risk management functions available to a lending institution. It crosses processes across the life of the loan, from origination through portfolio management and allowance. For this reason, it is important that institutions develop strong risk rating programs. A strong program not only has the proper level of distinction in risk ratings for the complexity of the institution but also has the controls in place to ensure that risk ratings are being assigned appropriately, updated regularly and used in the institution's day to day processes. It is evaluated regularly to ensure that the system as a whole is maintained along with individual loans being assigned proper ratings.

Establishing and maintaining a risk rating system to this level requires commitment from an institution's leaders. It takes time and monetary investment to develop appropriate governing documentation and implementation aids. The return on that investment can be seen through better risk management and improved resource and process management.

About the author

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Alison Trapp is a senior consultant with Sageworks Advisory Services team and is focused on credit. Alison joined Sageworks after spending 17 years on the commercial credit risk team at GE Capital and a year consulting with mid-sized commercial banks. She has particular expertise in credit administration and policy implementation. Alison holds a BA in East Asian Studies from Ursinus College and an MBA in Finance from Stern School of Business, New York University.

List of Cited Sources

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[4] *https://www.occ.gov/publications/publications-by-type/comptrollers-handbook/rating-credit-risk/pub-ch-rating-credit-risk.pdf* *page 5.*

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Additional Resources

Loan Decisionin Technology's Role in Small Business Lending

Answers to the Most Commonly Asked Risk Rating Questions

Sageworks Risk Rating

Sageworks Electronic Tax Return Reader

Sageworks ALLL

Risk Rating Whitepaper

Sageworks Loan Pricing

Ready for CECL? The key role of risk ratings under current and future GAAP