Estimating Credit Losses: Evaluating Loss Emergence Period and Qualitative Factors

INTRODUCTION

The AICPA Audit and Accounting Guide – Depository and Lending Institutions: Banks and Savings Institutions, Credit Unions, Finance Companies, and Mortgage Companies provides the following related to the measurement of credit losses.

> *"Estimating credit losses is unavoidably subjective and involves making careful judgment about collectibility and estimates of losses. Management's judgments often depend on micro- and macro-economic factors; current conditions existing at the balance sheet date, and realistic courses of action that management expects to take.*
>
> *An institution's methodology for estimating credit losses should be well documented, with clear explanations of the supporting analyses and rationale. Allowance methodologies that rely solely on mathematical calculations, such as a percentage of total loans based on historical experience or the similar allowance percentages of peer institutions, generally fail to contain all the essential elements of an effective methodology because they do not involve a detailed analysis of an institution's particular credit exposures or consider the current economic environment.*
>
> *Financial institutions have traditionally identified loans that are to be evaluated for collectibility by dividing the loan portfolio into different segments. Loans with similar risk characteristics are generally grouped together and evaluated together. Appropriate segmentation provides for more accurate assessment of the estimated loss in the portfolio by differentiating loss rates based on common risk factors."*

The allowance for credit losses ("Allowance", "reserve", or "ACL") represents management's best estimate of the losses that have been incurred in the financial institution's loan portfolio but that have not yet been confirmed (e.g. charged-off).

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The allowance is generally comprised of three parts:

- Reserves associated with loans collectively evaluated for impairment ("general reserve"), as defined in FASB ASC 450.
- Reserves associated with loans individually evaluated for impairment ("impaired reserve"), as defined in FASB ASC 310-10-35.
- Reserves associated with purchased credit impaired loans ("PCI reserves"), as defined in FASB ASC 310-30.

For financial institutions the allowance for loan losses often represents a critical accounting estimate in the financial statements. This is a critical accounting estimate as users of the bank financial statements place importance on the quality of the loan portfolio, which is in part understood by reference to the estimate for loan losses that is applied.

Further, this accounting estimate is subject to measurement uncertainty due to:

- The inherent subjectivity in the estimation process resulting from the significant judgments required
- The large amount of data utilized
- The level of personnel involvement at financial institutions
- The long-term nature of the assets that the reserve applies to
- The disaggregation needed to arrive at an appropriate estimate
- The analysis of micro and macro level economic indicators

In this publication, we will look at two of the significant allowance model components related to the general reserve and the related internal control over financial reporting considerations:

- Loss Emergence Period
- Qualitative Factors

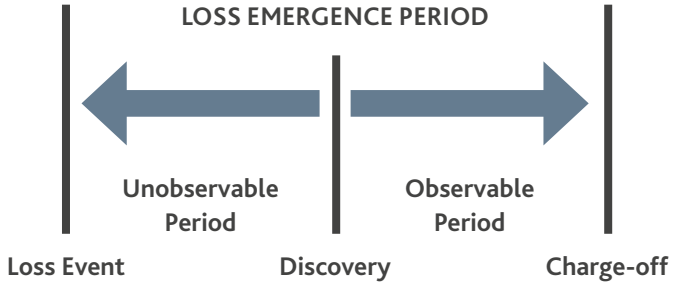
LOSS EMERGENCE PERIOD

What is it?

The loss emergence period ("LEP") is an assumption associated with the general reserve estimation process. The loss emergence period represents the average time from the point at which a loss event occurs to the point at which the loss is confirmed (loan is charge-off). Examples of loss events may include:

- A commercial borrower loses a significant customer causing an inability for them to sustain loan payments.
- A residential/consumer loan customer loses his/her job.
- For real estate developers – an economic event causes a significant drop in real estate values resulting in acquirer demand to diminish.
- A severe weather event causes loan holders to be unable to make payments and a lack of business recovery insurance prevents those loan holders from making payments.
- The business of a commercial borrower deteriorates resulting in them seeking bankruptcy protection.

The loss emergence period can be divided into 2 pieces: the unobservable period (i.e. the financial institution is unaware that the loss event has occurred) and the observable period (i.e. the period of time from the point at which the financial institution becomes aware of the loss event through the time of a charge-off). The unobservable period is not known to the financial institution and should be estimated. The observable period is known to the financial institution and can be reasonably calculated.



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One common method for estimating the general reserve as of the balance sheet date is utilizing historical loss rates experienced by the financial institution. Historical loss rates are calculated by taking confirmed loss data for a period of time and dividing this by a point in time loan portfolio balance (e.g. loans outstanding as of the beginning of the year for which charge-off data is being utilized). Below is an example (in thousands):

$5,000	**/**	**$1,000,000**	**=**	**0.50%**
2017 charge-offs		1/1/2017 loan portfolio Unpaid Principal Balance		2017 historical loss rate

The loss emergence period assumption is used to convert the 12 months of losses to the level of losses inherent as of a point in time.

For example, assume that ABC Financial institution has a significant specialty lending practice. ABC determines that the average time between when the loss event occurs and when the charge-off occurs is 18 months for this specialty lending segment. In order to convert the historical loss rate to be representative of the inherent losses as of a point in time, ABC multiplies its annual historical loss rates by 1.5 (18 months divided by 12 months).

Financial institutions are expected to have:

1. A policy developed around the responsibilities for the assumptions and estimate determination,
2. Methods determined, and regularly tested and re-evaluated, to determine the LEP,
3. A process to develop the assumption(s) for the LEP,
4. The data systems and expertise to develop the assumption(s),
5. Review processes and methods to identify any need to adjust the LEP based on factors that present themselves, and
6. Internal controls over the development and evaluation of the assumption(s).

One loss emergence period assumption or multiple?

Depending on the characteristics of the respective financial institution, the loss emergence period could be the same across diverse portfolio segments or could be different for each portfolio segment. This is a mathematical outcome and does not indicate that the loss emergence period for each portfolio segment represents the same underlying conditions.

Rather, the loss emergence period itself should be determined based on considering the historical charge-offs experienced by the financial institution at a disaggregated loan segment level.

FASB ASC 310 defines a portfolio segment as the level at which an entity develops and documents a systematic method for determining its allowance for credit losses. Therefore, many of the differences that drive existing portfolio segmentation (e.g. loan types, geography, operational diversities, etc.) will likely influence the estimated loss emergence period assumption for each segment.

Who should be involved in developing the loss emergence period assumption(s)?

Loan officers, relationship managers, and special assets personnel normally maintain ongoing contact with the borrowers once the borrowers' credit quality begin to deteriorate. As a result, they will likely be able to provide empirical evidence regarding the loss events that occurred that drive the determination of the unobservable period. These personnel tend to be made aware of conditions impacting the loss emergence, and it is necessary to gather and consider that information in determining the loss emergence period for each loan segment.

In addition, the departments and individuals responsible for the recording and reporting of ACL activity are involved in the development of the loss emergence period assumption – e.g. accounting, finance, credit administration and enterprise risk management.

The collaboration between the accounting and finance departments, and the lending operations, provides the necessary information in order to appropriately estimate the unobservable period of the LEP.

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When does the unobservable period end, and the observable period begin?

A loan that experiences a confirmed loss may be deemed "discovered" when it becomes past due on contractual payments that ultimately leads to the loss confirmation or it may be "discovered" when a borrower proactively informs the lender of the event that triggered a loss.

However, it is common for financial institutions to become aware of deteriorating credit quality prior to a borrower becoming delinquent. This identification can occur through borrowers failing debt covenants or from borrowers who proactively contact the financial institution about their deteriorating cash flows that will impact their ability to make future payments. In these scenarios, the loss discovery may be tied to when a loan's risk rating is downgraded from a "pass" rating. However, this would be dependent upon the quality of the loan risk rating control(s).

How often should the loss emergence period assumption(s) be reevaluated?

Like any significant assumption, the LEP assumption(s) must be evaluated or validated on a routine basis. The extent of the validation procedures will be dependent on:

- the period of time since the validation was last performed, and
- the extent of changes in the factors that impact the LEP assumption.

For example, a significant change in a financial institution's credit risk monitoring functions would warrant a more thorough update and validation of the LEP assumption(s). Environmental factors could also impact the LEP. Using a consumer credit example, the level of borrower savings rates has an inverse relationship to unemployment rates or housing prices. This means that loan savings rates and increasing unemployment rates will shorten the loss emergence period. It is expected that, due to changes in business environment and other internal and external factors management will re-evaluate the overall reasonableness of the LEP and other assumptions used in the ACL policy including analysis of underlying data supporting actual loan charge-offs on a regular basis (e.g. annually, or on some other frequency that is consistent with the business conditions).

QUALITATIVE FACTORS

The AICPA Audit and Accounting Guide – Depository and Lending Institutions: Banks and Savings Institutions, Credit Unions, Finance Companies, and Mortgage Companies provides the following in relation to the measurement of credit losses specific to qualitative factors.

> *"Loans not evaluated for impairment individually are included in groups (or pools) of homogeneous loans and evaluated for impairment on a collective basis.*
>
> *Although historical loss experience provides a reasonable starting point for the analysis of loss rates, historical losses (or even recent trends in losses) do not by themselves form a sufficient basis to estimate the appropriate level of allowance for loan losses. Management also considers those qualitative or environmental factors that are likely to cause estimated credit losses associated with the institution's existing portfolio to differ from historical loss experience.*
>
> *Qualitative adjustments may address limitations of the quantitative analysis of the allowance for loan losses based on historical loss experience and serves as a bridge for the difference between a) conditions prevailing in the current credit environment compared to the environment in the look-back period and b) the credit profile of an institution's current loan portfolio compared to the credit profile of the portfolio in the look-back period."*

What are they?

Qualitative factors are known by many names:

- Qualitative factors / modifiers
- Q factors / modifiers
- Environmental factors / modifiers
- JPS factors / modifiers (Referring to the **2006 Interagency Policy Statement**, or Joint Policy Statement ("JPS"))

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As noted in our discussion above, one common method for estimating the general reserve as of the balance sheet date is utilizing historical loss rates experienced by the financial institution. In utilizing this information, it must be acknowledged that past events may not be representative of current events that would increase or decrease incurred losses today versus historical losses. A hurricane impacting an area that has not previously been impacted by a hurricane would be an example. Therefore, management should consider qualitative factors that are likely to cause current losses to be different from historical losses.

In our introductory section, we state that one of the reasons that the allowance for loan losses is considered a significant estimate is due to the inherent subjectivity present. This is no more present than in the establishment of the qualitative factors. The 2006 Interagency Policy Statement provides the following nine factors that should, at a minimum, be considered when estimating credit losses:

1. Changes in lending policies and procedures, including changes in underwriting standards and collection, charge-off, and recovery practices not considered elsewhere in estimating credit losses.
2. Changes in international, national, regional, and local economic and business conditions and developments that affect the collectibility of the portfolio, including the condition of various market segments.
3. Changes in the nature and volume of the portfolio and in the terms of loans.
4. Changes in the experience, ability, and depth of lending management and other relevant staff.
5. Changes in the volume and severity of past due loans, the volume of nonaccrual loans, and the volume and severity of adversely classified or graded loans.
6. Changes in the quality of the institution's loan review system.
7. Changes in the value of underlying collateral for collateral-dependent loans.
8. The existence and effect of any concentrations of credit, and changes in the level of such concentrations.
9. The effect of other external factors such as competition and legal and regulatory requirements on the level of estimated credit losses in the institution's existing portfolio.

The inherent subjectivity in qualitative factors is also acknowledged by the various regulatory authorities. Given the many ways that qualitative factors can be estimated, proper model governance is necessary. The following is an excerpt from the **Office of the Comptroller of the Currency ("OCC") Bank Accounting Advisory Series ("BAAS") August 2018**:

> *"As noted in the 2006 Policy Statement, banks should support adjustments to historical loss rates and explain how the adjustments reflect current information, events, circumstances, and conditions in the loss measurements. Management should maintain reasonable documentation to support factors that affected the analysis and the impact of those factors on the loss measurement. Support and documentation include the following:*
>
> - *Descriptions of each factor*
> - *Management's analysis of how each factor has changed over time*
> - *Which loan groups' loss rates have been adjusted*
> - *The amount by which loss estimates have been adjusted for changes in conditions*
> - *An explanation of how management estimated the impact*
> - *Other available data that supports the reasonableness of the adjustments*
>
> *Examples of underlying supporting evidence could include, but are not limited to, relevant articles from newspapers and other publications that describe economic events affecting a particular geographic area, economic reports and data, and notes from discussions with borrowers.*
>
> *Management must exercise significant judgment when evaluating the effect of qualitative factors on the amount of the ACL, because data may not be reasonably available or directly applicable for management to determine the precise impact of a factor on the collectibility of the institution's loan portfolio as of the evaluation date. For example, the bank may have economic data that shows commercial real estate vacancy rates have increased in a portion of its lending area. Management should determine an appropriate adjustment for the effect of that factor on its current portfolio that may differ from the adjustment made for the effect of that factor on its loan portfolio in the past. Management must use its judgment to determine the best estimate of the impact of that factor and document its rationale for its best estimate. This rationale should be reasonable and directionally consistent with changes that have occurred in that factor, based on the underlying supporting evidence previously discussed."*

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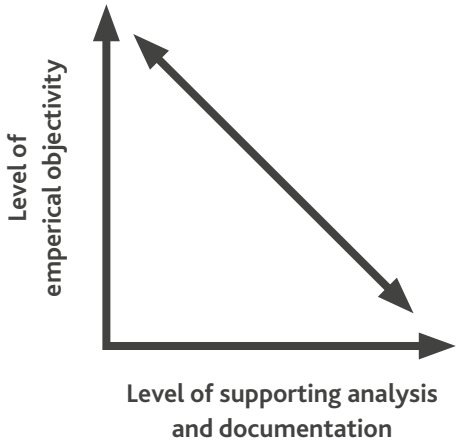
Should the qualitative factors analysis(es) focus on the changes year over year or period end factors?

Financial institutions must conclude on the appropriateness of the ending factor based on supporting documentation, which also includes contradictory evidence evaluated. In certain analysis(es) it may be appropriate to evaluate period activity to support the ending factor, however, that alone is not adequate.

What should a financial institution's analysis(es) focus on?

Like any estimate, management should place greater emphasis on data that is more supportable. This includes data points that are more empirical in nature and objective, and data points that are more qualitative but are considered of high significance to the estimate. There is an inverse relationship between the level of documentation expected versus the empirical level of the data utilized in establishing a qualitative factor:



If management has a baseline qualitative factor range, does that range need to be supported?

Yes. If management has established a range for a Q factor they should have documentation to support the appropriateness of the low end of the range and the high end of the range. For example, if the Q factor range is 0 basis points to 25 basis points management should support with empirical evidence why the top end of the range is 25 basis points as opposed to some other basis point. For instance, management may link the top end of the range with the largest charge-off experienced at the institution. As discussed above, it is expected that management will support key assumptions used in the policy with underlying data of actual loan charge-offs.

Example qualitative analysis (this is for illustrative purposes and not intended to be a prescriptive or required approach)

Management evaluates current trends for select data points for a portfolio segment (e.g. for a residential mortgage segment, the bank analyzes current trends/levels in unemployment and home price indices in their respective markets) and compares them to their annual/periodic loss rates included in their look back period (LBP). Then management evaluates their longer term historical losses when these select data points were at comparable levels and analyzes annual charge-offs that occurred subsequently. Compare those historical annual charge-off rates to the annual charge-off rates included in their LBP. Differences between the rates are used to establish a qualitative factor range. Then qualitative factor data points that are not easily quantified should be analyzed to determine where management should "fall" within this range, or even outside of the range. For example:

Residential Mortgage Loan Segment

Quantifiable Q factors ▶	4% Unemployment rate	20% Home Price Decline
Average annual charge-off % in look back period	0.80%	0.80%
Average historical annual charge-off % experienced after occurrence of data point:	1.00%(1)	1.20%(2)
Base line qualitative factor range for Residential loan segment:	0.20%	0.40%

(1) The bank noted the following years where their local markets experienced a 4% unemployment rate: 1996, 2000, 2004, and 2015. The average charge-off % experienced in the year after (e.g. 1997, 2001, 2005, and 2016) was 1.00%.

(2) The bank noted the following years where their local markets experienced a 20% decrease in residential home prices: 1992, 1998, 2003, and 2013. The average charge-off % experienced in the year after (e.g. 1993, 1999, 2004, and 2014) was 1.20%.

Other qualitative factors to consider (these should include evidence supporting each assertion made and how that change results in the specific factor applied as well as considerations of contradictory evidence):

(a) Credit administration is considered to have the same level of experience currently as compared to historical periods. Therefore, this does not provide an indication of adjusting the qualitative factors.

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(b) The bank's current underwriting standards and the regulatory environment are considered to be better than historical periods. This would provide an indication that the losses would be lower than historical periods.

(c) The mix of mortgage products is currently considered comparable to historical periods. Therefore, this does not provide an indication of adjusting the qualitative factors.

(d) With both the corporate and income tax rates being cut in 2017, it is anticipated that the employees will have more job stability and monthly cash flows, therefore reducing the likelihood of loan payment default. This would provide an indication that the losses would be lower than historical periods.

What is applied to the historical losses first? Loss Emergence Period or Qualitative Factors?

The answer depends on the design of the general reserve model. The important aspect to keep in mind is that neither assumption inappropriately compounds the other. For example:

EXAMPLE A: If your qualitative factor methodology focuses on making adjustments to historical annualized loss rates for the purpose of having an "as adjusted" annualized loss rate, then the LEP assumption should be applied to the "as adjusted" annualized loss rate.

EXAMPLE B: If your qualitative factor methodology focuses on making adjustments to arrive at a more appropriate incurred loss as of a point in time, then the LEP assumption should first be applied to the historical annualized loss rates, before applying the Q factors.

INTERNAL CONTROL ENVIRONMENT CONSIDERATIONS

The AICPA Audit and Accounting Guide – Depository and Lending Institutions: Banks and Savings Institutions, Credit Unions, Finance Companies, and Mortgage Companies provides the following in relation to internal control over financial reporting in the measurement of credit losses.

> *"Controls over the loss estimation process include review controls over the judgments within the allowance estimate, as well as controls over the completeness and accuracy of underlying data used in the operation of the review controls. Adequate review and approval of the allowance estimates by the individuals specified in management's written policy will include review of development of assumptions and methodologies (e.g. loss emergence period and qualitative adjustment factors)."*

Management review controls are typically higher-level or process-level controls and relate to significant management estimates or judgments incorporated into the allowance process, such as management review of loss emergence period and review of qualitative or environmental factors and adjustments to the historical loss experience. The design of management review controls includes metrics, thresholds, or other criteria to identify outliers or exceptions and should involve the appropriate level of precision to ensure that the controls would detect a material misstatement.

Is an analysis(es)/memo on its own evidence of the internal control over financial reporting ("ICFR") review?

In many cases no. The memo provides evidence to the underlying process of developing the factors, but not the ICFR over reviewing this process. For ICFR, **the reviewer** (not the process owner) must be able to **demonstrate**:

- That they ensured that the inputs going into the analysis(es) were complete and accurate.
- That the information utilized was relevant, objective and supportable.
- That any readily available contradictory information was considered.
- What their criteria for follow up with the process owner were.

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Precision is defined as the degree of refinement with which an operation is performed, or a measurement stated. Precision and accuracy are often confused as synonyms, but accuracy describes a measurement—that is, how close it is to the truth while precision describes a measurement system—that is, how good it is at giving the appropriate result every time it measures the item. A control that is performed regularly and consistently generally is more precise than one performed sporadically. Additionally, the threshold for investigating deviations or differences from expectations relative to materiality is an indication of a control's precision. Precision may be designed to be a characteristic that the control owner is expecting, and that is prompting their review (e.g., labor statistics have deteriorated, and thus qualitative factors assigned should be reflective of this fact). Control owners should document evidence of significant differences from expectations identified and the resolution of these differences from expectations.

As previously noted, completeness and accuracy of the information utilized in establishing and validating these ACL assumptions are critical, and therefore financial institutions will need to have designed and implemented internal controls over this information. The summary below provides a high level overview of considerations related to assessment of the design and implementation of internal controls related to the LEP and qualitative factor assumptions, as well as other internal controls that address common data points utilized in directly or indirectly establishing qualitative factors:

ASSESSMENT OF BANK'S ACL POLICY

The objective of this control is to ensure that the Bank's ACL policy continues to be relevant and responsive to changes in the market. Accordingly, it is expected that due to changes in business environment and other internal and external factors, management will re-evaluate the overall reasonableness of the LEP and other assumptions used in the ACL policy including analysis of underlying data supporting actual loan charge-offs on a regular basis (e.g. annually, or on some other frequency that is consistent with the business conditions).

Controls over assessment of reasonableness of ACL Policy might include:

i. Quarterly – Assess adequacy of various trends and relationships and the overall reasonableness of the ACL on a regular basis. See considerations discussed in *Assessment of ACL Reserve at Period End*.

ii. Regularly (e.g. annually, or on some other frequency that is consistent with the business conditions) - Re-evaluation of the overall reasonableness of the LEP and other assumptions used in the ACL policy including analysis of underlying data supporting actual loan charge-offs. As part of this control, management should re-establish its key assumptions based on evaluation of recent data.

ASSESSMENT OF ACL RESERVE AT PERIOD END

Generally, this is a higher level review control(s) that involves significant levels of judgment and is performed by several control owners and often subdivided into distinct control activities that are performed over a period of time during the close process.

Management should document the design of this **multilayered control**, specifically related to the following:

i. The nature of the specific review procedures that the control owner(s) perform, including the evaluation of the qualitative factor methodology and application of the qualitative ratings, the reasonableness of qualitative factors, the magnitude of the resulting qualitative and unallocated components of the general ACL, and the appropriateness of the LEP, etc.; and

ii. The criteria used by the control owner(s) to identify matters for follow up and whether those matters were appropriately resolved.

Management's documentation should clearly support what control owners do beyond a narrative description of meetings occurring or a summary ACL memo.

TIP: If there are several control owners, management should clearly describe what each control owner does, the nature of the review procedures performed, what prompted his / her review questions and how matters have been resolved?

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ANNUAL REVIEW OF LOAN RISK RATINGS

This control(s) is performed at the individual loan level and is focused on assessment of various criteria to determine the loan grade. Management should demonstrate how the control owner(s) evaluates, re-performs and challenges conclusions reached by the loan department. This documentation should demonstrate assessment of control activities with respect to each important criteria including describing the nature of the specific review procedures that the control owner(s) performed, criteria for investigation and how matters were reviewed and resolved.

Another important element of this control is to ensure that loan grades for loans are reviewed periodically, and at least annually. Accordingly, management should have control(s) designed and operating effectively to ensure that loan grades for all loans are periodically reviewed and assessed (i.e. completeness of loan population being reviewed).

Also, some financial institutions have separate systems that support loan grades. Details of loan grades from the loan grading system is then transferred / used in another system that calculates ACL. It is important for management to document this process and the related control(s), including the key systems used and instances of data transfer. Management should consider the points in the process where risks exist and ensure there are controls to mitigate those risk. Additionally, management should have controls documented related to completeness and accuracy of data transfers and system interfaces.

To aid in their evaluation, management should consider the observations published by the FDIC in their Summer 2018 Supervisory Insights article titled ***Credit Risk Grading Systems: Observations from a Horizontal Assessment***.

WATCH LIST CONTROL / IDENTIFICATION OF IMPAIRED LOANS

This control(s) is performed at the individual loan level and is focused on the assessment of various criteria to determine loan grading and impairment of underperforming loans. The financial institution should document how the control owner(s) evaluates, re-performs and challenges conclusions reached by the loan department including describing the nature of the specific review procedures that the control owner performed, criteria for investigation and how matters were reviewed and resolved.

Another important design consideration is the control activity that ensures that completeness of impaired loans and changes in population of impaired loans including data transfers and ITGCs considerations, where applicable. For example, depending on the design of the control, objectives of the control could be presented as follows:

i. Control activities that demonstrate how control owners understand and assess total population of underperforming loans, any new additions to the population of underperforming loans or write offs of loans, understand and assess the reasons for changes in the population of underperforming loans, and understand any downgrades of loans; and

ii. Control activities that demonstrate how control owners review and re-assess individual loan grading following criteria discussed in Annual Review of Loan Risk Ratings.

CONCLUDING REMARKS

The allowance for loan losses is an inherently subjective estimate, with the loss emergence period and qualitative factors being significant inputs into the estimate. Both require management judgment. Financial institutions should have appropriately precise processes and internal controls over these inputs. The processes and internal controls should be supported by detailed documentation and validated on a recurring basis.

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