HOW TO CALCULATE YOUR **FAS 5 (ASC 450-20) RESERVES**

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REGAN CAMP, SENIOR RISK MANAGEMENT CONSULTANT

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EXECUTIVE **SUMMARY**

The calculation of appropriate general reserves under FAS 5 (ASC 450-20) can be one of the more challenging responsibilities financial institutions are tasked with completing. Gary Deutsch, a leading expert on the ALLL and president of BRT Publications, a risk management training and consulting firm, adds insight as to why this task can be such a difficulty: "The most challenging part of the ALLL estimation process is determining the amount of reserves needed for loans analyzed in risk pools…because there is no, one best method to determine the losses inherent in the pools." Although there really is no single methodology that necessarily stands supreme to others, institutions and, more specifically, their executive management, should be cognizant of the various alternatives afforded to them under the governing regulatory and accounting guidances. They should consider each of the alternatives in determining the most appropriate methodology to be employed at their respective institution.

WHAT IS **FAS 5 (ASC 450-20)?**

Before we discuss how you may appropriately calculate your FAS 5 general reserves, let us first address what FAS 5 is.

Statement of Financial Accounting Standard No. 5: *Accounting for Contingencies* (FAS 5), the original FASB pronouncement, superseded by the substantively same FASB Accounting Standards Codification (ASC) subtopic 450-20, *Contingencies: Loss Contingencies*, is a principal source of guidance on accounting for impairment in a loan portfolio under GAAP. More specifically, it provides guidance on loss estimates for groups, or pools, of non-impaired and/or homogeneous loans grouped together based on similar risk characteristics. The loans within the pools are evaluated collectively considering both quantitative (historical losses) and qualitative (environmental adjustment) measures, in order to determine appropriate loan and lease loss reserve levels.

The calculation of the FAS 5 general reserve can be broken down into the following three (3) primary tasks:

1. Identifying an appropriate segmentation of homogenous loan pools
2. Calculating appropriate historical loss rates
3. Determining appropriate qualitative or environmental adjustments

Each of the aforementioned tasks requires considerable deliberation in order to develop and employ a methodology that is customized and suitable to your institution, while also ensuring the methodology complies with prevailing regulatory and accounting guidances.

AVAILABLE ON-DEMAND WEBINARS:

How to Calculate Your FAS 5 Reserves

How to Prepare Now for FASB's CECL Model

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IDENTIFYING APPROPRIATE **SEGMENTATION POOLS**

The first challenge you will likely face in calculating your FAS 5 general reserves lies in identifying an appropriate segmentation of your homogenous loan pools, against which your loss rates and qualitative adjustments will be applied, in order to calculate appropriate reserves. Regulatory guidance provides little surety in defining what this segmentation should be. The Interagency Policy Statement on the ALLL suggests, "While an institution may segment its loan portfolio into groups of loans based on a variety of factors, the loans within each group should have similar risk characteristics."[1]

Loan pool segmentation that is appropriate for one institution may or may not be appropriate for another. Consequently, you must individually identify a segmentation that accurately reflects the segmentation of risk within your institution's portfolio. In so doing, care must be taken to ensure a proper balance between:

1. Identifying a segmentation with sufficient granularity to create distinct pools that segregate the inherent risks associated with various loan types.
2. Ensuring that the segmentation chosen is not so granular that you are at risk of compromising statistical relevance.

IDENTIFYING APPROPRIATE **SEGMENTATION POOLS** (CONT.)

Mike Lubansky, director of consulting services at Sageworks, explains, "Many institutions have historically used overly broad pools for the FAS 5 evaluation; they have typically included three or four basic segments, such as *Real Estate, Commercial,* and *Consumer*. This breakdown is now viewed by many auditors and examiners as inadequate because these broad buckets are unable to account for the varying levels of risk within each of the loan segments."[2]

Continuing on Mike's example, consider the Real Estate pool. Loans within this particular segment, such as *Commercial Real Estate, Residential Real Estate* or *Acquisition and Development loans*, to name a few, could possess significantly different risk. If risk in these different loan types does vary, consider further segmenting this category to a more granular level. Moreover, if the loan portfolio is sufficiently large, consider disaggregating even further by class or collateral type, into groupings such as *Commercial Real Estate-Office Building* and *Commercial Real Estate- Retail*. Again, the concern with smaller, more granular pools, which should be avoided, is that they will become **too** granular, compromising statistical relevance.

IDENTIFYING APPROPRIATE **SEGMENTATION POOLS** (CONT.)

In addition to identifying an appropriate level of granularity within segmentations by loan type, you will also want to consider whether or not it makes sense for your institution to sub-segment each of those homogenous pools by a measurement attribute such as risk rating/level or delinquency. In so doing, you not only allow yourself to apply adjusted historical loss rates against each loan type, but you can also apply unique adjustments against loans of higher risk (e.g.; rated Substandard or days past due > 30) versus those of lower risk (e.g.; rated Pass or days past due < 30) within each loan type. This sub-segmentation has received positive reviews by examiners, leading more and more institutions to consider moving to this additional level of granularity.

Once you've selected a loan pool segmentation for your institution, be prepared to defend the methodology and answer how your segmentation balances sufficient granularity with statistical relevance.

Additional Video Resource:

Determining the Appropriate Size of a FAS 5 Segmentation

CALCULATING APPROPRIATE **HISTORICAL LOSS RATES**

Once you've identified an appropriate segmentation of homogenous loan pools, you're ready to begin calculating a historical loss rate against each of those pools. These historical loss rates, when applied against current loan balances, provide a basis for projecting potential future losses. It's against these calculated, potential losses that FAS 5 (ASC 450-20) mandates you set aside reserves.

The latitude given to each institution to determine the most appropriate methodology for calculating their historical loss rates presents a similar responsibility and challenge to that of determining appropriate pool segmentations, as regulatory guidance offers no specifics in what methodology must be used, only that "when estimating credit losses on each group of loans with similar risk characteristics, an institution should consider its historical loss experience on the group, adjusted for changes in trends, conditions, and other relevant factors that affect repayment of the loans as of the evaluation date."[1]

Though regulatory/accounting guidance is scarce on suggesting a preferred methodology, consideration must be given to institution-specific factors such as the *institution's size, organizational structure, business environment and strategy, management style, loan portfolio characteristics, loan administration procedures and management information systems*. Furthermore, because regulators understand that these institution-specific factors vary widely, latitude is given to each institution to select the valuation methodology best suited for its own unique characteristics and complexities. Acceptable methodologies of valuation range from a simple average of the institution's loss experience over a period of time, to a more complex migration analysis approach.

CALCULATING APPROPRIATE **HISTORICAL LOSS RATES** (CONT.)

If choosing to calculate a simple, average historical loss experience, you must decide upon the number of historical periods you'd like to use, the length and frequency of each period, whether or not to manipulate loss rate weightings, as well as determine an appropriate loss rate import source.

Again, prevailing guidance does not mandate a particular number of historical periods, nor does it address an appropriate length or frequency of each period; however, in a FAQ supplement included in the Financial Institution Letter (FIL—105—2006), dated 12/13/2006, the FDIC offers the following suggestions:

> *There is no fixed period of time that institutions should use to determine historical loss experience. During periods of economic stability in an institution's market, a relatively long period of time may be appropriate. However, during periods of significant economic expansion or contraction, the relevance of data that are several years old may be limited. The period used to develop a historic loss rate should be long enough to capture sufficient loss data. At some institutions, the length of time the institution uses varies by product; high-volume consumer loan products generally use a shorter time period than more specialized commercial loan products.*[3]

RECENT POLL:

What time horizon do financial institutions use within their FAS 5 reserves?

See the results

Observed common practice is to utilize an eight or twelve rolling quarter average for the historical loss rate; although, many institutions have deemed it appropriate to extend to a five year average or beyond. Regardless the number, length and frequency of periods you choose to utilize, it is imperative that you document the decision, substantiating why the selected historical experience is appropriate and relevant to the institution's current loan portfolio.

CALCULATING APPROPRIATE **HISTORICAL LOSS RATES** (CONT.)

Additionally, loss rate weightings may be used to add or reduce additional emphasis given to one of more periods of calculated historical loss. For example, an institution choosing a rolling eight-quarter loss experience may elect to add additional emphasis to the most recent four quarters – perhaps on a 60/40 split with respect to the more distant four quarters, as demonstrated below – under the justification that the recent quarters are more indicative of current and future expected credit losses. In another instance, an institution may choose to reduce emphasis on a particular quarter containing a significant charge-off or recovery that they've identified as an isolated anomaly that inappropriately skews the overall average loss experience. If choosing to utilize loss rate weightings, be prepared to defend any deviation from an equal distribution of weight given each period with well documented substantiation.

Period Ending Dates	6/30/2013	3/31/2013	12/31/2012	9/30/2012	6/30/2012	3/31/2012	12/31/2011	9/30/2011	Average
Loss Rates	-0.3001%	0.4524%	1.3413%	0.0810%	0.6174%	1.1650%	0.8012%	1.8500%	0.6796%
☑ Loss Rate Weights	15.0000%	15.0000%	15.0000%	15.0000%	10.0000%	10.0000%	10.0000%	10.0000%	100.0000%

Once you've determined an appropriate approach to calculating your historical loss experience, you're still left with the task of identifying the most appropriate source of historical loss data to actually employ those selections. Sources to consider may include extractions of data from previously compiled and submitted call report data or data from a separate tracking of historical loss transactions and balances. Your ability to compile this data is obviously critical to the production of a meaningful historical loss experience.

CALCULATING APPROPRIATE **HISTORICAL LOSS RATES** (CONT.)

If you're a *de novo* institution, or an institution that has recently entered into a new line of lending, you may not have sufficient historical loss experience, for either the entire portfolio or within a particular segment, upon which to base your estimate of credit losses. In such a case, you may consider looking to a customized peer group's average loss experience on similar loan types. However, reliance upon peer group data should never extend beyond the availability of your own loss experience.

RECENT POLL:

Why are many financial institutions not using migration analysis?

See the results

Finally, if choosing to calculate your historical loss experience utilizing migration analysis, it is important to ensure that:

1. You have sufficient granularity in your historical loan and loss data to fill the model, as you will need loan level detail.
2. Your portfolio is of sufficient size to provide meaningful results – a threshold generally considered at $500 million in assets or greater.

Migration analysis presents a method by which institutions may more accurately determine expected losses from historic performance, assuming historical trends are predictive of future outcomes. Rather than simply averaging historical loss rates, migration analysis calculates the likelihood of a loan becoming charged-off based on its credit risk rating, using historical loan performance data. John Gleason, in the Journal of Commercial Lending, explains this significance in stating, "Since charge-offs are rarely experienced for loans properly rated pass or special mention, a bank would study the migration of loans from those risk ratings into the lower categories and, finally, to loss…[this] provides the most meaningful assessment of the total estimated credit losses in a bank's loan and lease portfolio."[4]

CALCULATING APPROPRIATE **HISTORICAL LOSS RATES** (CONT.)

Migration analysis may take many forms, ranging from a portfolio-wide tracking of the volume of loans that migrated to a loss from a set risk rating or delinquency bucket within a defined loss horizon to a more granular analysis by loan type and risk rating.

If considering migration analysis, it is further recommended that you consider both the potential benefits and risks inherent in this approach.

Whether you utilize a simple average of your institution's historical loss experience over time, considered a more complex migration analysis approach or some variance thereof, the end goal should be to produce a historical loss experience that, when applied against current loan balances, provides a sound basis for projecting future losses.

Additional Whitepaper Available:

To learn more about some of the challenges with migration analysis, as well as some of the benefits, download the whitepaper:
Pros and Cons of Migration Analysis

DETERMINING **QUALITATIVE ADJUSTMENTS**

DID YOU KNOW?

Sageworks ALLL users have direct access to FRED charts and graphs to support their Q Factors.

While the calculation of the historical loss experience offers a reasonable starting point in determining an appropriate loss rate to be applied against loan pool balances in determining appropriate FAS 5 (ASC 450-20) general reserve levels, "…historical losses, or even recent trends in losses, do not by themselves form a sufficient basis to determine the appropriate level for the ALLL," according to the 2006 Interagency Policy on the ALLL. "Management should also consider 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."[1]

These qualitative or environmental adjustments to the ALLL are a challenge, because they are inherently subjective in nature. This acknowledged subjectivity offers tremendous leeway in manipulating reserve levels through these adjustments; however, this same leeway also exposes you to significant regulatory scrutiny, proving to be a double-edged sword. Therefore, it is recommended that these determinations be based upon a comprehensive, well-documented and consistently applied analysis of your loan portfolio. The following recommendations are offered to assist you in adding objectivity to this otherwise subjective task and in appropriately and consistently applying these adjustments.

DETERMINING **QUALITATIVE ADJUSTMENTS** (CONT.)

ADDITIONAL RESOURCE:

Library of regulatory guidance, including information on calculating the allowance, stressing the portfolio, rating risk, and analyzing credits.

Access the library

First, consider regulatory guidance in selecting those qualitative factors that may be appropriate to evaluate in your adjustments. The 2006 Interagency Policy Statement on the ALLL, for example, suggests evaluating the following nine (9) qualitative factors when estimating potential credit losses:

1. Changes in lending policies and procedures, including changes in underwriting standards and collections, charge offs and recovery practices.
2. Changes in international, national, regional and local conditions.
3. Changes in the nature and volume of the portfolio and terms of loans.
4. Changes in the experience, depth and ability of lending management.
5. Changes in the volume and severity of past due loans and other similar conditions.
6. Changes in the quality of the organization'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 levels of such concentrations.
9. The effect of other external factors (i.e. competition, legal and regulatory requirements) on the level of estimated credit losses.

While you may not choose to utilize all nine of these recommended factors and may perhaps choose to supplement this list with other, unique factors determined to be appropriate to your institution, it is generally best practice to at least begin by considering any suggestions offered in available regulatory guidance.

DETERMINING **QUALITATIVE ADJUSTMENTS** (CONT.)

Second, identify key metrics or drivers behind each of your selected risk factors. For example, when considering "Changes in international, national, regional and local conditions," you may identify state and national unemployment rates, net change in those unemployment rates, number of new unemployment claims and/or state and national GDP growth rates as potential drivers behind adjustments for this individual risk factor. Once these drivers are identified, applicable and quantifiable market data is used and documented to determine the appropriate adjustments to the corresponding risk factor. Internal management reports can also be developed to track and support those drivers that may not have quantifiable, external data readily available.

Third, establish a default adjustment matrix supported by previous loss experience. Defining default rate adjustments within an established matrix promotes consistency in your adjustments from one period to the next.

Start by identifying a series of subjective determinations (e.g.; "same from prior period", "slight improvement/decline", "moderate improvement/decline", etc.) pertaining to movements in the underlying metrics/drivers. Then, each of these values would be assigned a rate-adjustment value (e.g.; "slight improvement" = a negative four (4) basis point adjustment). Thereafter, any future selection of "slight improvement" would result in the established default adjustment of (-.04). This matrix promotes consistency in the application of adjustments from one period to the next.

Change from Prior Period	Adjustment
Significant Improvement from Prior Period	-0.16
Improvement from Prior Period	-0.12
Moderate Improvement from Prior Period	-0.08
Slight Improvement from Prior Period	-0.04
Same Compared to Prior Period	0.00
Slight Decline from Prior Period	0.04
Moderate Decline from Prior Period	0.08
Decline from Prior Period	0.12
Significant Decline from Prior Period	0.16

DETERMINING **QUALITATIVE ADJUSTMENTS** (CONT.)

Fourth, ensure that all adjustments are always directionally consistent with the underlying economic data or the quantifiable evidence utilized to support the qualitative adjustments. For example, if unemployment rates increase and unemployment rates are identified as key drivers behind changes in economic conditions, the adjustment to that factor should result in an increase to qualitative reserve rates.

The 2006 Interagency Policy Statement expounds on this suggestion by advising:

> *"Changes in the level of the ALLL should be directionally consistent with changes in the factors, taken as a whole, that evidence credit losses, keeping in mind the characteristics of an institution's loan portfolio. For example, if declining credit quality trends relevant to the types of loans in an institution's portfolio are evident, the ALLL level as a percentage of the portfolio should generally increase, barring unusual charge-off activity. Similarly, if improving credit quality trends are evident, the ALLL level as a percentage of the portfolio should generally decrease."*[1]

Simply put, directional consistency validates that as drivers and factors change direction, an institution's qualitative rates change direction as well and in accordance with the proper correlation to the driver and factor. Documentation of sequential changes to factor rates, supported with driver graphs and/or measurements, ensures directional consistency has been maintained.

DETERMINING **QUALITATIVE ADJUSTMENTS** (CONT.)

Fifth, back-test as a method of validation. The utilization of back-testing allows management to test current assumptions or adjustments against actual historical experience, in an effort to utilize the results to add credibility when making those same assumptions or adjustments today. After all, as renowned NYSE trader William Gann taught, "The future is but a repetition of the past."

Determining appropriate qualitative/environmental adjustments is a subjective task at its core. This subjectivity has allowed examiners to target this area of financial institutions' ALLL calculations as weak points of historical loss rate calculations. These suggestions touch on a few of the ways you may add further objectivity to this otherwise subjective task.

CONCLUSION

FAS 5 (ASC 450-20) is not intended to provide a "one size fits all" model that mandates just how institutions must calculate appropriate loan and lease loss general reserve levels. Rather, FAS 5 provides guidance and parameters within which an institution may establish a defined methodology customized to its portfolio composition, historical loss experience and other influencing risk factors. Considering this latitude offered to each institution, it becomes all the more important for management to be cognizant of the various alternatives afforded them under the governing guidance, so that sound decisions can be made that are thoroughly substantiated, well documented and satisfying to auditors and examiners alike.

ABOUT **SAGEWORKS & THE AUTHOR**

Sageworks (www.sageworks.com) is a financial information company working with financial institutions, accountants and private-company executives across North America to collect and interpret financial information. Thousands of bankers rely on Sageworks' credit risk management solutions to streamline credit analysis, risk rating, portfolio stress testing, loan administration and ALLL calculation. Sageworks is also an industry thought leader, regularly publishing whitepapers and hosting webinars on topics important to bankers.

Sageworks ALLL is the premiere automated solution for estimating a financial institution's reserve. It helps bankers automate their ALLL process and increase consistency in their methodology, making it defensible to auditors and examiners. Sageworks' risk management consultants also assist clients with the implementation of their ALLL models and guidance interpretation. To find out more, visit www.sageworksanalyst.com.

Regan Camp is a senior risk management consultant at Sageworks, where he serves as a specialist in assisting financial institutions with accurately interpreting and applying federal accounting guidance. Regan's primary focus is allowance for loan and lease loss provisions (ALLL) and stress testing loan portfolios.
Prior to joining Sageworks, he served as a commercial lender and has performed in various consulting capacities at Deloitte & Touche, L.P. and Dittrich & Associates LLC, where he assisted financial institutions in the administration of FDIC Loss Share Agreements, managed the establishment of special asset divisions and the resolution of troubled portfolios, in addition to representing the FDIC in overseeing the day to day operations and eventual liquidations of failed financial institutions. Prior to his consulting work, Regan served as a Commercial Loan Officer at a $2.1 billion lending institution. Regan is a magna cum laude graduate of Brigham Young University's Marriott School of Business, where he studied business management and finance.

ADDITIONAL **RESOURCES**

"ALLL Glossary," *Sageworks.*

http://web.sageworks.com/alll-glossary/

Bayer, Ed and Regan Camp, "Qualitative Risk Factors: How to Add Objectivity to an Otherwise Subjective Task," *Sageworks.*

http://web.sageworks.com/qualitative-risk-factors/

Lubansky, Mike, "Challenges in the Estimation of the ALLL," *Sageworks.*

http://web.sageworks.com/alll-challenges-whitepaper/

"Three Quarter-End ALLL Challenges," *Sageworks.*

http://www.sageworks.com/blog/post/2013/04/05/three-quarter-end-alll-challenges.aspx

"ALLL 101: Infographic on Calculating a Bank's Reserves," *Sageworks.*

http://www.sageworks.com/blog/post/2013/02/18/ALLL-101-Calculating-a-banks-reserves.aspx

ENDNOTES

[1] "Interagency Policy Statement on the Allowance for Loan and Lease Losses." Federal Reserve System. 13 Dec. 2006. Web. Accessed 28 Aug 2013. www.federalreserve.gov/boarddocs/srletters/2006/SR0617a1.pdf.

[2] "Three Steps to Effectively Evaluating Your Pool Loans Methodology in the Estimation of the ALLL." Sageworks. 5 Jun. 2011 Web. Accessed 28 Aug 2013. http://www.sageworks.com/blog/post/2011/05/25/Three-Steps-to-Effectively-Evaluating-your-Pooled-Loans-Methodology-in-the-Estimation-of-the-ALLL.aspx.

[3] "FDIC Financial Institution Letter (FIL--105--2006)." 13 Dec. 2006.

[4] Gleason, John W. "How to Make Migration Analysis Work for You." Journal of Commercial Lending Vol. 77, No. 3. Nov. 1994. Web. Accessed 29 Aug 2013. http://www.questia.com/library/1G1-16469396/how-to-make-migration-analysis-work-for-you#articleDetails