

# BENEFITS OF SEGMENTATION IN THE ALL & RISK MANAGEMENT

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## EXECUTIVE SUMMARY

**B** is about risk management, which starts with a comprehensive understanding of the portfolio. For any institution with extensive lending capabilities, an appropriate loan-portfolio segmentation strategy enables the institution to quickly identify underlying risk behaviors that drive risk within the portfolio. To understand that risk, bankers look at segments of the portfolio to monitor performance over time. Using those segments, the institution can then fully evaluate the underlying causes that may be driving loss and subsequently adjust underwriting strategies on certain product lines. Additionally, the institution can dig further to understand the average time between a loss event and the time when a problem was initially identified (loss-emergence period).<sup>1</sup>

# INTRODUCTION

*“ . . All banks [should] have the capacity to analyze the potential impact of adverse outcomes on their financial condition in order to establish and support risk appetites and tolerances, set concentration limits, adjust strategies, and appropriately plan for and maintain adequate capital levels.”<sup>2</sup>*

Historically, many institutions have segmented their portfolio in conjunction with the ALLL process. But the benefits of loan portfolio segmentation extend much further than just identifying FAS 5 pools:

1. It provides a reasonable way for institutions to identify key vulnerabilities and subsequently, assess how to manage those risks.<sup>1</sup>
2. It enables the institution to capture the unique behavioral characteristics that vary the degree of inherent risk or increase the likelihood of loss.<sup>3</sup>
3. It is necessary for accounting and proper management of the ALLL.
4. It is integral to stress testing concentrations and mitigating risk.

# WHY SEGMENT THE PORTFOLIO?

*“Effective management of the loan portfolio and the credit function is fundamental to a bank’s safety and soundness.”<sup>4</sup>*

The OCC’s 1997 Advisory Letter 97-3, *Credit Underwriting Standards and Portfolio Credit Risk Management*, recommends an institution’s risk management framework includes:<sup>3</sup>

- Board and management oversight
- **Portfolio management**
- Management information systems
- Market analysis
- Credit underwriting standards
- Portfolio stress testing and sensitivity analysis
- Credit risk review function

And, to achieve the second bullet, portfolio management, banks need systems in place that perform each of these functions:<sup>5</sup>

1. **Identifying.** Proper risk identification focuses on recognizing and understanding existing risks or risks that may arise from new business initiatives.
2. **Measuring.** Accurate and timely measurement of risk is a critical component of effective risk management.
3. **Controlling.** The bank should establish and communicate risk limits through policies, standards and/or procedures that define responsibility and authority.
4. **Monitoring.** Banks should monitor risk levels to ensure timely review of risk positions and of limit or policy exceptions.

# WHY SEGMENT THE PORTFOLIO? (CONT.)

The *identification* is the first step – the institution must first recognize risks before taking any further steps, and usually this credit risk is assessed during the initial underwriting process and typically again in the course of annual reviews.

Similarly, the identification and management of risk among *groups of loans* is a function that the OCC views to be “at least as important as the risk inherent in individual loans,” as it can provide additional insight that might otherwise be overlooked in the analysis of individual loans.<sup>4</sup>

Generally, borrowers in a segment exhibit similar, financial characteristics such as capital sources, repayment sources and balance sheet structure. So when viewed from a wider scope, risks that may seem minor on an individual-relationship level can become amplified when present in aggregate.

This aggregate view may make it easier for the bank to see big-picture risks before they cause individual loan losses.

The OCC states plainly that the institution must understand the “portfolio’s product mix, industry and geographic concentrations, average risk ratings, and other aggregate characteristics.”<sup>4</sup> Thus, the institution’s management can evaluate those risks in accordance with the bank’s overall loan portfolio management strategy, portfolio objectives and risk tolerances.

Indeed, a bank’s safety and soundness are contingent upon effectively identifying and managing its risk exposures.<sup>5</sup>

# SEGMENTING THE PORTFOLIO: ASSEMBLING RISK POOLS

The extent of segmentation recommended for a bank or credit union depends on the size of the institution and the nature, scope and risk of its lending activities (new products, significant changes to underwriting, origination in new markets, etc.). Guidance suggests the loan portfolio should be segmented into homogenous pools based on similar attributes, “stratifying the portfolio into segments that have common risk characteristics or sensitivities.”<sup>3</sup>

But, be sure that the segmentation reflects the segmentation risk within *your* institution’s portfolio. Segmentation strategy should be tailored to each institution to address its specific circumstances and needs.

When segmenting the portfolio, a good starting point is the FDIC call code segmentation (commonly called the Federal Call Code). While it provides some direction, the Federal Call Code may not be granular enough for a thorough evaluation of the portfolio. And more importantly, it may not represent *your* institution’s portfolio adequately if, for example, loans within one Call Code are spread throughout many different geographic regions.

When choosing to use a segmentation other than the Federal Call Code, institutions will typically segment based on loan type, collateral code or other more metrics. But the concern here can be using too broad of classifications – for example, Consumer, Real Estate and Commercial. This level of segmentation is inadequate and often too general to reveal much about that segment’s risk.

# SEGMENTING THE PORTFOLIO: ASSEMBLING RISK POOLS (CONT.)

The FASB 2010 Accounting Standards Updates instruct institutions to use at least two levels of disaggregation for their pools.<sup>6</sup> A third level, such as Risk Rating or Risk Grade Level is preferred. It is easy to start broad, then sub-segment based upon portfolio composition. The segmentation sample below starts with the portfolio segment, then moves to a class level. The third level is the measurement attribute, usually classified by Risk Grade or [Risk Rating](#). With respect to Consumer loans, delinquency ranges can be used (0-29 days past due; 30-59; 60-89; 90+) as the measurement attribute.

**Figure 1: Example Portfolio Segmentation**

Portfolio Segment	Portfolio Segment	Class Segment	Measurement Attribute
Real Estate	Commercial Real Estate	Commercial RE - Office Bldg	Commercial RE - Office Bldg - Pass Commercial RE - Office Bldg - Watch Commercial RE - Office Bldg - Special Mention Commercial RE - Office Bldg - Substandard
		Commercial RE - Retail	Commercial RE - Retail - Pass Commercial RE - Retail - Watch Commercial RE - Retail - Special Mention Commercial RE - Retail - Substandard
	Residential Real Estate	Residential RE - 1-4 Single Family	Residential RE - 1-4 Single Family - 1-4 (Pass) Residential RE - 1-4 Single Family - 5 (Watch) Residential RE - 1-4 Single Family - 6 (Special Mention) Residential RE - 1-4 Single Family - 7 (Substandard)
		Residential RE - Multi-Family	Residential RE - Multi-Family - 1-4 (Pass) Residential RE - Multi-Family - 5 (Watch) Residential RE - Multi-Family - 6 (Special Mention) Residential RE - Multi-Family - 7 (Substandard)
	Construction & Development		
Commercial & Industrial			
Consumer			



# SEGMENTATION IN THE ALLOWANCE FOR LOAN AND LEASE LOSSES

## ADDITIONAL RESOURCE:

Video:

[How much should you segment your FAS 5 \(ASC 450-20\) pools?](#)

## ADDITIONAL RESOURCE:

[Implementing Migration Analysis for the ALLL?](#)

Within the ALLL, segmentation is primarily used in accordance with guidance on the ASC 450-20 or, as it has been more commonly referred, the FAS 5.

The historical loss experience is applied to each pool to calculate the required reserve. Segmenting the portfolio properly will ensure that the loss experience is applied appropriately in conjunction with the estimation of the loss reserves.

Similarly, qualitative risk factor adjustments are typically made at the pool-level, specific to that pool's experience. Considering market information, any of the markers (such as economic trends, unemployment rates, housing statistics) used in evaluating the nine recommended factors from the Interagency Guidance can have a host of interpretations, each with specific applications to different loan types.<sup>7</sup> Quantitative and qualitative factor evaluations should be specific to the appropriate segmented pools.

Institutions seeking to further improve their ALLL can change from historical loss to [migration analysis](#), which requires extensive segmentation of the portfolio but offers a more robust calculation. Without granularity in the pools, institutions will struggle to get an accurate picture of how an existing portfolio would migrate to loss. It is possible, however, to over-segment; be careful that the segmentation does not become so granular that statistical relevance is compromised.

The biggest challenge in migration analysis is gathering enough data: a minimum of four quarters with a structured data-collection process. However, institutions that extensively segment their portfolios and adopt this loss methodology benefit from a more granular view into sub-segmented pools and, most likely, a more accurate allowance than using the historical loss methodology.

# SEGMENTATION IN STRESS TESTING

The benefits of segmentation extend to stress testing as well. For stress testing, an institution will typically use the pools constructed in conjunction with the ASC 450 (FAS 5) ALLL methodology, but additional considerations and factors should be added.

Segmentations are starting points to use in creating concentration stress tests. The primary objective of the stress test is to identify areas of potential vulnerability (segments, individual loans), which empowers the bank to assess and manage concentration risk reserve needs and capital adequacy.

The goal is to better understand where the loan portfolio may be overexposed in terms of concentration, either in type of real estate, geography or other factors.

Different types of [CRE lending present different levels of risk](#). For example, a well-structured multifamily housing loan is less risky when compared to a speculative office space construction loan.<sup>1</sup> Similarly, holdings outside of a bank's local market create additional risk, so supplementary factors such as Metropolitan Statistical Areas (MSAs) stats can be included in the analysis and narrative report that is created to [show stress results to the Board](#) and management. For more information on the mechanics and benefits of stress testing, download resources from the [Sageworks Whitepaper Library](#).

## ADDITIONAL RESOURCE:

[The Basics of the  
Stress Test](#)

# CONCLUSION

All banking organizations, regardless of size, should have the capacity to analyze their loan portfolios. The sophistication of the framework should be commensurate with the size, complexity and risk characteristics of the bank's loan portfolio.

An institution may use different classifications to identify a loan and break down the portfolio for risk management analysis, so segmentation of the portfolio is the first step in identifying and assessing risks within the portfolio. The institution can benefit from choosing a segmentation strategy that fits with the institution's unique loan profile, granularly segments the loans and still maintains significance in the pools' balances.

When risks are discovered to be out of line with the institution's objectives, management may then develop strategies for reducing, diversifying or otherwise mitigating the associated risks.

## TAKEAWAYS:

1. Avoid pools that are too broadly segmented.
2. Segments should accurately reflect the risk for the institution's portfolio.
3. The Federal Call Code is a good start, but consider segmentation that is more appropriate to your institution.
4. Two levels of disaggregation is good; three is better.

# ENDNOTES

<sup>1</sup> Allowance for Loan and Lease Losses (ALLL): Loss Discovery Periods; Grant Thornton (<https://www.grantthornton.com/~media/content-page-files/financial-services/pdfs/2013/BIS/ALLL-Loss-Discovery-Period-Whitepaper-Second.ashx>)

<sup>2</sup> Community Bank Stress Testing: Supervisory Guidance (Bulletin OCC 2012-33); The Office of the Comptroller of the Currency (<http://www.occ.gov/news-issuances/bulletins/2012/bulletin-2012-33.html>)

<sup>3</sup> Qualitative Factors and the Allowance for Loan and Lease Losses in Community Banks; Federal Reserve Bank of Philadelphia. Sharon Wells (examiner) and Trevor Gaskins (Asst examiner); 4th Qtr 2010

<sup>4</sup> Comptroller's Handbook, Loan Portfolio Management; The Office of the Comptroller of the Currency; April 1998

<sup>5</sup> The Director's Book. The Role of a National Bank Director; The Office of the Comptroller of the Currency; March 1997

<sup>6</sup> FASB 2010 Accounting Standards Updates (ASU 2010-20); July 2010 ([http://www.fasb.org/jsp/FASB/Document\\_C/DocumentPage?cid=1176157125490&acceptedDisclaimer=true](http://www.fasb.org/jsp/FASB/Document_C/DocumentPage?cid=1176157125490&acceptedDisclaimer=true))

<sup>7</sup> 2006 Interagency Policy Statement on the Allowance for Loan and Lease Losses; Office of the Comptroller of the Currency, Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, National Credit Union Administration, Office of Thrift Supervision (<http://www.federalreserve.gov/boarddocs/srletters/2006/SR0617a1.pdf>)

# ADDITIONAL RESOURCES

“e-Book: The Complete Guide to the ALLL,” *Sageworks*.

<http://web.sageworks.com/complete-guide-ALLL-reserves/>

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/>

Camp, Regan, “How to Calculate Your FAS 5 Reserves,” *Sageworks*.

<http://web.sageworks.com/calculate-fas-5-asc-450-20-reserves/>

ALLL Forum for Bankers, *LinkedIn*.

<http://www.linkedin.com/groups?gid=4844399>

“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>

# ABOUT SAGEWORKS & THE AUTHOR

[Sageworks](#) is a financial information company that works with financial institutions, accountants and private-company executives across North America to collect and interpret financial information. Sageworks provides a web-based suite of solutions to streamline credit analysis, risk rating, [portfolio stress testing](#), loan administration and [ALLL calculation](#).

## **Sageworks ALLL**

[Sageworks ALLL](#) is an automated solution for calculating and documenting the allowance calculation. It helps bankers automate their ALLL process and add consistency to their methodology, making it defensible to auditors and examiners. To find out more, visit [www.sageworksanalyst.com](http://www.sageworksanalyst.com).



**Chuck Nwokocho** is a senior risk management consultant at Sageworks, where he advises financial institutions on risk and portfolio management. Chuck primarily focuses on the Allowance for Loan and Lease Losses (ALLL), stress testing, and loan portfolio administration.

Prior to joining Sageworks in 2011, he founded and ran two e-commerce sites, Ndekanyi.com and SwapU.com.

Additionally, he spent nine years with Guardsmark, a private security services company, where he managed and developed security programs to mitigate risk and reduce fraud for companies such as Charles Schwab. He received his bachelor's degree from Harvard University.