

# MIGRATION ANALYSIS: **THE WAY FORWARD FOR AN EFFECTIVE ALL**

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## EXECUTIVE SUMMARY

Migration analysis proves to be the most holistic methodology for calculating an institution's allowance for loan and lease losses (ALLL); however, it is widely underutilized in today's landscape. Institutions mention the complexity of the calculation along with the resources it demands (e.g., IT, personnel, data) among the reasons for electing alternative methodologies such as historical loss rates over migration analysis to [determine an appropriate loss rate](#).

# INTRODUCTION

AVAILABLE  
ON-DEMAND  
WEBINARS:

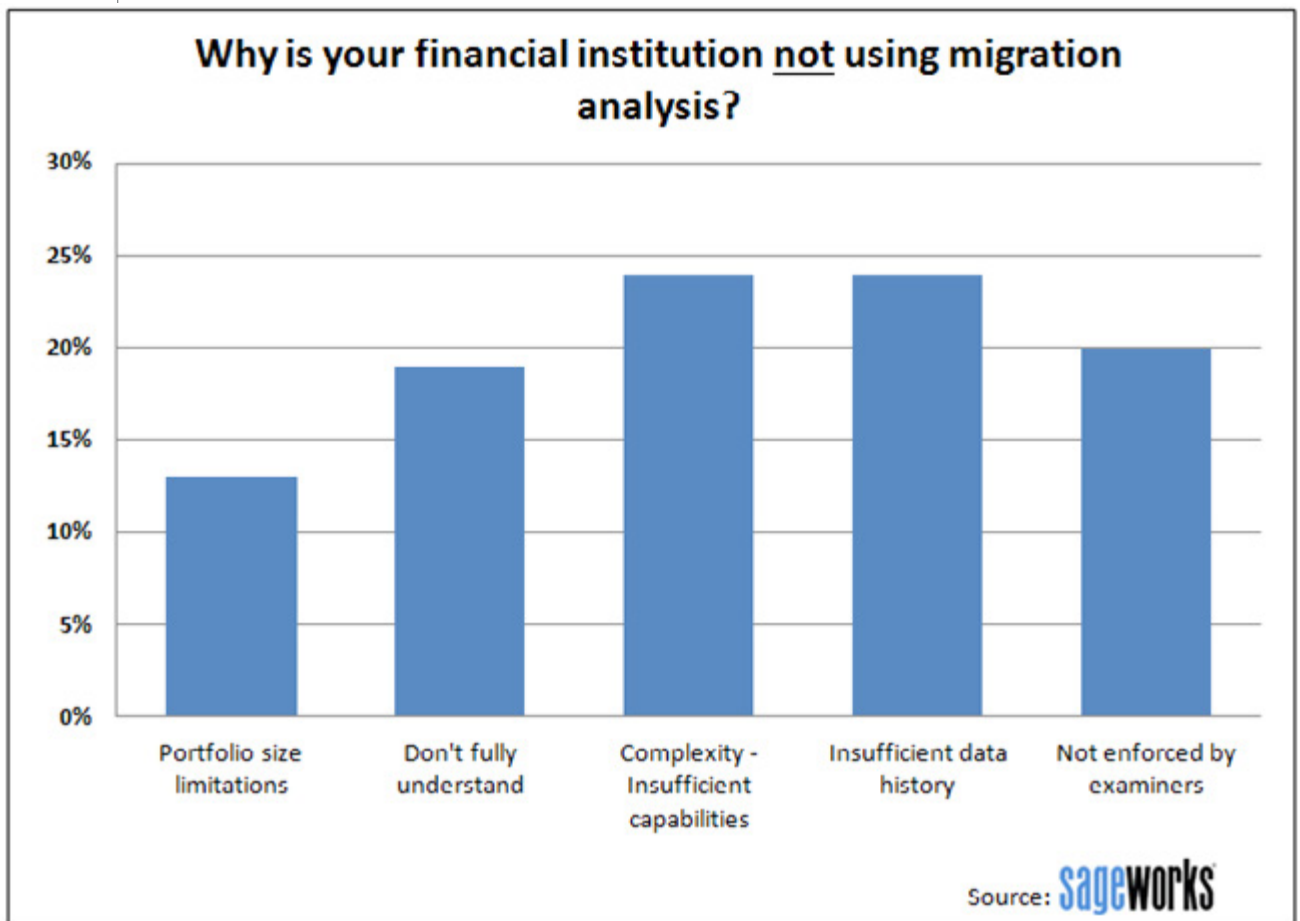
- [Migration Analysis: The Way Forward for an Effective ALLL](#)
- [Backtesting your ALLL Methodology](#)

Despite the challenges implementation can present, migration analysis is one of the more comprehensive methods used to determine historical loss when evaluating pools of loans. The analysis requires extensive and accurate data collection at loan level in order to track the migration of loans to charge-off. For proper analysis, the loan portfolio should be segmented into homogenous pools (e.g. Federal Call Code, geographic region, loan type, etc.) and then sub-segmented by risk classification or delinquency ranges.

Migration analysis of an institution's loans is a granular exercise that can provide a more accurate and appropriate FAS 5 loss rate. Migration analysis can also help management better understand its loan portfolio and equip the institution for evolving regulatory guidelines. From this paper, bank management can gain a better understanding of the challenges that coincide with the adoption of migration analysis as well as the benefits and steps that make implementation feasible.

# WHY BANKS DON'T USE MIGRATION ANALYSIS

Implementing migration analysis can be a very challenging task for many institutions. Obstacles to implementation include insufficient loss history and inadequate portfolio size. Moreover, the complex and resource-intensive nature of the analysis can be daunting for institutions dependent upon Microsoft Excel to perform their calculation. Other reasons cited in a recent survey include examiner leniency and poor understanding of the analysis.



*This poll was conducted during a [Sageworks webinar](#) held in August 2013 with more than 100 bankers responding.*

# WHY BANKS DON'T USE **MIGRATION ANALYSIS** (CONT.)

Calculating historical loss rates using migration analysis requires an extensive volume of historical data. According to the OCC, “If the migration analysis is being done on a fixed pool of loans, the analysis time frame should cover the resolution of all loans in the pool (i.e., the time period over which the loans are paid off, returned to performing status, or charged off). If it is a rolling analysis, the analysis time frame typically covers a much longer period.”<sup>1</sup> De novo banks, then, will not have [sufficient data compiled](#) to employ the migration analysis method. Similarly, banks and credit unions that have anemic data archives will not be able to meet requirements.

Similarly, institutions with [fewer loans in their portfolio](#) may not be able to create representative samples for migration analysis. The pool size may be insufficient to average out any anomalies that may exist in each loan bucket, which can distort the historic loss rate calculated. Consequently, newer and smaller institutions will be ill-equipped to perform migration analysis on their FAS 5 pooled loans.

One of the most common reasons financial institutions do not employ migration analysis, however, is the complex and resource-intensive nature of the process. The personnel, technology and data demands of migration analysis can be overwhelming for many institutions, especially those presently relying on legacy spreadsheets to complete their calculation.

To properly execute migration analysis, an institution must segment beyond its traditional pools and look into the risk classification within each pool. The [data fields required](#) to complete the analysis for each migration period include

# WHY BANKS DON'T USE MIGRATION ANALYSIS (CONT.)

Customer Name	Charge-Off Date
Loan Number	Charge-Off Amount
Loan Segmentation	Risk Classification
Loan Balance	Delinquency Rates

Below is an example of migration analysis looking at a bank's C&I Pass, Special Mention and Substandard rated loans. The analysis covers one historical period spanning eight quarters. The calculation accounts for the net charge-offs against the beginning balance in Q3 2010. Only the beginning loan balance and the net charge-offs stemming from that quarter's loan portfolio are measured. Increases to the loan balance and additional net charge-off do not impact the migration calculation.

Migration Analysis										
<b>C&amp;I - Pass</b>	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	TOTALS	
Net Charge Offs		2	3	1	2		3	1	12	
Starting Loan Balance	150	150	153	157	162	169	179	189	150	
Additional Loan Balance		5	8	8	11	11	13	16		Migration = 0.08
Additional Net Charge Offs			1	2	2	1		2	8	
Ending Loan Balance	150	153	157	162	169	179	189	202	170.125	
<b>C&amp;I - Special Mention</b>	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	TOTALS	
Net Charge Offs	0.5	1	1			2	1.5	1	7	
Starting Loan Balance	50	49.5	49.5	50	53.5	58.5	61.5	68	50	
Additional Loan Balance		1	2	5	5	6	8	9		Migration = 0.14
Additional Net Charge Offs			0.5	1.5		1		1	4	
Ending Loan Balance	49.5	49.5	50	53.5	58.5	61.5	68	75	58.1875	
<b>C&amp;I - Substandard</b>	Q3 2010	Q4 2010	Q1 2011	Q2 2011	Q3 2011	Q4 2011	Q1 2012	Q2 2012	TOTALS	
Net Charge Offs		2	2	1		1	2	1	9	
Starting Loan Balance	25	25	24	23	23	27	28	32	25	
Additional Loan Balance		1	1	2	4	4	6	7		Migration = 0.36
Additional Net Charge Offs				1		2		1	4	
Ending Loan Balance	25	24	23	23	27	28	32	37	27.375	

# WHY BANKS DON'T USE **MIGRATION ANALYSIS** (CONT.)

The OCC has recognized the difficulty institutions may face in trying to implement more advanced historical loss experience calculations and has stated, “The method a bank uses [to calculate its historical loss rate] will depend to a large degree upon the capabilities of its information system.”<sup>2</sup>

Institutions traditionally dependent on Microsoft Excel have found it easier to avoid the complex and data-intensive approach of migration analysis. This may change, however, as the increasing availability of more advanced information systems paired with the push for more comprehensive historical loss experience calculations is [ramping up pressure on institutions](#) to use more advanced techniques to calculate loss rates.



# WHY BANKS SHOULD USE MIGRATION ANALYSIS

While the implementation of migration analysis can be a tough hurdle for many institutions, those that deploy the technique can obtain a more comprehensive and accurate measure of their reserve. By evaluating their pooled loan segments at the risk rating level, for example, and tracking the migration of those loans through time, management will better understand how their loans have performed in each segment over time and calculate a more accurate loss rate.

Utilizing migration analysis forces institutions to properly track and adjust for risk rating changes in its loan portfolio. Therefore, making risk rating adjustments in a prompt manner is critical to the proper execution of migration analysis. [Examiners are consistently pushing](#) for exhaustive documentation behind each institution's calculations, and adopting migration analysis can be helpful in this cause. Using this methodology makes the allowance more defensible and can help institutions stave off bad exams.

Furthermore, the additional insight gained by evaluating loans on a more granular level will allow management to better understand the portfolio: how it is changing over time, the performance of certain segments versus others, data collection lapses within the portfolio, etc. Equipped with this added understanding into the nature of the portfolio, migration analysis can help guide management decision making.

Additionally, an institution that employs migration analysis will be better equipped to comply with evolving regulatory requirements such as [current expected credit losses \(CECL\) model](#). The proposed model would require institutions to move from projecting current losses to projecting future losses. The new model will place added pressure on institutions' data collection and tracking.

# STEPS TO IMPLEMENTATION

Successful implementation of migration analysis requires several, initial steps. The first step is to ensure proper data collection, which includes the careful and consistent application of the institution's [risk rating methodology](#). As noted earlier, the loan portfolio must first be segmented into homogenous pools and then sub-segmented by risk classification or delinquency status. It is critical that the loan risk classifications are updated promptly on an ongoing basis.

Once the proper systems and procedures are in place for data capture and retention, institutions can calculate their historical loss rates using migration analysis for the appropriate time period. The time period utilized in the analysis will vary by institution, and different weights may be assigned to each migration period according to management's judgment. Nonetheless, it is critical to refer to and follow guidance when forming a methodology and executing the calculation.

Lastly, it is extremely important to document the procedures in place for executing the analysis. From data retention to the actual calculation, it is vital to have the ability to defend the analysis and each assumption therein. This is especially important for the more subjective components of the calculation such as weighting the migration periods.

# CONCLUSION

Though it may prove initially challenging for financial institutions to make the transition from existing methodologies to migration analysis for the aforementioned reasons, the [benefits](#) may far outweigh the initial intricacies. Once a financial institution has substantive data and procedures in place to conduct migration analysis, it will be met with a more holistic and defensible ALLL calculation, a better understanding of its loan portfolio with more insight for management decisions and increased readiness to remain compliant despite an ever-changing regulatory landscape.

# ABOUT SAGEWORKS & THE AUTHOR

Sageworks ([www.sageworks.com](http://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



[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](http://www.sageworksanalyst.com).

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# 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

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<sup>1</sup> Comptroller's Handbook: Allowance for Loan and Lease Losses. The Office of the Comptroller of the Currency. June 1996 – May 1998.

<sup>2</sup> Comptroller's Handbook: Allowance for Loan and Lease Losses.