

COMPILING THE BEST DATA FOR **THE RESERVE CALCULATION**



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INTRODUCTION

The [2006 Interagency Policy Statement](#) articulates:

The ALLL represents one of the most significant estimates in an institution's financial statements and regulatory reports... each institution has a responsibility for developing, maintaining, and documenting a comprehensive, systematic, and consistently applied process for determining the amounts of the ALLL and the provision for loan and lease losses.¹

As this calculation is so imperative to a bank or credit union's success, the data collected that drives this calculation is paramount, and data collection for the ALLL is one of the [biggest challenges](#) banks and credit unions face when working on the reserve.

INTRODUCTION (CONT.)

Some of the most important data collection elements within the ALLL are:

- Loan portfolio information
- Collateral valuations and loan data for [FAS 114 \(ASC 310-10-35\) calculations](#)
- Historical loss data for [FAS 5 \(ASC 450-20\) calculations](#)
- Supporting data for qualitative adjustments to FAS 5 calculations

It's clear the volume and range of data needed for the monthly or quarterly calculation can make the allowance estimation process extremely cumbersome and sometimes error-prone. If a bank or credit union can develop a process to efficiently manage or automate data collection, the monthly or quarterly reserve allowance becomes much easier to calculate and document. In this paper, we will look at those data elements in detail and how they impact the allowance for loan and lease losses estimate.

E-BOOK:

For a comprehensive reference of the ALLL reserve estimation process, download the e-Book:

[The Complete Guide to the ALLL](#)

LOAN PORTFOLIO INFORMATION

WHITEPAPER:
Regulator Concerns
with Spreadsheets
in Risk Management

[Access the
Whitepaper](#)

Obtaining loan portfolio information and keeping this data updated can be both time consuming and difficult, but the information is very important to a bank's ALLL calculation. The amount of data available in an institutions' loan processing or core system that can be utilized for the allowance can be quite comprehensive; however, it can be difficult to extract the data for the allowance unless the process is automated.

Loan portfolio data for the ALLL can be separated as portfolio-level or loan-level information.

Portfolio-level data:

- Segmenting data into homogeneous pools – for reporting and FAS 5 calculations
- Identifying appropriate loan balances for each pool (monthly and quarterly)
- Identifying FAS 114 and FAS 5 loans from each pool
- Sub-segmenting data for risk level, risk rating, or delinquency, if appropriate for the portfolio

Having access to this data from the institution's loan processing system helps streamline and reduce error in many processes of the ALLL calculation. For example, guidance requires a bank to reconcile to the general ledger before performing and documenting the reserve calculation.²

In the following example, each portfolio concentration (defined by product code) shows the respective loan balance and reserve amounts.

LOAN PORTFOLIO INFORMATION (CONT.)

Product Code	Total Loan Balance	FAS 114 (ASC 310-10-35)	FAS 5 (ASC 450-20)	Other	Total Reserve
COMMERCIAL (494)	\$127,993,502.44	\$14,822,901.06	\$113,170,578.36	\$23.02	\$ 2,870,299.49
CONSUMER (566)	\$3,377,304.74	\$65,399.86	\$3,311,904.88	\$0.00	\$ 27,231.29
CRE-HEALTHCARE (53)	\$66,131,678.45	\$14,270,076.07	\$51,861,602.38	\$0.00	\$ 776,195.59
CRE-OFFICE (31)	\$35,741,643.39	\$1,302,483.85	\$34,439,159.54	\$0.00	\$ 600,550.06
CRE OTHER (368)	\$153,303,158.43	\$2,480,538.41	\$150,822,620.02	\$0.00	\$ 2,867,793.33
CRE-RETAIL (38)	\$92,656,156.01	\$4,695,796.24	\$87,960,359.77	\$0.00	\$ 1,533,852.75
FRANCHISE (84)	\$45,309,079.46	\$3,603,621.33	\$41,705,458.13	\$0.00	\$ 1,003,444.94
GROCERY (64)	\$44,504,758.26	\$2,353,974.76	\$42,150,783.50	\$0.00	\$ 1,821,101.26
HARDWARE (61)	\$37,806,439.03	\$11,314,687.36	\$26,491,751.67	\$0.00	\$ 3,630,912.96
HELOC (630)	\$27,755,107.21	\$87,940.35	\$27,667,166.86	\$0.00	\$ 249,419.51
MULTIFAMILY (1355)	\$253,082,489.74	\$799,811.48	\$252,282,678.26	\$0.00	\$ 2,569,122.04
NON-PROFIT (34)	\$55,572,112.14	\$0.00	\$52,911,792.08	\$2,660,320.06	\$ 883,715.13
SBA (203)	\$30,647,661.66	\$820,473.38	\$29,255,864.58	\$571,323.70	\$ 768,297.28
SINGLEFAMILY (1569)	\$317,842,140.14	\$929,988.37	\$316,912,151.77	\$0.00	\$ 5,802,816.33
Unknown (2)	\$1,308,188.00	\$0.00	\$0.00	\$1,308,188.00	\$ 0.00
Total:	\$ 1,293,031,419.10	\$ 57,547,692.52	\$ 1,230,943,871.80	\$ 4,539,854.78	\$ 25,404,751.96

Loan-level data:

For each borrower of the bank, the ALLL may require the following data points:

- Loan number, current loan balance, loan officer, risk rating, LTV percentage, amortization days, origination date, maturity date, payment type, monthly payment, interest rate, remaining term, TDR Status, Nonaccrual Status, payment delinquencies, accrued interest, unamortized premiums or discounts, net deferred fees or costs, government guarantees, guaranteed percentage, guaranteed amount.

Not all of these data points will be essential for all loans, but the more data available, the easier it will be to calculate the reserve and to report on it. Other data items besides those listed above can also be utilized in effective reporting on the allowance to various constituencies.

DID YOU KNOW?

[Sageworks ALLL](#)

collects and archives loan level data for each financial institution client.

LOAN PORTFOLIO INFORMATION (CONT.)

Primary	Codes	Other	Comments
Loan Number	275314500-10	Origination Date	09/13/2007
Loan Amount	\$ 5,796,925.00	Maturity Date	10/01/2014
Current Balance	\$ 5,801,151.03	Payment Type	Line of Credit <input type="text"/>
Latest Payment	01/08/2008	Current Available Credit	\$ 0.00
Original Term	0	Monthly Payment	\$ 0.00
Loan Officer	Dagny Taggart <input type="text"/>	Interest Rate	7.25%
Risk Rating	6	Remaining Term	39
Watch List	Yes <input type="text"/>	TDR	No <input type="text"/>
LTV	0%	Non Accrual	No <input type="text"/>
Amortization Days	360 <input type="text"/>	Category	<input type="text"/>

Primary	Codes	Other	Comments
Times Past Due 30-60	0	Default Start Date	
Times Past Due 60-90	0	Refinance	No <input type="text"/>
Times Past Due 90+	0	Covenant Compliant	Yes <input type="text"/>
Days Currently Past Due	0	Condition of Loan	<input type="text"/>
Fees	\$ 0	Purpose	7451
Name/Description	Hurley Electric Company	Debt Seniority	<input type="text"/>
Points	4.00	Interest Rate Variable	No <input type="text"/>
Foreign Transfer Risk	No <input type="text"/>	Postal Code	33161
Charged Off Amount	\$ 0.00	Accrued Interest	\$ 72,380.00
Recovered Amount	\$ 0.00	Unamortized Premium or Discount	\$ 0.00
FAS Code	FAS 5 (ASC 450-20 <input type="text"/>	Net Deferred Loan Fees or Costs	\$ 4,226.00
Government Guaranteed	Yes <input type="text"/>		
Government Guaranteed			
Guaranteed Percent	0.00%	Guaranteed Amount	\$ 0.00

LOAN PORTFOLIO INFORMATION (CONT.)

In terms of data collection and analysis, a significant amount of time and attention are required to classify the bank's loans into either the FAS 114 or FAS 5 buckets. Having access to pertinent loan-level data and documenting why certain loans were identified in either bucket will increase the defensibility of the institution's overall ALLL approach. A loan's risk rating, TDR status, Nonaccrual Status, payment delinquency, etc. are all measurable and valid objectives to incorporate into the loan classification process. Similarly, FAS 5 calculations will become less burdensome if loan-level data can be aggregated by pool and easily updated.

COLLATERAL VALUATIONS

Measuring impairment based on the Fair Market Value of Collateral is the most commonly used valuation method for calculating [impairment for FAS 114 loans](#). These loans are and should be considered collateral-dependent, meaning that it is expected that repayment of the loans will be derived from the sale or operation of the collateral.³

The [Fair Market Value of Collateral](#), however, is reliant upon up to date and accurate appraisal information. Therefore, these appraisal values should be updated as often as possible. In fact, guidance states that collateral should be updated at least on a yearly basis to get the most current appraisal information for the FAS 114 assessment.⁴ Documentation for these appraisals should also detail appraisal source, appraisal date, original value, appraisal value, appraisal discount rates, and any selling costs associated with the collateral for the FAS 114 impairment analysis.

Leslie Schlanger, assistant vice president of the [Community Bank of Bergen County](#) where she specializes in the bank's ALLL calculation, commented, "An institution should always ensure this information is as current as possible when measuring the collateral deficiency as part of the reserve calculation. Not having the most updated collateral valuation would be detrimental to the institution's accuracy of the reserve and would certainly raise red flags with examiners."

Appraisal Value	Appraisal Adjustment	Current Value	Prior Liens	Equity	Selling Costs	Fair Value	Appraisal Date
\$ 910,000.00	20.00%	\$ 728,000.00	\$0.00	\$728,000.00	\$176,192.20	\$ 551,807.80	01/03/2012

Total Recorded Investment	Valuation Amount	Reserve Amount
\$ 498,090.58	\$ 551,807.80	\$ 0.00

HISTORICAL LOSS RATES

Historical loss rates significantly impact the reserve amount, when considering FAS 5 loan pools for impairment. Often these pools of loans make up a substantial portion of the bank or credit union's portfolio and reserve calculation, so gathering and accessing data for [historical loss rates](#) is vital to the success of the ALLL calculation.⁵

Most institutions will utilize one of two methods to calculate historical loss rates for their FAS 5 pools: the traditional historical loss rate calculation or [migration analysis](#).

Traditional Historical Loss Rates

$$\text{Loss Rate} = (\text{Charge-offs} - \text{Recoveries}) / \text{Average Loan Balance}$$

A traditional historical loss rate calculation is the more commonly used methodology for identifying FAS 5 pools' loss rates at community banks. These loss rates are typically assessed on a quarterly basis, often using an 8- or 12-quarter look-back period, although this will vary bank to bank, depending on what time horizon they deem to be appropriate.

Data needed for this assessment includes the total charge-offs and recoveries for each quarter that is incorporated into the bank's reserve. Banks and credit unions must ensure the person responsible for the ALLL can access accurate information that ties to the general ledger when calculating loss rates and verifying accuracy. The charge-offs and recoveries for each pool should be outlined for each time period and tied to loan level detail as illustrated in the following example.

HISTORICAL LOSS RATES (CONT.)

Historical Data				
<u>Period End Date</u>	<u>Total Loan Balance</u>	<u>Number of Loans</u>	<u>Charge-offs</u>	<u>Recoveries</u>
2/28/2013	\$124,493,479	490	\$0	\$0
1/31/2013	\$124,493,479	490	\$0	\$0
12/31/2012	\$124,493,479	490	\$0	\$0
10/31/2011	\$169,724,499	837	\$0	\$0
9/30/2011	\$169,724,499	837	\$0	\$0
8/31/2011	\$169,724,499	837	\$0	\$0
7/31/2011	\$169,724,499	837	\$0	\$0
6/30/2011	\$129,747,024	417	\$5,995	\$3,641
5/31/2011	\$132,613,425	427	\$0	\$42,413
4/30/2011	\$134,896,632	439	\$22,278	\$3,124
3/31/2011	\$133,196,797	440	\$0	\$8,001
2/28/2011	\$141,804,993	457	\$9,325	\$4,120
1/31/2011	\$143,143,454	477	\$0	\$25,640
12/31/2010	\$145,953,227	487	\$3,006,168	\$170,683
11/30/2010	\$161,698,286	498	\$947,923	\$5,855
10/31/2010	\$162,896,075	501	\$0	\$25,430
9/30/2010	\$166,032,744	516	\$1,356,853	\$14,183
8/31/2010	\$169,304,774	522	\$49,996	\$40,332
7/31/2010	\$169,842,763	531	\$101,390	\$91,377
6/30/2010	\$172,607,569	541	\$48,194	\$42,633
5/31/2010	\$177,021,798	553	\$0	\$2,095
4/30/2010	\$187,379,575	561	\$25,529	\$22,420
3/31/2010	\$195,244,328	571	\$48,545	\$16,750

Migration Analysis

[Migration analysis](#) is a more granular and analytical process for calculating FAS 5 loss rates than the traditional historical loss rate analysis.

This loss rate calculation uses loan-level metrics to track the migration of loans to charge-off from different classifications in order to generate the estimated

HISTORICAL LOSS RATES (CONT.)

POLL:

The most commonly cited reasons for not performing migration analysis are

- 1) Insufficient Data
- 2) Its Complexity

[See the Poll](#)

loss.⁶ Consequently, migration analysis can provide a more accurate and appropriate FAS 5 loss rate, but the data collection required for migration analysis is more data intensive and requires the bank to keep accurate risk ratings for each loan.

Below is an example of data needed for migration analysis. In this example, when examining the C&I Pass-rated loans in Q3 2010, we start with a loan balance of \$150 with no net charge-offs.⁶ The next quarter shows \$2 charged off. The calculation extends through 8 quarters, and we can assess that \$12 of net charge-offs are experienced against the original \$150 loan portfolio balances beginning in Q3 2010, giving us our 8 percent loss rate through the migration analysis. The idea here is to measure the migration to loss for a static group of loans in each risk classification and to use that measurement to apply a loss rate to the current balance of loans in that risk classification.

Migration Analysis										
C&I - Pass	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	150	150	150	150	150	150	150	Migration = 0.08
Additional Loan Balance		5	8	8	11	11	13	16		
Additional Net Charge-Offs			1	2	2	1		2	16	
Ending Loan Balance	150	153	154	155	157	160	160	163	156.5	
C&I - Special Mention	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	50	50	50	50	50	50	50	50	Migration = 0.14
Additional Loan Balance		1	2	5	5	6	8	9		
Additional Net Charge-Offs			0.5	1.5		1		1	4	
Ending Loan Balance	49.5	50	50.5	53.5	55	53	56.5	57	53.125	
C&I - Substandard	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	25	25	25	25	25	25	25	Migration = 0.36
Additional Loan Balance		1	1	2	4	4	6	7		
Additional Net Charge-Offs				1		2		1	4	
Ending Loan Balance	25	24	24	25	29	26	29	30	26.5	

SUPPORTING DOCUMENTATION FOR QUALITATIVE FACTORS

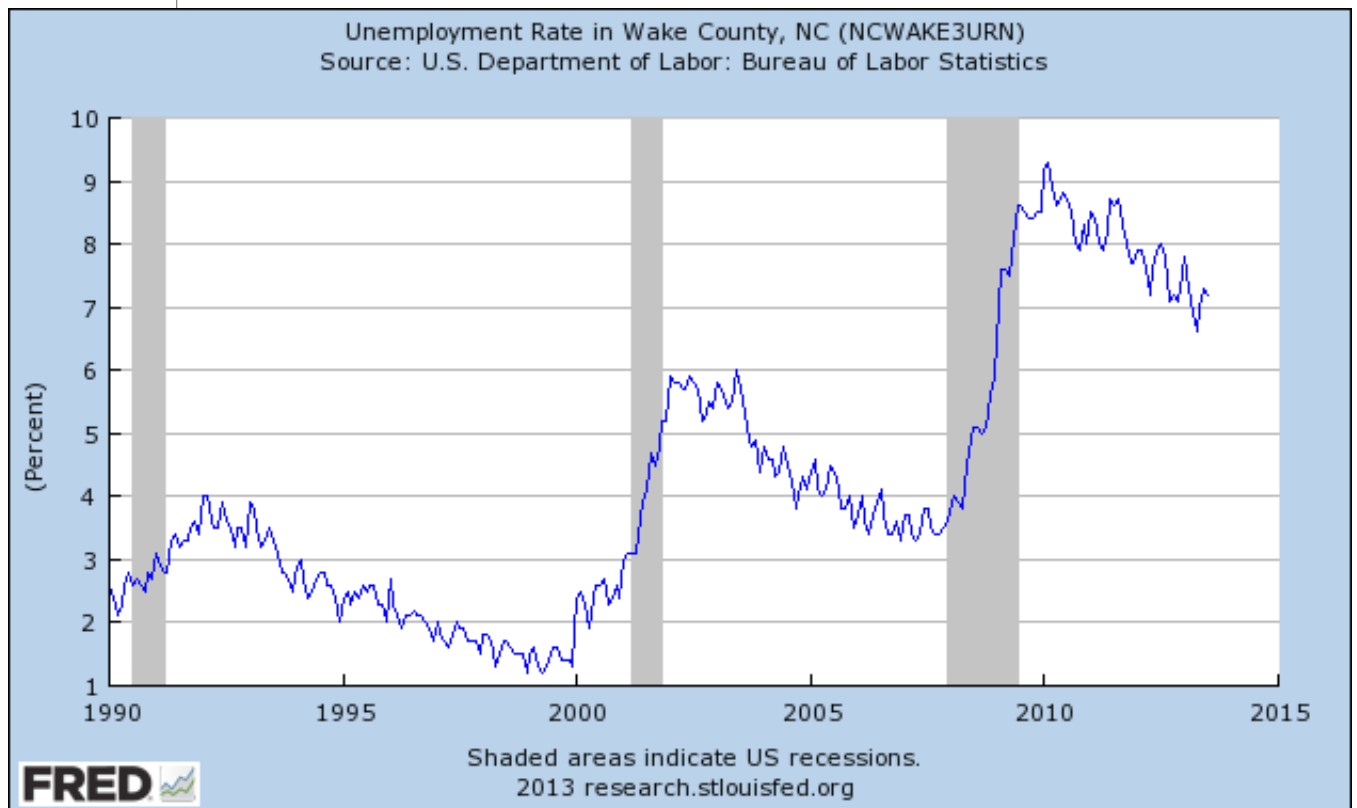
WHITEPAPER:

Qualitative Risk Factors: How to Add Objectivity to an Otherwise Subjective Task

[Download the Paper](#)

[Qualitative adjustments](#) to the FAS 5 reserve are often the most scrutinized area of a bank's ALLL calculation. These adjustments, in some cases, rely on subjective measures to adjust the historical loss rates, a practice frowned upon by examiners. Banks and credit unions should strive to make these adjustments as objective and directionally consistent as possible.

This is most easily achieved through data-driven and well-documented qualitative factors. This data should come from the institution's knowledge of a particular product type, loan type, etc. along with other driving factors identified in the 2006 Interagency Policy Statement.⁷



SUPPORTING DOCUMENTATION FOR QUALITATIVE FACTORS (CONT.)

FACT:

Users of [Sageworks ALLL](#) have direct access to FRED charts and graphs to support their qualitative factors.

Supporting documentation like the graph above from the Federal Reserve of Economic Data will increase the defensibility and consistency of the qualitative adjustments made to the ALLL. It will evidence how assumptions were derived and show consistency in these assumptions over time, if the bank uses the same data set period after period to show economic conditions, for example. When evaluating economic data such as this, it is important to note trends and any effects they may have on losses in the portfolio. It is also important to have detailed comments on the qualitative factors, documenting the rationale and direction of the environmental factor adjustments. In addition to economic conditions, other factors that can be documented based on numerical data sets, including trends in delinquency and collateral values.

CONCLUSION

WHITEPAPER:

With the FASB changes on the way, what does that mean for your ALLL?

[FASB's CECL Model: How it will impact ALLL](#)

An accurate and well documented [ALLL calculation](#) starts and ends with excellent data. Consequently, having a structure to easily access this information can make all the difference in a bank's allowance calculation.

The December 2012 issuance of the [Financial Accounting Standards Board's \(FASB\) proposal](#) introduced the [current expected credit losses \(CECL\) model](#), and with its introduction, banks and credit unions should begin prepping for the upcoming changes. With the new model, data collection will only become more important. So it is wise for institutions to lay the groundwork now for more detailed information on the loan portfolio and external economic factors to estimate credit losses going forward.

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.

The logo for Sageworks, featuring the word "sageworks" in a bold, sans-serif font. The "sage" part is in blue and the "works" part is in black.

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.

Garrett Morris is a senior risk management consultant at Sageworks, where he serves as an expert in loan portfolio management. Garrett primarily assists financial institutions in understanding and complying with federal accounting guidance when determining the allowance for loan and lease losses and conducting loan portfolio stress testing. His expertise also includes credit analysis, loan review, and portfolio and loan administration.

Since joining Sageworks in 2006, Garrett has been instrumental in the development and growth of the company's credit risk management solutions and has helped more than 700 financial institutions. Garrett is a graduate of North Carolina State University.

ENDNOTES

¹ “Interagency Policy Statement on the Allowance for Loan and Lease Losses.” Federal Reserve System. 13 Dec. 2006. Web. Accessed September 16 2013. www.federalreserve.gov/boarddocs/srletters/2006/SR0617a1.pdf.

² “Questions and Answers of Accounting for Loan and Lease Losses.” Federal Reserve System. 13 December 2006. Web. Accessed September 17 2013. www.fdic.gov/news/news/financial/2006/fil06105b.pdf.

³ Lubansky, Mike. “Challenges in the Estimation of the ALLL.” Sageworks. Web. Accessed September 16 2013. <http://web.sageworks.com/alll-challenges-whitepaper/>

⁴ “Comptroller’s Handbook: Allowance for Loan and Lease Losses.” The Office of the Comptroller of the Currency. May 1998. Print.

⁵ “Allowance for loan and lease losses (ALLL) adjustment factors.” Grant Thornton. 2012. Web. Accessed September 23 2013. http://www.grantthornton.com/staticfiles/GTCom/Financial%20services/Allowance%20for%20loan%20and%20lease%20losses/Allowance_for_loan_and_lease_lossess_ALLL.pdf.

⁶ Bayer, Ed and Regan Camp. “Pros and Cons of Migration Analysis: Ensuring a Proper ALLL Calculation.” Sageworks. Web. Accessed September 16 2013. <http://web.sageworks.com/migration-analysis/>.

⁷ “Interagency Policy Statement on the Allowance for Loan and Lease Losses.” Federal Reserve System. 13 Dec. 2006. Web. Accessed September 16 2013. 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/>

“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/>

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>