

# HOW TO CALCULATE YOUR **FAS 114 RESERVES**



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## EXECUTIVE SUMMARY

The allowance for loan and lease losses (ALLL) is one of the most important estimations in a financial institution's financial statements. The calculation requires a documented approach to demonstrate the institution has followed guidance every step of the way and that it is taking appropriate steps to ensure safety and soundness. Evaluating [FAS 114](#) (ASC 310-10-35) loans for impairment and identifying the reserve for each one of those individually assessed loans is one of the most critical steps in the process. This paper will examine the classification process of an institution's loan portfolio, when a loan is FAS 5 (ASC 450-20) or FAS 114, valuation methods for FAS 114 impaired loans, and when it is appropriate to move a loan from FAS 114 status back to FAS 5 status.

# THE ESTIMATION OF THE ALLL

## NOTE:

“A bank that fails to maintain an adequate allowance is operating in an unsafe and unsound manner...”<sup>1</sup>

## KEY TERM:

### Estimated Credit Losses

An approximation of the current amount of the loan and lease portfolio that is not likely to be collected.

The first order of business for a financial institution is to make prudent lending decisions. Although the expectation is that the borrower will pay according to the terms of the agreement, the reality is that not every loan will be realized. Undoubtedly, a financial institution will suffer losses in its loan portfolio. These losses may result from a number of factors that affect the borrower's ability to service the debt, including macro-economic factors. Consequently, it is important that financial institutions anticipate what those future losses may be. It is incumbent upon an institution to set aside provisions for those losses – the ALLL. The [ALLL estimation](#) is an integral part of a financial institution's portfolio management. Federally insured depository institutions must maintain an ALLL at a level that is adequate to absorb estimated credit losses associated with the loan and lease portfolio.<sup>1</sup> Estimated credit losses refers to an approximation of the current amount of the loan and lease portfolio that is not likely to be collected; that is, net charge-offs that are likely to be realized for a loan or pool of loans, given facts and circumstances as of the evaluation date. These estimated credit losses should meet the criteria for accrual of a loss contingency set forth in the Generally Accepted Accounting Principles (GAAP).<sup>2</sup>

# THE ESTIMATION OF THE ALLL (CONT.)

## KEY TERM:

### Probable and Estimable

The allowance is a general reserve for unconfirmed losses. The losses are inherent based on historical information and other factors, hence the probable assignment, but as yet, unconfirmed. The calculated amounts for the reserve are estimated based on that probability.<sup>1</sup>

The 2008 financial crisis highlighted the need to more accurately calculate the reserves for loan and lease losses. Reacting to the crisis, conservative institutions may overestimate the ALLL provisions in order to buffer against losses. However, an overstated ALLL can understate and limit the institution's earnings. Conversely, an understated ALLL will overstate the banks' earnings and could result in the violation of law or a failed regulatory exam. The ALLL is a valuation reserve maintained to cover losses that are probable and estimable on the date of the evaluation; it is not intended as a cushion against all possible future losses. Between increased regulatory scrutiny and the challenges of documenting and defending the ALLL estimation to multiple constituencies (including regulators, external auditors and the board), it's not surprising that many financial institutions find themselves overwhelmed with the process of determining the correct amount for the [ALLL](#). One common source of confusion comes at the start of the estimation process: Classification of loans.

# THE CLASSIFICATION OF LOANS

The [2006 Interagency Policy Statement on the Allowance for Loan and Lease Losses](#) has provided the most guidance to date as to how to calculate the ALLL. Per this statement, “calculations should be based on a comprehensive, well documented, and consistently applied methodology that produces reserve provisions for losses that the institution deems to be probable and estimable.”<sup>1</sup>

The first step in this methodology is the classification of loans into two general pools: the FAS 5 pool (unimpaired loans) and the FAS 114 pool (impaired loans). The Financial Accounting Standards Board (FASB) provides certain guidelines, defining when to classify loans into FAS 5 or FAS 114 status. This whitepaper will briefly describe both types of classifications, then focus primarily on the classification of loans into the latter, the FAS 114 pool.

## **When Should a Loan be Classified as FAS 5?**

Generally speaking, loans are classified as FAS 5 if they are not otherwise impaired. Loans in FAS 5 are not evaluated individually for the reserve; rather an institution segments the FAS 5 portfolio into homogenous pools and uses historical data, adjusted for identifiable qualitative/environmental factors, to determine the necessary reserves to set aside for each pool. Common FAS 5 pools include commercial real estate (CRE), residential real estate, commercial and industrial (C&I), and other loans types generally based around variations on the federal call report codes.

**To learn more about estimating FAS 5 reserves and for a more comprehensive description of this portion of the ALLL calculation, download the whitepaper, [Qualitative Risk Factors: How to Add Objectivity to an Otherwise Subjective Task](#).**

# THE CLASSIFICATION OF LOANS (CONT.)

## KEY TERM:

### Charge-offs

Losses (full loans or portions of loans) should be charged-off as soon as they are confirmed. For troubled, collateral-dependent loans, loss-confirming events may include an appraisal or other valuation (PV FCF) that reflects a shortfall between the value of the collateral and the recorded investment.

## When Should a Loan be Classified as FAS 114?

Under [certain conditions](#), the FASB provides straight-forward guidance for determining which loans should be evaluated under FAS 114 status. The FASB guidance clearly prescribes that loans labeled under Troubled Debt Restructure (TDR) or those that have entered nonaccrual status should be evaluated under FAS 114 status. At other times, like with loans that are considered impaired but aren't labeled TDR or nonaccrual, latitude is given for the determination of the appropriate reserve.

A loan is evaluated for FAS 114 status when it is considered impaired, which means the creditor has some expectation that the repayment of the loan will not be fully realized. In other words, there is information available as of the evaluation date indicating the creditor will be unable to collect all amounts due according to the contractual terms (which includes both principal and interest).<sup>1</sup> The resulting reserve for this particular loan would be the amount of loss that can be reasonably estimated. If the loss was actual, then the loan loss should be partially or completely charged off—the emphasis on what is probable and estimated versus actual comes from this difference.

Loans classified as substandard or worse under an institution's risk rating system or loans at a certain delinquency level (e.g., 90 plus days past due, or if they have reached 90 days past due multiple times) should also be considered for individual impairment.

# THREE VALUATION METHODS FOR FAS 114 LOAN IMPAIRMENTS

## DID YOU KNOW?

[Sageworks ALLL](#) allows bankers to use any of the 3 valuation methods to evaluate their FAS 114 Loans:

1. Fair Market Value of Collateral
2. Present Value of Future Cash Flows
3. Loan Pricing

The lending institution must evaluate each loan individually to determine a reasonable estimate of the amount that can be realized or recovered. Accounting guidance approves three valuation methods: the Fair Market Value of Collateral, the Present Value of Future Cash Flows and the seldom used Loan Pricing method, in which the bank “shops” the loan around to come up with a market price (the value) that another institution would be willing to pay for that loan.<sup>3</sup> With the three different methods available, the resulting reserve can be very different. It is critical for a financial institution to use the most appropriate method from an accounting standpoint.

The Fair Market Value of Collateral method is used when payment is collateral-dependent, usually as a result of insufficient cash from the borrower to service the debt. The Present Value of Future Cash Flows method is used if there is still some expectation of cash repayments from the borrower and usually accompanies a TDR. In a TDR, the loan structure (repayments) has been modified or restructured, with the expectation that some portion of the principal will be repaid. A TDR should always be considered impaired, even when the evaluation determines no reserve is needed.

### Three Valuation Methods for FAS 114 Loan Impairments:

1. Fair Market Value of Collateral
2. Present Value of Future Cash Flows
3. Loan Pricing



# FAIR MARKET VALUE OF COLLATERAL METHOD

## NOTE:

“Accounting guidance is very clear in advising simply that all impaired loans considered “collateral-dependent” should be evaluated utilizing the Fair Market Value of Collateral method.”

**-Regan Camp,  
Sageworks**

As the most widely used valuation method to evaluate a loan for impairment, the Fair Market Value of Collateral starts with an assumption that the loan will be repaid through the liquidation of the collateral (hence the term “collateral-dependent”). The contention with these loans is determining whether a loan should be considered “collateral-dependent.”<sup>4</sup>

When the borrower is no longer able to service the debt through payments, the creditor looks at the collateral as the source of repayment. A loan should be considered collateral-dependent when the only source of repayment expected is the underlying collateral and no other expected cash flows. The amount the institution expects to recover is the value of the collateral, less any liquidation costs such as selling costs, transfer taxes, legal fees or maintenance costs. For example, with property where foreclosure is probable, the impairment analysis will be based on the fair market value of the collateral (usually that property). A current appraisal should be used to estimate the value of collateral.

The identified collateral value should be reduced by any estimable discounts and/or liquidation costs in order to determine the fair value of the collateral. The difference between the total recorded investment in a loan and that loan's respective fair value of collateral should be identified as the specific impairment and consequently reserved against. If the fair value of the collateral exceeds the total recorded investment, no reserve will be needed, though the loan may still be considered impaired. Consider the following two (2) examples:

# FAIR MARKET VALUE OF COLLATERAL METHOD (CONT.)

## Example 1 - No reserve requirement

Current Balance	Accrued Interest	Net Deferred Fees & Costs	Unamortized Premium / Discount	Total Recorded Investment
\$ 496,186.51	\$ 1,904.07	\$ 0.00	\$ 0.00	\$ 498,090.58

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 


Appraised collateral value - discounts and/or liquidation costs = Fair Value/Valuation Amount

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

Total Recorded Investment < Valuation Amount = No Reserve

## Example 2 - Reserve requirement

Current Balance	Accrued Interest	Net Deferred Fees & Costs	Unamortized Premium / Discount	Total Recorded Investment
\$ 496,186.51	\$ 1,904.07	\$ 0.00	\$ 0.00	\$ 498,090.58

Appraisal Value	Appraisal Adjustment	Current Value	Prior Liens	Equity	Selling Costs	Fair Value	Appraisal Date
\$ 610,000.00	20.00%	\$ 488,000.00	\$0.00	\$488,000.00	\$176,192.20	\$ 311,807.80	01/03/2012 

Total Recorded Investment	Valuation Amount	Reserve Amount
\$ 498,090.58	\$ 311,807.80	\$ 186,282.78

Total Recorded Investment > Valuation Amount = Reserve Requirement

# FAIR MARKET VALUE OF COLLATERAL METHOD (CONT.)

## RESOURCE:

FAS 114 Impairment  
Analysis Worksheet for  
Collateral-Dependent  
Loans

[Download the worksheet](#)

## Suggestions

There are several suggestions to keep in mind when using the Fair Market Value of Collateral method for your impairment analysis.

- Utilize recent and reliable appraisals or other valuations:
  - Use collateral values from a current appraisal
  - Consider the volatility of the market value of the collateral
  - Document any valuation assumptions, including the supporting rationale for adjustments to appraised values
  - Appraisal quality and the expertise and independence of the appraiser
  - Ensure recent institution or third party inspection of the collateral
- When cross-collateralized, be sure to take into account any prior liens.
- If there are complexities around cross-collateralization or prior liens from other institutions, these need to be taken into account so that the institution is only including the appropriate equity value that could be used towards the loan in question.
- Ensure confidence in the institution's lien or security position, including appropriate:
  - Type of security perfection (e.g., physical possession of collateral or secured filing)
  - Filing of security perfection (i.e., correct documents and with the appropriate officials)
  - Relationships to other liens
- With respect to real estate, periodically comparing the appraised value to the actual sales price on selected properties sold.<sup>4</sup>
- Appropriate assumptions need to be documented for any selling costs that will be incurred in the event of liquidation. To the greatest extent possible, these assumptions should be documented.

# PRESENT VALUE OF FUTURE CASH FLOWS METHOD

## KEY TERM:

### Troubled Debt Restructure (TDR)

A TDR occurs when a financial institution modifies the structure of a loan to the benefit of the borrower as a result of the borrower's exhibited financial difficulties. This could include interest rate concessions, interest-only payments for a period of time before returning to full principal and interest payments and other similar concessions.

The Present Value of Future Cash Flows ("PV FCF") method should be used when there is an expectation of cash payments from the borrower. TDRs fall into this category because the loan has been restructured in order to provide for future payments from the borrower for at least some portion of the recorded investment.

The PV FCF evaluation should use the effective (original, contractual) interest rate as the discount rate for the cash flows. The institution should set up a month-by-month payment schedule for the analysis, with each month discounted appropriately.

Payment Date	Expeded Payment	Present Value
3/31/2013	\$ 75,000.00	\$ 74,621.71
4/30/2013	\$ 75,000.00	\$ 74,245.33
5/31/2013	\$ 75,000.00	\$ 73,870.04
6/30/2013	\$ 75,000.00	\$ 73,490.25
7/31/2013	\$ 75,000.00	\$ 73,127.53
8/31/2013	\$ 75,000.00	\$ 72,758.69
9/30/2013	\$ 75,000.00	\$ 72,391.70
10/31/2013	\$ 75,000.00	\$ 72,026.56
11/30/2013	\$ 75,000.00	\$ 71,663.27
12/31/2013	\$ 75,000.00	\$ 71,301.81

Total Recorded Investment:	\$ 900,000.00
Valuation Amount:	\$ 729,505.69
Reserve Amount:	\$ 170,494.31

*Calculated Reserve: \$ 170,494.31*

Total Recorded Investment:	\$ 600,000.00
Valuation Amount:	\$ 729,505.09
Reserve Amount:	\$ 0.00

*No Calculated Reserve*

# PRESENT VALUE OF FUTURE CASH FLOWS METHOD (CONT.)

## RESOURCE:

Net Present Value of  
Future Cash Flows  
Calculator for an  
individual impaired loan

[Access the calculator](#)

## Considerations and Challenges

Using the PV FCF can be somewhat [subjective](#) when evaluating the total impairment by subtracting the total cash flows available from the total recorded investment. This method can become subjective when the creditor makes a judgment regarding what portion of the repayments will be completed. The subjectivity comes into play when determining the expected cash flows – the actual calculation of the PV FCF is not subjective. Examiners are wary of excessive optimism when reviewing the analysis for cash flow expectations of impaired loans.<sup>5</sup> An institution should evaluate as much information as possible, including past events and current conditions, when determining the appropriate valuation amount.

Under the Present Values of Future Cash Flows:

- Document the expected amount and timing of payments
- Use the effective interest rate (the contractual interest rate from the original loan agreement) to discount the cash flows
- Document the basis for the determination of cash flows, including consideration of current, environmental factors
- Document any other information reflecting past events and current conditions

Other factors that make this calculation difficult include:<sup>6</sup>

- Trends within the borrower's industry
- Relevant political or economic changes
- Incorporating seasonality
- Correctly calculating balloon payments
- The loan could become collateral-dependent and would result in a change in the valuation method itself (moving to a collateral valuation for impairment)

## LOAN PRICING METHOD

Of the three methods that an institution can use to calculate the individual impairment of FAS 114 loans, the Loan Pricing method is most rarely used. In this method, an institution derives the value from a loan's observable market price by soliciting other institutions to see what they would pay for the loan. The primary challenge with the Loan Pricing method is defending and documenting the amount, source and date of the observable market price.<sup>4</sup>

# OTHER COMMON CHALLENGES WITH IMPAIRMENT ANALYSIS

## NOTE:

“When I was an Examiner, the best situation for the [financial institutions]

I audited was when I got bored. Everything was clear.

All questions were answered. Estimates made sense . . . and used consistently. The minute I got confused, I had to look much more closely. And I started questioning other areas more closely, as well.”

**-Linda Keith,**  
[Linda Keith CPA](#)

## Identifying the Appropriate Valuation Method

A common challenge in determining impairment is that it is not always clear which valuation method to use. The discretion is given to the institution, which should clearly document the valuation method chosen. In some of the gray areas, an institution may choose to evaluate the impairment under both methods.

For example, even after a TDR, the institution may consider the borrower unreliable and wish to preemptively classify the loan as collateral-dependent. No matter which valuation method the institution chooses, clear and transparent documentation is necessary. As Linda Keith, a former examiner and President of [Linda Keith CPA](#), noted, a bored examiner can lead to a positive examination outcome. When all of the documentation is in order, the examiner might be bored, but it also means that the examiner does not have to do any digging.<sup>5</sup> The institution aptly defended and justified decisions with proper documentation.

## Loans That Should be Classified as FAS 114

Another common challenge is determining which loans should be evaluated under FAS 114. There are three types of loans that should be evaluated as such.

- Loans that have been labeled as a Troubled Debt Restructure (TDR). Most, if not all, of these loans should be evaluated under FAS 114.
- Loans that are considered to be in nonaccrual status. The financial institution may have a dollar threshold that must be met, but bankers should still ensure that the appropriate loans in this category are being evaluated under FAS 114, in case some of these are not picked up by the risk rating criteria.
- Loans that are at a certain level of delinquency (i.e., Days Currently Past Due > 90, or loans that have reached certain delinquency levels a set number of times). The delinquencies are indicative of the borrower's difficulty meeting the payments, so these loans should be considered for impairment.

# MOVING A LOAN BACK TO FAS 5

To provide a more accurate reserve calculation, it may be appropriate to move a loan from FAS 114 status back to FAS 5 status, if after evaluating the loan for impairment, the loan in question is indeed found not to be impaired. Guidance also states that if principal and interest payments are deemed to be paid and those payments would cover the remaining outstanding balance, the loan would not be considered impaired. The process of moving loans from FAS 114 to FAS 5 status should be well recorded and documented to ensure the institution is following guidance accordingly. Instances where loans might need to be re-classified include:

- The loan moves from nonaccrual position to an accrual position. Sustained payment performance must be in place, commonly for at least six months, for the loan to move off impairment and nonaccrual status.<sup>8</sup>
- Interest and principal payments are being collected.
- A loan considered as TDR that has made its restructured current principal and interest payments for an entire year. This isn't a universal practice as many institutions abide by the principle: Once a TDR, always a TDR. Nonetheless, guidance has become more accepting of re-classifying TDRs.

As a reminder, be careful when reclassifying loans. If a loan is deemed to be impaired (FAS 114 status), but its impairment amount is zero, it should not necessarily be moved back into FAS 5. Ultimately, having no required allowance does not mean the loan should be moved back into a FAS 5 pool.<sup>8</sup>



## CONCLUSION

A good ALLL calculation demands understanding of which loans to classify as FAS 5 status or as the impaired FAS 114 status. For the FAS 114 impairment analyses, the calculations generally hinge on one of two processes, the Fair Market Value of Collateral method (if the loan is considered collateral-dependent), or the Present Value of Future Cash Flows method (if there is still some expectation of cash repayment from the borrower). Responsible institutions approach the ALLL calculations carefully and systematically with strong supporting documentation for reporting.

# ABOUT SAGEWORKS & THE AUTHORS

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.



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/>

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>

“FAS 114 Impairment Analysis Worksheet,” *Sageworks*.

<http://web.sageworks.com/federal-fas-114-reserve-alll-policy-impairment-analysis/>

“Net Present Value of Future Cash Flows Calculator,” *Sageworks*.

<http://web.sageworks.com/npv-cash-flow-calculator/>

“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>6</sup> “The Director’s Book: The Role of the National Bank Director.” The Office of the Comptroller of the Currency. March 1997. Web. Accessed 4 June 2013. [www.occ.gov/publications/publications-by-type/other-publications-reports/director.pdf](http://www.occ.gov/publications/publications-by-type/other-publications-reports/director.pdf).
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- <sup>8</sup> “Questions and Answers of Accounting for Loan and Lease Losses.” Federal Reserve System. 13 Dec. 2006. Web. Accessed 4 June 2013. [www.fdic.gov/news/news/financial/2006/fil06105b.pdf](http://www.fdic.gov/news/news/financial/2006/fil06105b.pdf).