CECL Accounting Guide

CONTENTS

INTRODUCTION

The Financial Accounting Standards Board (FASB) issued the final current expected credit loss (CECL) standard on June 16, 2016. The new guidance particularly impacted community financial institutions by modifying or replacing existing impairment models for financial assets, such as trade receivables, loans, debt securities, and purchased credit-deteriorated assets. This guide is meant to serve as a practical and illustrative document to assist with implementation efforts.

Key components of the new standard include the following:

- **Allowance for credit losses.** The allowance for credit losses will require an estimate of lifetime expected credit losses for receivables, loans, and held-to-maturity debt securities—generally thought to result in the earlier recognition of credit losses in financial statements.

- **Available-for-sale debt securities.** These will be required to recognize an allowance for credit losses, replacing the existing other-than-temporarily impaired model.

- **Zero-loss exception.** There's a zero-loss exception expected to be employed for certain debt securities, such as US Treasury securities.

- **Purchased credit-deteriorated assets.** The complexity of these assets will be reduced, but their scope will expand to apply to debt securities as well.

- **Disclosures.** These will be quantitatively and qualitatively expanded.

- **Expected credit loss models.** These models are expected to vary widely, depending on the complexity of the financial assets and the companies themselves.

Early adoption of the new standard is permitted beginning in 2019 with the effective dates staggered thereafter for SEC filers, excluding smaller reporting companies (SRCs) as defined by the SEC, and all other entities. However, the need to perform parallel runs and understand the impact to capital ratios will likely further compress the adoption timeline.

Industry questions and guidance from accounting standard-setters, regulators, and audit firms are expected to be robust as the path to adoption continues to evolve. Moss Adams is committed to actively participating in the implementation process and happy to discuss any questions you may have.

In June 2016, the Financial Accounting Standards Board (FASB) issued new accounting rules, changing the way companies will evaluate impairment of financial assets such as loans, receivables, and investments in debt securities. These changes to the measurement of credit impairment are considered to have one of the most significant accounting impacts on the financial service industry in decades.

Most significantly, the new standard, ASU 2016-13[1], will replace the long-standing incurred loss model used in calculating the allowance for credit losses (ACL) with a current expected credit loss model (CECL). As the name suggests, CECL takes into account forward-looking information when establishing reserves for credit losses.

The new standard is principles based, with broad concepts that will require companies to understand and tailor for their circumstances. Given the relatively recent issuance of the standard, regulators haven't fully weighed in on their expectations on implementation. The FASB was highly committed to giving community banks and credit unions broad leeway to adopt simpler models that leverage their existing allowance methodologies. Regulators have also indicated that they will accept a simplified implementation for smaller, less complex companies. However, these thresholds have yet to be clarified, and there's growing consensus that even the simplest examples in the new standard will still need robust documentation around assumptions and methodologies. Companies will need to reevaluate their existing internal controls and consider designing and implementing new internal controls for the adoption and estimation process.

HISTORICAL PERSPECTIVE

During the financial crisis at the end of the last decade, US accounting rules were criticized for effectively requiring "delayed recognition" of credit losses associated with loans and other financial instruments.

In response, the FASB and its international counterpart, the International Accounting Standards Board (IASB), worked on a joint project to improve the timeliness of recognizing credit impairments for financial instruments.

The two Boards ultimately didn't reach consensus, with the FASB pursuing the CECL model (as described herein) and the IASB pursuing the "Good Book-Bad Book" model. Ultimately, both the FASB and IASB methods incorporate forward-looking information about expected credit losses, effectively accelerating the recognition of impairment losses.

[1] See Accounting Standards Update 2016-13, Financial Instruments—Credit Losses (Topic 326): Measurement of Credit Losses on Financial Instruments at fasb.org/cs/ ContentServer?c=Document_C&pagename=FASB%2FDocument_C%2FDocumentPage&cid=1176168232528.
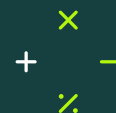
In addition to impacting loans, leases, and receivables, the impairment guidance for other financial assets is also affected.

The new standard adjusts the factors used in evaluating whether an available-for-sale (AFS) investment in a debt security is impaired. These amendments were designed to accelerate the timing of when impairment losses on investments in certain debt securities would be recorded. Investments in held-to-maturity (HTM) debt securities would be evaluated for impairment in the same manner as loans and receivables—that is, by using the CECL model.

FIGURE 1

Impact of the new standard on the measurement of the most common categories of financial assets.

LOANS/RECEIVABLES

| HELD FOR INVESTMENT (CECL) | HELD FOR SALE (Lower of amortized cost or market (no change)) |

DEBT SECURITIES

| HTM (CECL) | AFS (Credit loss allowance) | TRADING (Fair value through net income (no change)) |

EFFECTIVE DATES FOR THE NEW STANDARD
(UPDATED FOR ASU 2019-10)

SEC FILERS, EXCLUDING SRCS

An entity should use its most recent determination of whether the entity is eligible to be an SRC as of November 15, 2019, in accordance with SEC regulations.

Fiscal years beginning after December 15, 2019, including interim periods within those fiscal years.

ALL OTHER ENTITIES, INCLUDING SRCS

Fiscal years beginning after December 15, 2022, including interim periods within those fiscal years.

GUIDE OVERVIEW

One of the most challenging aspects of applying the new standard will be forecasting future conditions and the impact on lifetime expected losses within the loan portfolio. It will require making adjustments to historical loan performance data to estimate expected credit losses. In this guide, we will provide examples and insights to help companies develop processes for making these types of adjustments. We will also provide information around the scope of the new standard, new disclosures that will be required, and a method of transitioning to CECL.

The guide will also address the accounting for AFS debt securities, which the new standard amended the accounting for, separating the AFS impairment model from the CECL model utilized for HTM debt securities. While some of the concepts can be similar between the two as it pertains to measuring credit impairment, there are differences due to the impact on measurement caused by AFS debt securities being carried at fair value, rather than amortized cost.

CECL SCOPE AND HIGHLIGHTS

The CECL model should be applied to nearly any financial asset measured at amortized cost, such as loans, notes receivables, and even investments in HTM debt securities.

Scope exceptions include:

- Loans made to participants by defined contribution employee benefit plans

- Policy loan receivables of an insurance company

- Promises to give (pledge receivables) of a not-for-profit entity

- Loans and receivables between companies under common control

Financial guarantees (except those accounted for as insurance or recorded at fair value through net income) are treated the same way as loan commitments under the new standard. Like loan commitments, financial guarantors are under legal obligation to extend credit if certain events occur (or fail to occur).

Collateral-dependent financial assets, where foreclosure of the collateral related to the financial asset (a loan, for example) is probable, also fall within the scope of the new standard. The new standard provides a practical expedient when estimating credit losses on financial assets where the borrower is experiencing financial difficulty and the lender anticipates that satisfaction of the asset will come through operation or sale of the collateral. Using the practical expedient, companies would simply compare the fair value of the collateral to the amortized cost basis of the related loan. If repayment depends on the sale of the collateral, the fair value of the collateral should be adjusted by estimated

selling costs. If repayment depends on the operation of the collateral but not its sale, fair value shouldn't be adjusted for selling costs.

Finally, the newly defined **purchased financial assets with credit deterioration (PCD)** are also accounted for under the new standard. These are financial assets that are purchased subsequent to origination and have experienced a more-than-insignificant deterioration in credit quality. The new accounting requirements for these instruments will be discussed in more detail later in this guide.

MOSS ADAMS INSIGHTS

Similar to the current requirement to establish a reserve for unfunded commitments, the CECL model applies to the unused portion of a noncancelable loan commitment as well. Under the CECL model, the lender will need to evaluate the need to record a reserve, even when there have been no current borrowings under the credit line.

The reserve would consider the likelihood that there will be future draw-downs over the lifetime of the commitment, and the probability that those borrowings won't be repaid and should be recognized as a liability as well. The exclusion of loan commitments that the lender has the unilateral right to cancel is a relatively significant change from existing US generally accepted accounting principles (GAAP).

A commonly cited example of this is a credit card commitment, which is generally cancelable by the lender unconditionally at any time and would therefore have no CECL allowance.

Modeling expectations—In a joint statement issued June 17, 2016, the banking regulators were clear to emphasize they expect the new accounting standard will be scalable to companies of all sizes. "Similar to today's incurred loss methodology, the new accounting standard doesn't prescribe the use of specific estimation methods. Rather, allowances for credit losses may be determined using various methods. Additionally, companies may apply different estimation methods to different groups of financial assets. Thus, the new standard allows companies to apply judgment in developing estimation methods that are appropriate and practical for their circumstances. The agencies don't expect smaller and less complex companies will need to implement complex modeling techniques."[2]

INTRODUCTORY EXAMPLE

The following demonstrates the magnitude of the change from the existing guidance (referred to as the incurred loss model) to CECL:

Assume that on January 2, a financial institution originates $20 million of homogeneous loans to 100 different borrowers. Before originating these loans, the financial institution undertook its standard processes in evaluating the creditworthiness of each borrower, ensuring that each loan's interest rate adequately compensated the financial institution for the corresponding risk.

Under the incurred loss model, the financial institution wouldn't establish any loan loss reserves specific to these loans on January 2, because the financial institution cannot accrue for a loss until incurred. On an individual loan basis, it's unlikely that a loss would have been incurred on January 2, the same date the loans were issued.[3]

[2] FIL-39-2016: "Joint Statement on the New Accounting Standard on Financial Instruments – Credit Losses," June 17, 2016

[3] We recognize that most financial institutions establish both specific loan loss reserves as well as "incurred but not reported reserves" (IBNRR) for incurred losses that are likely to exist within a pool of loans but have not been associated with a specific loan. Often, IBNRR are calculated by taking a percentage of the entire loan pool, including newly originated loans. However, to be clear, the IBNRR is not actually recognizing loan loss reserves on these new loans under today's GAAP (ASC 450-20-25 and ASC 310-10-35). Instead, the loan loss rates compensate for the fact that it is easier to apply a single rate to an entire pool of loans rather than having to segregate the pool into loans with potentially incurred losses and those that cannot possibly have incurred losses.
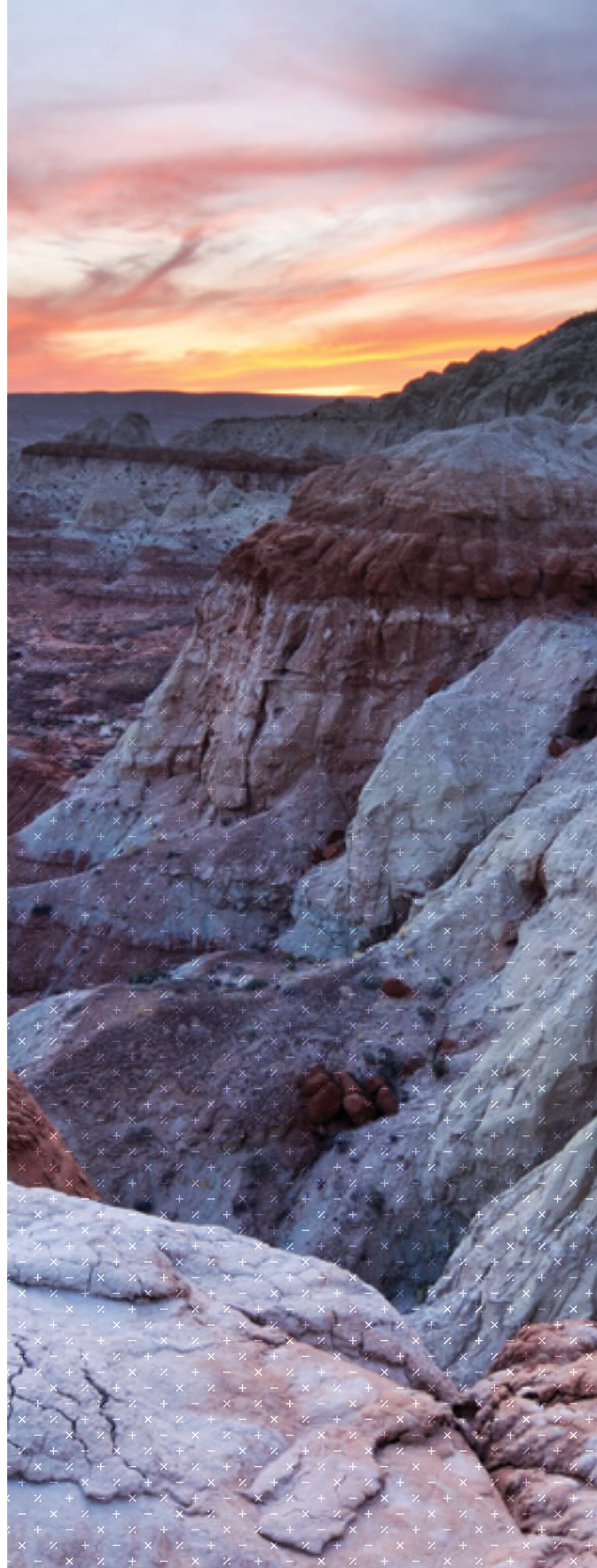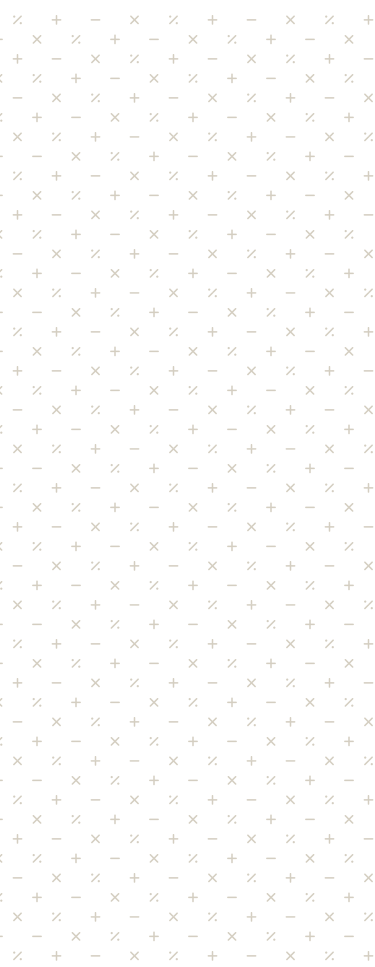
At the next financial reporting period end, the financial institution would calculate its allowance for loan losses. In practice, many methodologies in use today, particularly in community financial institutions, calculate losses on the entire portfolio at a financial reporting period end. Accordingly, a nominal allowance would likely be recorded as a function of the outstanding loans at period end, as little, if any, loss would be incurred.

In contrast, under the new standard, the financial institution would establish a loan loss reserve at loan origination for the expected losses that will occur over the lifetime of the 100 loans. The reserve should be based on the current estimate of contractual cash flows not expected to be collected over the life of these loans, considering relevant information around past performance, current conditions, and reasonable and supportable forecasted future conditions. Assuming a combined lifetime loss factor of 250 basis points, the financial institution would record a reserve of $500,000 on January 2, the date of loan origination. This estimate of lifetime losses would be updated at each period end.

As noted in the above example, the CECL model must be applied at origination of the financial asset and in subsequent reporting periods. This will require frequent re-evaluation of historical loan performance, current conditions, and expectations about future conditions. This appears simple enough, but as with the examples in the new standard, the real challenge is in determining, and ultimately supporting, the 250 basis points of lifetime losses, which will prove to be substantially more difficult than the FASB examples might suggest.

MOSS ADAMS INSIGHTS

Upon adoption, whether the ACL will be greater under CECL as compared to the incurred loss model will depend significantly on the expectations used to forecast future losses for each company. It's important to remember that the CECL model doesn't change the ultimate credit loss to be recognized, it only (likely) impacts the timing of the recognition of that loss.

In addition, loan segmentation could also have a significant impact on the ACL under CECL. If there are significant losses in a specific loan strata that has been segregated for CECL model purposes, it will drive reserves for those asset types in excess of the inherent loss model that had loss rates effectively diluted because they were calculated on a more aggregated basis, blending losses specific to an asset category with ones without any loss experience.

APPLYING CECL TO LOANS & HELD-TO-MATURITY DEBT SECURITIES

Under the CECL model, a company's estimate of expected credit losses should represent all contractual cash flows that a company doesn't believe it will collect over the contractual life of the financial asset. This could be 30 or more years for certain types of loans, such as consumer mortgages. In practice, estimating credit losses over significant periods of time, as well as applying other aspects of the CECL model, will be challenging.

CONSIDERATION OF PREPAYMENTS AND EXTENSIONS IN CECL

DO
consider expected prepayments

DON'T
consider expected extensions, renewals, and modifications unless the reporting entity reasonably expects that it will execute a troubled debt restructuring with a borrower

The new standard doesn't prescribe a specific way of estimating expected credit losses over the life of financial instruments. This is evident, even within the first example of the new standard, which gives little insight as to how loss rates are actually calculated. In addition, companies may select different estimation techniques for different portfolio segments. Certain themes, such as portfolio segmentation and the need for quality historical data, will be consistent issues for all models.

While estimating expected credit losses is highly judgmental, companies can use many of the same methodologies used today to recognize allowances for incurred loan losses, such as:

- Loss-rate
- Discounted cash flow (DCF)
- Vintage analysis
- Probability-of-default/loss-given-default (PD/LGD)
- Provision matrix
- Regression

Further discussion of the methodologies listed above is included in the appendix.

HISTORICAL LOSSES

The foundation of the CECL model is estimating expected credit losses over the lifetime of a financial asset—a loan, debt security, or receivable, for example. In making this estimate, a company must use relevant available information about past events (e.g., historical losses), current conditions, and reasonable and supportable forecasts about future conditions.

Historical losses should serve as the starting point to estimate expected credit losses. When available, historical losses should include cumulative actual losses incurred over the lifetime of the various pools of assets being evaluated for impairment. For newer lenders, newer financial products, or for companies that lend for longer periods of time (e.g., 30-year mortgages), it may not be possible to obtain this lifetime loss information.

In these circumstances, companies will need to be careful in extrapolating the limited historical data to the future, as economic cycles might undermine the relevance of historical data to future expectations, particularly at the "peaks" and "troughs" of the typical lending cycle. Use of external data, such as peer data of historical losses for similar asset types, isn't prohibited, and will likely be necessary for those companies with limited loss history or experience.

Many of today's ACL models produce a result where a significant percentage of the overall allowance is determined based on qualitative factors—in excess of 40%–50% of the total reserve in some cases. The qualitative adjustments in the examples in the new standard have a substantially smaller percentage of the total reserve being attributed to qualitative factors.

We believe this is a clear indicator of the expectation to better capture historical losses over the estimated life of a loan versus use of loss rates based on a single year or averaging of years (or quarters), and the impact of estimating full lifetime credit losses. Further, a methodology that is entirely hinged to a look-back period of trailing losses wouldn't necessarily be an accurate way of estimating your ACL because trailing annual loss rates throughout a period of good credit quality are probably the least reasonable estimate of future expected losses when you have an expectation of declining credit quality.

If there's insufficient data as to the historical lifetime losses of the various pools of assets being evaluated for impairment, a company will need to rely more heavily on other information, which may include historical experience of other companies. An entity's own loss history is generally considered to be superior to the loss history of other companies since factors affecting loss rates—like underwriting policies and loss mitigation practices—are typically entity-specific. In addition, correlating the historical loss data with external economic factors is an important element of forecasting future expected losses, and will likely prove critical in meeting the "reasonable and supportable" requirements of the new standard.

MOSS ADAMS INSIGHTS

The modeling examples presented in the appendix of this guide presume that companies have access to data that correlates credit impairments with economic, lender-specific, and borrower-specific data. We agree with the presumption that companies will work with systems providers and others to make a good faith attempt to gather relevant historical data to implement CECL appropriately.

That being said, the FASB recognizes that some companies—like smaller community banks and credit unions—may not have detailed data readily available. The FASB has stressed that certain lenders could continue to use the same processes and same baseline data they employ today in setting loan loss allowances under the new standard, with the expectation that adjustments will need to be incorporated to make the outputs more forward looking. Notwithstanding the FASB's commentary, companies will need to support and document how their CECL methodology complies with the new standard.

In addition, the FASB doesn't believe CECL will require lending companies to change its processes for underwriting loans or complying with regulatory requirements, including calculating capital ratios.

On the other hand, some companies may find that changing their processes for estimating credit impairments will help in complying with the new standard. As discussed later in this guide, PBEs will now be required to make disclosures about the credit quality of financing receivables by vintage, or year of origination. Accordingly, these companies may find it helpful to use this same vintage information in developing estimates of expected credit losses, since the data will have to be gathered anyway for disclosure purposes.

Portfolio Segmentation

An important step in applying CECL is to determine the appropriate portfolio segmentation.

A portfolio segment is the level at which an entity develops and documents a systematic methodology to determine its allowance. There are broad implications for the appropriate selection of portfolio segmentation in the application of CECL. In determining segmentation, loans should be pooled by similar risk characteristics.

The following are examples of risk characteristics to consider:

- Credit ratings of the borrowers
- Type of financial product (e.g. 30-year fixed mortgage, 15-year fixed mortgage, seven-year adjustable rate mortgage)
- Collateral type or value
- Loan size
- Interest rate (fixed versus variable)
- Vintage or year of origination
- Expected term
- Industry of the borrower
- A combination of the above characteristics or other factors

A company must take into account its own unique circumstances and decide which risk characteristic(s) best exemplifies the credit risk profile of its assets for the purposes of establishing segmentation. Banking regulators have indicated that for smaller, less complex financial companies, they would generally accept loan segments similar to those used in current methodologies or call report categories, whichever is more granular.

We expect that companies will need to document how they determine their categories, and support why those categories have sufficiently similar risk characteristics in order to be grouped together.
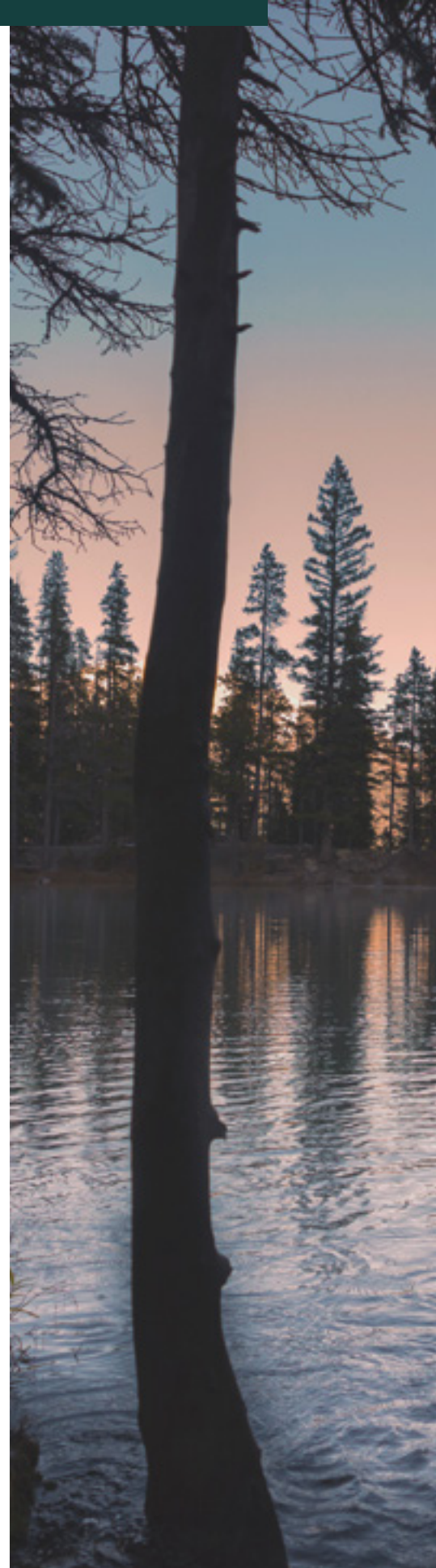
MOSS ADAMS INSIGHTS

We believe the number of loan segments resulting from CECL model loan segmentation may differ from required disclosures by loan segment, as discussed on page 38.

We've seen example CECL models with segments ranging in number from four to nearly 500. There's no prescribed methodology, and regulators have been consistent in saying existing methodologies can be leveraged and, in many cases, complex modeling isn't necessary.

We believe companies should carefully evaluate their existing segments to ensure the CECL methodology adopted is appropriately reflecting the risk in the portfolio. With the requirement for reasonable and supportable forecasts to be incorporated under CECL, there's a greater need for pooling of loans that are expected to react to credit and economic events in a similar manner, while still retaining a large enough pool of assets to be relevant.

The examples below highlight the importance of segmentation, whether under a current methodology or in contemplation of changes for a CECL model. The first example shows Commercial Real Estate (CRE) loans in the aggregate, i.e., all loans with one blended historical loss rate.

EXAMPLE 1

AGGREGATE CRE	Base Case			Change in Loan Mix; No Change in Loss Rates		
	Loan Balance	Historical Loss Rate	Expected Losses	Loan Balance	Historical Loss Rate	Expected Losses
CRE—Total	$4,750	0.56%	$26.60	$4,500	0.56%	$25.20
C & I	1,250	0.85%	10.63	1,400	0.85%	11.90
Residential	850	0.25%	2.21	850	0.25%	2.21
Consumer	150	2.50%	3.75	250	2.50%	6.25
	$7,000	**0.62%**	**$43.19**	**$7,000**	**0.65%**	**$45.56**

+2.37

The next example further breaks out the CRE loans into four segments, with loss rates for each individual segment of CRE.

EXAMPLE 2

MORE DETAILED CRE	Base Case			Change in Loan Mix; No Change in Loss Rates		
	Loan Balance	Historical Loss Rate	Expected Losses	Loan Balance	Historical Loss Rate	Expected Losses
CRE, construction	$500	1.15%	$5.75	$250	1.15%	$2.90
CRE, owner occupied	2,000	0.40%	8.00	3,000	0.40%	12.00
CRE, non-owner occupied	1,500	0.55%	8.25	1,000	0.55%	5.50
CRE. other	750	0.60%	4.50	250	0.60%	1.50
CRE—Total	**$4,750**	**0.56%**	**$26.50**	**$4,500**	**0.49%**	**$21.90**
C & I	1,250	0.85%	10.63	1,400	0.85%	11.90
Residential	850	0.25%	2.21	850	0.25%	2.21
Consumer	150	2.50%	3.75	250	2.50%	6.25
	$7,000	**0.62%**	**$43.09**	**$7,000**	**0.60%**	**$42.26**

<0.83>

There's a nearly 8% variance in the calculated ACL change in example one versus two, simply because of the way the CRE portfolio was segmented. Companies should take advantage of the opportunity to reassess their current segmentation when evaluating CECL model options.

The concept of portfolio segmentation under CECL has implications as it relates to what has been historically referred to as impaired loans. Under current GAAP[4], financial institutions must first specifically identify impaired financial assets that may require individual allowances—for instance, loans for which payments are delinquent, or receivables from borrowers in struggling industries. Any remaining loans not specifically reviewed for impairment may be pooled into homogeneous groups, where differing loan loss rates are applied to each pool based on pool-specific risk characteristics.

Under the new standard, the process of determining the unit of account, or segment, is reversed. A company should no longer initiate an impairment review on an asset-by-asset basis. Instead, as of each reporting date, it should evaluate financial assets on a collective basis when similar risk characteristics exist. Only if a financial asset doesn't share similar risk characteristics with other financial assets of a company would it then evaluate the financial asset on an individual basis. Further, changes to risk characteristics could cause financial assets to move segments from one reporting period to the next.

[4] See ASC 310-10-35 and ASC 450-20-25

REASONABLE AND SUPPORTABLE FORECASTS

Once relevant historical loss data for similar assets is assembled, the next step is to adjust this data to account for current conditions and reasonable and supportable forecasts. That is, a company should compare the conditions that existed during the historical period to its current conditions and future expectations, and make adjustments to the historical data accordingly. This step is the crux—and the greatest challenge—of putting the new CECL model into practice. There's no prescribed method in the new standard for how this is to be accomplished.

PROBABILITY OF LOSS

Under the CECL model, the estimate of expected credit losses must reflect any risk of loss, even if that risk is remote.

Therefore, forecasting a credit loss allowance of zero is only appropriate in limited circumstances. For example, HTM investments in US Treasury securities may not require a credit loss allowance even though there's a theoretical risk of loss. This is one of the few exceptions we expect to see in practice, where an entity could conclude the risk of loss is sufficiently remote to not record an ACL.

In applying the CECL model, a company will have to make judgments around differences in economic conditions as observed during the historical period as well as in expectations of economic conditions over the reasonable and supportable forecast period of the financial instruments being evaluated. Again, there's no prescribed methodology in the new standard to accomplish this objective.

Adjustments to historical experience should consider relevant qualitative and quantitative factors related to (a) the economic environment in which the lender operates, and (b) specific attributes of borrowers and the lender itself. Either way, a good starting point is the historical data. Whether a company utilizes forecasted data from a third party, or creates their own unique forecast, a company will benefit from understanding whether there's a base-line level of correlation between historical loss experience and historical environmental and lender-specific factors.

Environmental factors that should be considered include, but aren't limited to:

- Trends in the national economy, such as GDP growth, industry factors, unemployment rates, and monetary policy
- Trends in the local economy (if a lender or its borrowers operate in specific geographic areas), such as unemployment rates

Companies will need to identify which specific factors are most applicable. For example, when identifying changes in economic conditions between historical and current or future periods, a company might look to historical and forecasted regional and national unemployment data, which is published by the United States Department of Labor's Bureau of Labor Statistics. The Bureau of Labor Statistics also publishes unemployment data by industry, which can be found at bls.gov/ces/.

In this situation, a company would also need to develop an expectation about future changes in the economic condition and incorporate this expectation into its assumption about future loan losses. Additional Federal Reserve economic data can be found at research.stlouisfed.org/fred2/.

Borrower-specific factors might include changes in industry conditions if borrowers are concentrated in specific industries (e.g., construction, heavy manufacturing, oil and gas). It may be important to monitor recent changes in the borrower's financial metrics—e.g., debt service coverage ratio, net income to sales, or debt to earnings before interest, taxes, depreciation, and amortization (EBITDA)—to see whether these indicate that adjustments may be necessary to historical loss experiences for commercial borrowers. Similarly, recent changes in credit scores or other market indicators of credit risk (such as borrower or industry credit default swap spreads, if available) could suggest that adjustments may be necessary to historical loss rates for consumer or other loans.

For consumer mortgage loans, environmental adjustment factors might take into consideration changes in the housing market. Housing market statistics, such as foreclosure rates, are published by various housing data companies including RealtyTrac (realtytrac.com/statsandtrends) and CoreLogic (corelogic.com). Similar data for commercial real estate is published by Reis (reis.com).

These adjustment factors can be based on internal or external information.

Lender-specific factors that can be evaluated on a historic basis that can then be incorporated into the forecast might include changes in:

- Lending policies and procedures
- Experience and expertise of lending staff and management
- Lending terms
- Lending volume
- Introduction of new products
- Introduction of new customers

For instance, if a lender recently decided to enter into riskier subprime mortgages, historical loss rates (based on prime mortgages) likely would need to be adjusted upwards, or external data on historical loss rates for similar assets should be used. Another example of lender-specific practices that would be considered is a change in underwriting standards, such as loan-to-value, debt service coverage ratios, or other credit metrics.

Decisions that companies make in applying one part of CECL will influence other elements and assumptions. For example, a company that uses a vintage analysis will require higher quality historical data, and may result in a company considering more entity-specific factors in its CECL methodology, such as entity-specific underwriting factors for certain time periods that have led to increased losses. In contrast, a company applying a more general loss rate approach may conclude that national economic data is a better indicator in determining expected future losses.

Neither approach is inherently more accurate than the other, and companies will have to be aware of how their decisions are interconnected and document the rationale for their assumptions and conclusions. This is one of many reasons why we encourage companies to get an early start on implementation.

Companies should expect regulators and auditors to evaluate their various budgeting and forecasting processes for alignment. If a budget or Asset-Liability Committee forecast shows limited prepayments as a result of an interest rate increase, expect additional scrutiny if the CECL model shows substantial reductions to contractual terms (due to prepayments) as a result of the same forecasted interest rate increase. Or expect the same scrutiny if you're asserting vastly different outcomes with essentially the same scenarios. Other accounting estimates—such as goodwill or intangibles impairment, valuation allowances for deferred tax assets, going concern assessments, or any regulatory projections—will likely be evaluated more closely than they have historically, at least as it pertains to consistency with the CECL determination.

Limits in Forecasting

The CECL model is predicated on estimating future credit losses over the contractual lifetimes of a company's financial assets, as adjusted for prepayments when supportable. DCF, Regression, and some Probability of Default models inherently forecast losses over the lifetime of the asset, while other models don't. For future periods in which a company is unable to make or obtain reasonable and supportable forecasts—which for many lenders could be after two to three years into the future—a company should apply unadjusted historical credit loss experience to those periods. Referred to in the new standard as reversion to historical losses, a company is to revert to historical loss information immediately after the forecast period. The mean historical losses are applied on a straight-line basis, or using another rational and systematic basis.

To demonstrate, assume a financial institution has a pool of conforming 30-year fixed-rate consumer mortgages that were all originated three years prior. Accordingly, this pool of loans will have cash flows extending out for another seven years (assuming an overall 10-year life due to prepayments). Let's assume the financial institution is unable to reasonably forecast cash flows that far into the future, but can make reliable predictions for the next two years. The financial institution would then revert to unadjusted historical averages for future periods beyond which it is able to make or obtain reasonable and supportable forecasts (years six through 10, for example). For purposes of this example, as shown in the table below, this would be 1.5%.

YEAR	Loan Loss %
1	Actual loss of 1%
2	Actual loss of 2%
3	Actual loss of 3%
4	Supportable forecast of 2%
5	Supportable forecast of 3%
6–10	Reversion to historical loss rate of 1.5%

This seems straightforward enough, but the challenge is in the actual implementation. Is the 1% loss rate in year one calculated based on all loans in the portfolio or on a subset of loans? What historical period and what loans were utilized to calculate the historical loss rate used in the reversion? What population is the supportable forecast for years four and five applied to? Is there a reasonable and supportable basis for going from 3% in year five to 1.5% thereafter? What population was used to calculate the 1.5% historical loss rate? Was it a different pool than this pool of assets?

OTHER CONSIDERATIONS

Collateral-Dependent Financial Assets

The new standard prescribes a method for estimating credit losses on financial assets for which foreclosure is probable. Companies determine the ACL by comparing the fair value of the collateral to the amortized cost basis of the related financial asset. There's also a practical expedient for financial assets where the borrower is experiencing financial difficulty and a company expects the loan to be satisfied through operation or sale of the collateral.

To illustrate the application of the practical expedient, assume that a financial institution intends to repossess a car. The financial institution plans to then lease the car and use the lease payment to service the outstanding auto loan. The amortized cost basis of the car—that is, its book value at the time of repossession—is $10,000 while the car's fair value is $4,000. Under the practical expedient, the financial institution should record an ACL of $6,000.

Let's modify this example and assume that the financial institution decides to sell, rather than lease, the car after repossession. Further assume that the car will be sold through an auctioneer that charges a commission of $500. The financial institution intends to apply the proceeds of the sale to the outstanding auto loan. Because loan repayment depends on the sale of the collateral, the financial institution should record an ACL of $6,500.

Troubled Debt Restructurings (TDRs)

A TDR occurs when a lender grants a concession to a borrower—such as modifying or relaxing the terms of a loan agreement—to accommodate a borrower experiencing financial difficulties.

Unlike today's GAAP requirements, the new standard no longer requires a company to estimate credit losses for TDRs using a DCF model; instead, a company may use any approach that yields reasonable results. Moreover, under the new standard, companies should recognize the credit losses, including the concession given to the borrower upon a TDR, by recording an allowance account rather than reducing the basis of the impaired loan directly.

Finally, under the new standard, a lender will no longer need to analyze TDRs on an individual basis. Instead, TDRs should be considered like any other loan for the purposes of estimating credit losses. If the TDR has similar risk characteristics to other loans in the portfolio, it should continue to be pooled for determining the ACL. To demonstrate, presume a lender has a number of TDRs related to five-year, adjustable rate consumer mortgages. Each of these loans was originated in 2013. Further assume that the loan-to-value ratio of these loans exceeds 100% and the credit scores of the borrowers are all below 600. These mortgages have shared risk characteristics, so the lender could pool the TDRs together and estimate expected credit losses using a method such as loss-rate or PD/LGD.

However, if the lender has very few consumer mortgages and they are uniquely underwritten, it may conclude that they don't share enough similar risk characteristics and evaluate the loans individually. Companies will need to make reasonable conclusions based on what's appropriate for its circumstances.

MOSS ADAMS INSIGHTS

At the FASB meeting on September 6, 2017, it was determined that the additional guidance related to TDRs wouldn't result in a formal amendment to ASU No. 2016-13. The board plans to publish a memo about its discussion of the guidance for restructured loans. The board agreed that lenders must identify and measure the effects of the troubled debt restructuring when the individual troubled loan modification is reasonably expected.

In some circumstances, such as when loan-level restructuring information isn't available (third-party servicer reporting on a delayed basis, for example), companies can apply what the FASB called a portfolio-level approach—making estimates based on known historic data. When a company carries out the loan restructuring, it may make an additional adjustment if there's a difference between the loss it expected and the actual loss it incurred.

The FASB also agreed to not specify a particular method for calculating the loss from a restructured loan, although the method must capture the concession (DCF calculation or model is necessary for an interest rate concession, for example). If an entity uses a DCF model on its performing portfolio, any effects of TDRs that are incremental to what's embedded in historical loss data shouldn't be incorporated into the DCF model until individually identified. It should be noted that the expectation of a TDR is the one situation where a company could forecast beyond the contractual life of the financial asset.

Purchased Credit-Deteriorated (PCD) Financial Assets

PCD financial assets are within the scope of the new standard and are defined as acquired individual financial assets (or groups with similar risk characteristics) that, as of the acquisition date, have experienced a "more-than-insignificant deterioration in credit quality" since origination (different from existing GAAP definition)[5]. CECL should be used for loans and HTM debt securities, and the revised securities impairment model should be utilized for AFS debt securities ("impairment revised").

The determination of whether an asset is PCD or not is based on the acquirer's assessment. This is a significant change from the current definition of purchase credit-impaired loans (PCI), and will result in more assets being identified as being PCD compared to the existing PCI definition. The accounting for PCD loans is significantly less onerous than current PCI guidance.

Purchasers should record PCD assets at acquisition by recognizing the amortized cost of the asset, where the amortized cost is equal to the sum of the purchase price and the related expected credit loss. This is often referred to as the "CECL gross-up."

> **CONSIDERATION OF PREPAYMENTS**
>
> **Has the purchaser decided to determine the allowance for credit losses for PCD assets by discounting future expected cash flows?**
>
> # YES
>
> Use the discount rate that equates the purchase price of the PCD asset with the present value of estimated future cash flows.
>
> # NO
>
> Base the allowance on the unpaid principal balance (par amount) of the PCD asset.

The FASB decided that when estimating a PCD ACL using a method that doesn't discount future expected cash flows, companies should base the allowance on the par amount of the PCD asset. The use of a specific estimation method (a DCF, for example), either initially or on subsequent measurement dates, isn't required.

When estimating the ACL using a method that discounts future expected cash flows, companies should use the discount rate that equates the purchase price of the PCD asset with the present value of estimated future cash flows.

For example, assume a company purchases a PCD debt instrument for $850. The instrument has a par amount of $1,000. As of the acquisition date, the expected credit loss embedded in the purchase price is $100 (meaning that the investor believes it will recover $900 of cash flows on its $850 investment). This expected credit loss wasn't estimated by discounting future expected cash flows.

THE DAY 1 JOURNAL ENTRY WOULD BE:

Debt Instrument (par)	**$1,000**	**Debt instrument carrying value = $950**
Noncredit discount	**$50**	
Allowance for credit losses	**$100**	(Par less noncredit discount)
Cash	**$850**	

In periods subsequent to the acquisition, a company should:

- Accrete the $50 noncredit discount into interest income over the life of the debt instrument, based on the Day 1 expected cash flows.

- Record any changes in $100 allowance for expected credit losses through the income statement, regardless of whether those adjustments increase or decrease the allowance account. This is a change from today's GAAP, in which positive adjustments to estimates of expected future cash flows are often recognized prospectively through a change in the expected yield of the purchased asset.[6] Under the CECL model, those positive changes would be recorded immediately to the income statement by virtue of an immediate direct reduction in the ACL.

Note that there's no Day 1 income statement impact, as is required for non-PCD assets recording an ACL under CECL. Also, if the acquisition is a pool of similar credit risk assets, a company should allocate to each financial asset the noncredit-related discount/premium resulting from acquiring a pool of PCD financial assets. We address transition requirements related to PCD assets later in this guide.

[5] See ASC 326-10-15-1.

[6] See paragraphs 8(b) and 10(b) of ASC 310-30-35.

We are expecting to see broader application of PCD accounting to assets acquired, particularly as it relates to debt securities. Given the perceived favorable accounting for PCD assets, companies will have to guard against improperly identifying assets as PCD and unreasonable estimates of expected credit losses at acquisition. We will monitor developments to understand at what level an asset is deemed PCD, as there's no bright-line definition for what's "more-than-insignificant" as it relates to deterioration in credit quality.

The new standard also provides PCD accounting examples (Examples 13 and 14), beginning at ASC 326-20-55-66.

Treatment of Premiums and Discounts When Measuring Credit Loss

The FASB decided that an ACL measured using a method that doesn't discount future expected cash flows should reflect expected credit losses of the amortized cost basis of the financial assets, including premiums and discounts. A company may also separately measure expected credit losses of each component (unpaid principal balance and premiums/discounts, including deferred fees/costs) of an amortized cost basis asset.

Prepayments

Prepayments will be an important consideration, particularly if a company has limited historical data or if the CECL methodology implemented doesn't forecast losses over the entire remaining life of the assets. The current thought process in the industry is that if the historical data includes the complete life of assets, the prepayment rates are likely embedded in a company's calculated credit loss rates. Therefore, consideration should be given to adjusting for embedded prepayment rates, rather than separately incorporating prepayment rates and effectively double-counting the impact.

Methods for Estimating Credit Losses

In the appendix to this guide, we discuss five methodologies for establishing ACL: Loss-Rate, DCF, PD/LGD, Provision Matrix, and Regression. None of these methods are new; many companies employ one or more of these models to estimate credit losses today. Under the new standard, companies can continue to use these approaches when establishing loan loss reserves, but the data and assumptions underlying the models will have to be adjusted to give consideration to not only current but also future expectations. The ultimate challenge will be to appropriately document reasonable and supportable forecasts. Companies should pay particular attention to the regression concepts, as we believe the correlation of observable economic data to historical losses is likely to produce some of the best evidence in support of forecasts.

Impact of CECL on Available-for-Sale Debt Securities

The new standard makes targeted improvements to the accounting for credit losses on available-for-sale (AFS) debt securities, including lending arrangements that meet the definition of **debt securities** under GAAP and are classified as AFS.

Debt securities are defined as any security representing a creditor relationship with a company. This includes but isn't limited to certain preferred stock, US Treasury and government agency securities, municipal and corporate bonds, interest/principal-only strips, and securitized debt instruments like collateralized mortgage obligations and real estate mortgage investment conduits.

The term debt security explicitly excludes the following: option contracts, financial futures contracts, forward contracts, lease contracts, and trade/loan receivables that aren't securitized.[7]

Under the new standard, the credit loss models of debt securities classified as AFS or HTM are separated.[8] This is a major change from current GAAP, as companies often view their AFS and HTM debt security portfolios similarly from a credit loss standpoint. That said, the FASB's goal with the new standard was to keep all financial instruments recorded at amortized cost under the same model, thus separating AFS debt securities entirely.

AFS debt security impairment and credit losses is excluded from CECL and codified within its own subtopic, ASC 326-30. Under ASC 326-30 *Financial Instruments – Credit Losses: Available-for-Sale Debt Securities* and consistent with today's GAAP, AFS debt securities are considered impaired if the fair value of the investment is less than its amortized cost.[9] The FASB removed the term "other-than-temporary impairment" from GAAP surrounding the recognition and measurement of impairment losses for AFS debt securities.

Under ASC 326-30, companies are now required to use an allowance approach when recognizing credit loss for AFS debt securities, measured as the difference between the security's amortized cost basis and the amount expected to be collected over the security's lifetime. Under this approach, at each reporting date a company would record impairment related to credit losses through earnings offset with an ACL.[10]

Ultimately, companies should record a charge to earnings for:

- The entire difference between fair value and amortized cost if a company intends to sell, or more likely than not will be required to sell, the debt security before recovery of the amortized cost basis. Also, this is the only instance under ASC 326-30 where write downs of amortized cost of AFS debt securities occur.

- The portion of the difference attributable to credit losses if a company has no intent to sell, or if it is more likely than not that a company won't be required to sell the debt security. In most cases, this will be the calculated credit losses. Any remaining difference between amortized cost and fair value would be recorded, net of tax, as a reduction of other comprehensive income.

[7] See glossary for definition of "debt securities" at ASC 326-30-20.

[8] Current US GAAP includes five different credit impairment models for instruments within the scope of ASU 2016-13: ASC Subtopic 310-10, Receivables-Overall; ASC Subtopic 450-20, Contingencies-Loss Contingencies; ASC Subtopic 310-30, Receivables-Loans and Debt Securities Acquired with Deteriorated Credit Quality; ASC Subtopic 320-10, Investments-Debt and Equity Securities - Overall; and ASC Subtopic 325-40, Investments-Other-Beneficial Interests in Securitized Financial Assets.

[9] See ASC 326-30-35-1.

[10] See ASC 326-30-35-2 through 3 for the description of this allowance account and limitations.

At each reporting date (quarterly for public companies or financial institutions filing call reports), a company should measure and record an ACL on an AFS debt security when it's determined that impairment on the AFS debt security is credit loss related.

The standard states that an investment is impaired if the fair value of the investment is less than the amortized cost basis of the investment[11]. Impairment (excess of amortized cost above fair value) in excess of the calculated allowance related to credit losses should be recorded through other comprehensive income in equity, net of applicable taxes. This is unchanged from the current accounting for unrealized gains and losses on AFS debt securities. The approach is different for HTM debt securities under CECL, which requires a company to measure expected credit losses at acquisition, as well as subsequent reporting dates.

FIGURE 3: THE CREDIT IMPAIRMENT PROCESS FOR AFS DEBT SECURITIES.[12]

The AFS impairment methodology is summarized in the following diagram:

Is the fair value of the security less than its amortized cost? — **NO** → No impairment (i.e., no write-down or allowance for credit losses).

YES

Does the institution intend to sell the security? — **YES**

NO

Is it more likely than not the institution will be required to sell the security before recovery of its amortized cost basis? — **YES** → Any previously recognized allowance for credit losses is written off and the security's amortized cost basis is written down to fair value, through earnings.

NO

Determine if the decline in fair value has resulted from a credit loss or other factors:

Recognize an allowance for credit losses by a charge to earnings for the credit-related component of the decline in fair value (subject to fair value floor).

Recognize in OCI the noncredit-related component of the fair value decline (if any).

[11] ASC 326-30-35-1.

[12] From the December 19, 2016 Interagency "Frequently Asked Questions on the New Accounting Standard on Financial Instruments – Credit Losses (occ.treas.gov/news-issuances/bulletins/2016/bulletin-2016-45a.pdf)

For AFS debt securities, the impairment assessment should be done at the **individual security level**. The standard defines security level as the level and method of aggregation used by the reporting company to measure realized gains and losses on its debt securities.

This will largely be on a security by security basis, but if, however, debt securities with the same CUSIP were purchased on separate dates, the average amortized cost basis of these securities can be used, if a company uses this basis already for recording unrealized and realized gains and losses.[13] This is a major difference from the HTM CECL model approach, which requires the credit loss assessment on such assets on a collective (pool) basis when similar risk characteristics exist.

When an AFS debt security is considered impaired, a company must determine whether the decline is credit loss related or due to other factors. To evaluate the nature of the impairment, a company should compare, at the reporting date, the present value of future cash flows expected to be received to the amortized cost basis.

EXAMPLE 1

As an example, assume that an investor holds an investment in an AFS debt security. The amortized cost basis of this investment is $100,000. Its fair value at the reporting date is $87,000. Based on the definition within ASC 326, the security is considered impaired by $13,000. Of this amount, what is credit loss related? The fair value measurement considers a variety of factors including movements in both the risk-free interest rate and the specific creditworthiness of the issuer.

The investor estimates that the discounted future contractual cash flows expected to be recovered from the investment total $95,000. Accordingly, the investor would record the following journal entry (before the impact of taxes) to recognize the impairment loss under the new standard:

Credit loss on investment in AFS debt security	**$5,000**[14]	
Allowance for credit losses on AFS debt security		**$5,000**
Other comprehensive income	**$8,000**[15]	
Investment in AFS debt security		**$8,000**

[13] See ASC 326-30-35 section.

[14] $100,000 amortized cost basis - $95,000 present value of expected future cash flows

[15] $100,000 amortized cost basis - $87,000 fair value + $5,000 credit loss already recognized
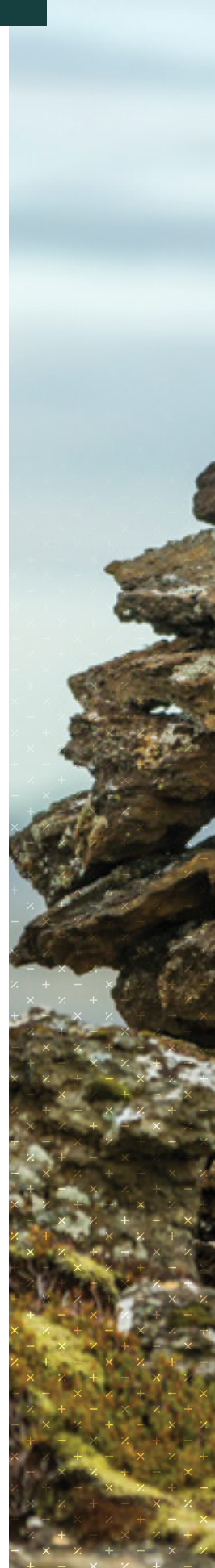
ESTIMATING FUTURE CASH FLOWS

To estimate expected future cash flows, a company should look to past events, current conditions, and reasonable and supportable forecasts, utilizing all relevant information (industry, geographical, economic, political, etc.) pertaining to collectability of the security. The extent to which information is utilized by a company to estimate cash flows should be consistent with the level that the evidence can be objectively supported.[16]

For instance, assume a company owns an AFS debt security collateralized by a pool of agriculture loans originated in the Midwest United States, and the issuer hasn't missed a payment to date. Also assume the underlying loans were originated during an economic expansion and profitable times for the underlying agricultural borrowers. If during the current year, a severe drought plagued the Midwest, it wouldn't be prudent for the security holder to ignore current economic conditions and the future likelihood of security performance when estimating future cash flows solely because the issuer hasn't missed a payment to date.

More simply, the future payment terms of a security backed by performing loans could be different from the payment terms in prior periods if a balloon payment is required, or doubt could exist regarding continued payment if known collateral values have declined.[17]

The correlation of environmental factors to estimated future cash flows is a subjective and difficult process. However, the standard requires a company to utilize all relevant information to determine estimated future cash flows. It's imperative that a company have robust documentation to support any forecasts or assumptions used.

Once determined, expected future cash flows are then discounted at the effective interest rate, which is the implicit rate of return as determined at the date of purchase, using the contractual rate adjusted for any deferred fees or costs, and purchase discounts or premiums. If the contractual rate is a variable rate, a company is prohibited from any rate change projections in estimating future cash flows. Instead, a company must choose one of the two following options to **apply to its entire portfolio:**

- Calculate a new effective rate as the contractual rate changes over the life of the security, or

- Calculate the effective rate once on the date a company first determines a credit loss exists, and apply this rate on a go forward basis.

Any excess of amortized cost above the discounted present value of future cash flows should be recorded in an ACL, with increases to the allowance charged to credit loss expense (with reversals for declines in credit losses as reversals of credit loss expense).

One important thing to note is that the credit loss allowance is limited to the amount of initial impairment calculated above (fair value compared to amortized costs at measurement date). Simply put, if the amortized cost of an AFS debt security is $1,000 and the fair value is $900, regardless of whether the calculated credit loss is $150 or $200, the recorded allowance and charge to earnings is limited to a fair value floor of $100.[18]

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[16] See ASC 326-30-35-8.

[17] See ASC 326-30-55-4.

[18] See ASC-326-30-35-6.

DETERMINING IF A CREDIT LOSS EXISTS

Estimating whether a credit loss exists can be a complex process, requiring an AFS debt security holder to consider all relevant facts and circumstances when assessing credit losses. The standard outlines multiple factors to consider when determining whether a credit loss impairment exists, as follows:

- The extent to which the fair value is less than the amortized cost basis

- Adverse conditions specifically related to the security, an industry, or geographic area; for example, changes in the financial condition of the issuer of the security, or in the case of an asset backed debt security, changes in the financial condition of the underlying loan obligors. Examples of those changes include any of the following:

  - Changes in technology

  - The discontinuance of a segment of the business that may affect the future earnings potential of the issuer or underlying loan obligors of the security

  - Changes in the quality of the credit enhancement

- The payment structure of the debt security and the likelihood of the issuer being able to make payments that increase in the future

- Failure of the issuer of the security to make scheduled interest or principal payments

- Any changes to the rating of the security by a rating agency

As the standard states, the list isn't all-inclusive, and is largely consistent with current guidance aside from the key changes as follows:

- ASC 326-30 removes the ability for companies to consider the **length of time** that the fair value of an AFS debt security has been less than its amortized cost basis when determining if a portion of the impairment is related to credit loss. For example, assume a company invested $1,000 in a publicly traded corporate bond. One month later the bond is trading at $980. Under current GAAP, companies could likely assert that since the bond has only been trading below its amortized cost for a month (short period of time), there's no other-than-temporary impairment. Under the new standard and ASC 326-30, a company must evaluate if there has been credit impairment despite the short period of time the bond has been owned (and even though there was only a relatively small decline in value). As noted in the disclosure requirement section in this guide the FASB did retain the requirement to disclose AFS debt securities in a continuous loss position for less than 12 months and those that have been in a continuous loss position for 12 months or longer.

- Companies are no longer required to consider **recoveries or additional declines** in the fair value of an AFS debt security after the reporting date when evaluating impairment. For example, assume a company invested in a municipal bond. As of a company's December 31 year-end reporting date, the municipality filed for bankruptcy and the municipal bond was trading at 50% of par. By January 31, the municipality negotiated a deal with the bankruptcy court and the bond value increased. Under the new standard, this subsequent information wouldn't prevent a company from booking an impairment as of the reporting date.

- Companies are no longer required to consider **historical or implied volatilities** when evaluating impairment of AFS debt securities. However, note that companies aren't prohibited from considering such volatility.[20]

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[20] See ASC 320-10-35-33F(c).

The standard also states that a company should consider how other credit enhancements that aren't separate contracts, such as mortgage-backed securities issued with a Fannie Mae or Freddie Mac guarantee (and as discussed in ASC 326-30), may affect the expected performance of the AFS debt security.

Companies should consider the current financial condition of the guarantor of a security and whether any subordinated interests are capable of absorbing estimated losses on the financial assets underlying the security. Credit enhancements that are separate of the security, like a standby letter of credit, aren't factored into the expected performance of the security.[21]

It's important to note that assessing **whether** a credit loss exists doesn't necessarily require a discounted cash flow analysis. A company may be able to demonstrate, through a thorough qualitative assessment using the factors listed in ASC 326-30, that all contractual cash flows will be received timely.

EXAMPLE 2

Assume the fact in Example 1, and an AFS debt security held has an unrealized loss (impairment) of $13,000. If management believes that, after considering and documenting all relevant facts and circumstances surrounding the debt security and repayment, all required payments of the $100,000 AFS debt security will be received timely in accordance with the contractual terms, then no allowance is required.

The journal entry would be as follows:

Other comprehensive income	**$13,000**[22]	
Investment in AFS debt security		**$13,000**

This is one major distinction between the AFS model and HTM CECL model. There's an expectation (except for certain scenarios where a loss is remote, such as US Treasuries, as noted above) that an HTM debt security will have a recorded credit loss allowance even if the security's fair value is in excess of amortized cost. For AFS debt securities, a credit loss will be recorded only if both of the following are true:

- The fair value is less than the amortized cost.
- The discounted cash flow analysis results in an amount less than contractual cash flow.

With different credit loss models, different impairment models will exist for debt securities that are classified as HTM and AFS.

MOSS ADAMS INSIGHTS

During 2017, members of the accounting profession drafted a discussion paper that expanded upon the example within ASC 326 as to when zero credit losses (and no allowance) is a reasonable conclusion under CECL and the AFS security impairment model.

As examples, indicators were identified for US Treasuries, GNMA, FNMA, and FRMC securities that may allow a company to conclude that zero credit losses is appropriate. These indicators considered explicit and implicit guarantees by the US government, the US government's ability to print its own currency, and a history of no credit losses by the US government, or the agencies evaluated (among other indicators). The paper was circulated to a number of stakeholders, including banking regulators.

We anticipate an additional discussion to occur within the profession and among stakeholders to better clarify how the concept of zero-credit losses should be applied, including how factors such as increased political uncertainty, budgetary concerns, and credit default swap spreads weigh into the conclusion of whether a credit loss should be recognized.

[21] See ASC 326-30-55-4

[22] $100,000 amortized cost basis - $87,000 fair value (no credit loss recognized)

PRACTICAL EXAMPLES OF ESTIMATING AND MEASURING CREDIT LOSS

EXAMPLE 3

Assume on 12/31/X0, a company purchases at par a collateralized debt instrument with the following characteristics:

- $10 million par value at 12/31/X0

- 4.85% contractual rate

- $1 million annual amortizing payments for seven years due 12/31 of each year

- Balloon payment of $6.5 million due on 12/31/X9

- Underlying collateral is bank loans on multifamily commercial real estate in Florida

The company has classified the security as an AFS debt security and it's more likely than not that the company won't be required to sell (and doesn't intend to sell) the security. For three years, the security has paid timely, and the fair value has been in excess of amortized cost, an indication the security isn't impaired according to the standard. Assume during year four, a rise in interest rates pushes the security fair value to below the amortized cost.

In this instance, the security is considered impaired and must be evaluated for potential credit losses. However, the company determines that, based on its analysis using all relevant and available information, the issuer will be able to make all contractual payments, and the impairment isn't credit related, thus the company records the unrealized loss through other comprehensive income only.

In year four, at the reporting date of 12/31/X4, the amortized cost is $7,828,375 and fair value is $5 million. In addition, the company is aware of circumstances that cause it to question whether the issuer will be able to make all the payments after the $1 million annual payment for X5.

Ultimately, the company revised the original expected future cash flows as follows:

DATE	Original Expected Cash Flows ($)	Revised Expected Cash Flows ($)
12/31/X5	1,000,000	1,000,000
12/31/X6	1,000,000	750,000
12/31/X7	1,000,000	500,000
12/31/X8	1,000,000	500,000
12/31/X9	6,500,000	5,500,000
Total undiscounted cash flows	10,500,000	8,250,000
Gross change in estimated cash flows		2,250,000

The gross change in estimated cash flows of $2,250,000 (1) must be discounted at the original effective rate (the 4.85% contractual rate in this example), calculated to be $1,766,357 (2)[23]. With the amortized cost of $7,828,375 and fair value of $5 million at 12/31/X4, the calculation for impairment components is as follows:

Amortized cost at reporting date	$7,828,375	
Fair value at reporting date	$5,000,000	
Overall impairment	$2,828,375	Unrealized loss on AFS debt security
Impairment related to credit losses	$1,766,357	(2) Record as allowance for credit losses
Noncredit loss Impairment	$1,062,018	Record through other comprehensive income

Entries at 12/31/X4 would look similar to those above:

Credit loss on investment in AFS debt security	**$1,766,357**	
Allowance for credit losses on AFS debt security[24]		**$1,766,357**
Other comprehensive income	**$1,062,018**	
Investment in AFS debt security (contra account)		**$1,062,018**

[23] For simplicity, the $2,250,000 is discounted as a lump sum at 4.85% for five years = $1,766,357

[24] It must be noted that OCI adjustments should be net of applicable taxes

CHANGES TO AFS DEBT SECURITY ACL

Both the AFS debt security allowance and HTM debt security CECL approach allow for reversals of credit losses through earnings, instead of permanently writing down the cost basis of the impaired AFS debt security, like is done today. This avoids the difficulty of recognizing impairment recoveries through interest income on a go forward basis, which is required under current GAAP. At each reporting date, a company assesses ACL through charges to credit loss expense, increasing or decreasing the ACL as appropriate, while limiting reversals of a security to the extent of the amount of previously recorded allowances. The holding gain or loss of an AFS debt security between reporting periods also excludes the ACL, as it currently does for accrued interest.

EXAMPLE 4

Continuing the previous example, now let's assume that at the next interim reporting date of 3/31/X5 the fair value remains at $5 million. Management updates the credit loss analysis at 3/31/X5, and still concludes that the gross estimated future cash flow deficiency remains at a deficiency of $2.25 million. Because the ACL is a discounted number using a 4.85% effective rate, and no other assumptions have changed other than the passage of time of three months, the newly calculated ACL is $1,787,623,[25] a difference in allowance from 12/31/X4 of $21,266.

The calculation for impairment components is as follows:

Amortized cost at reporting date—3/31/X5	$7,828,375	
Fair value at reporting date—3/31/X5	$5,000,000	
Overall impairment	$2,828,375	Unrealized loss on AFS debt security
Impairment related to credit losses—3/31/X5	$1,787,623	New allowance for credit losses
Impairment related to credit losses—12/31/X4	$1,766,357	Prior allowance for credit losses
	$21,266	Incremental increase in credit losses
Noncredit loss impairment	$1,062,018	Record through other comprehensive income

Because this incremental difference didn't occur from a change in credit quality of the security and estimated cash flows, but rather merely from the passage of time, the FASB provides issuers an option on how to treat this increase to the ACL on the income statement side. In any instance, a company can report the entire change in present value of expected cash flows as a credit loss expense or recovery, but when the change in present value is attributable to the passage of time, as in this example, a company can record this change as a reduction of interest income.[26]

Entries at 3/31/X5 would be as follows:

Credit loss on investment in AFS debt security	$21,266	
Allowance for credit losses on AFS debt security		$21,266
	OR	
Interest income on AFS debt security	$21,266	
Allowance for credit losses on AFS debt security		$21,266

[25] For simplicity, the $2,250,000 is discounted as a lump sum at 4.85% for 4.75 years = $1,787,623.

[26] For entities that choose to record changes in present value attributable to time within the interest income, there's an additional disclosure requirement in paragraph 326-30-50-8.

EXAMPLE 5

Now let's assume the same facts in Example 4, but instead at the interim reporting date of 3/31/X5 the fair value had increased to $6.5 million. Management updates the credit loss analysis at 3/31/X5, and still concludes that the gross estimated future cash flow deficiency remains a gross deficiency of $2,250,000, resulting in a discounted amount of $1,787,623.

Keeping in mind that under ASC 326-30, any recognized credit loss is limited to the amount by which the amortized cost of the security exceeds fair value, at 3/31/X5, the calculation for impairment components will change as follows:

Amortized cost at reporting date—3/31/X5	$7,828,375	
Fair value at reporting date—3/31/X5	$6,500,000	
Overall impairment	$1,328,375	Unrealized loss on AFS debt security
Impairment related to credit losses—12/31/X4	$1,766,357	Prior allowance for credit losses recorded
	($437,982)	Disallowed credit loss for FV < amortized cost
Noncredit loss impairment (reversal)	<$1,062,018>	Record through other comprehensive income

The overall security impairment is less than the discounted calculated deficient cash flows, thus the ACL losses is limited to the unrealized loss of $1,328,375. In this example, there's no related noncredit loss impairment from other factors. The resulting entries below would reduce both the current period provision for credit losses by the limiting amount and remove the existing OCI component previously recorded in equity in Example 3.

Entries at 3/31/X5 would be as follows:

Allowance for credit losses on AFS debt security	$437,982	
Credit loss on investment in AFS debt security		$437,982
Investment in AFS debt security	$1,062,018	
Other comprehensive income		$1,062,018

This example assumes no credit quality improvement between the reporting dates, but fair value of the AFS debt security increased, which resulted in a reversal of credit loss allowance. This case isn't the only scenario to reduce previously recorded credit losses. If, however, the **fair value didn't increase**, but the **credit quality improved** based on management's analysis at 3/31/X5 when applying the guidance in ASC 326, then the calculated required ACL would naturally decline to below the original gross amount of $2,250,000 calculated in Example 3. Figure 4 on the following page explains the mechanics of this.

FIGURE 4: THE RELATIONSHIP BETWEEN FAIR VALUE AND CREDIT QUALITY FOR AFS DEBT SECURITIES

Reverse credit losses on an AFS debt security if:

- Fair value exceeds amortized cost in a period after a credit loss had been recognized
- Reverse the **entire** credit loss previously recognized and recognize a corresponding adjustment to allowance for credit losses.

OR

- Fair value remains below amortized cost after a credit loss had been recognized but credit quality improves
- Reverse **partial** amount of the credit loss; amount should reflect the impact of the improved credit quality.

PERIOD 1
Credit loss recognized

PERIOD 2
Credit loss reversed

DEBT SECURITIES SUBSEQUENTLY IDENTIFIED FOR SALE

For AFS debt securities, ASC 326-30 requires that any ACL recorded be written-off only if a company either (1) intends to sell the debt security, or (2) will more than likely be required to sell the security before recovery of its amortized cost basis.[27] If a company intends to sell an impaired AFS debt security, the security is written down to fair value, first removing any existing ACL, then any incremental amounts through earnings.

If a company doesn't intend to sell the impaired security, an assessment must be done to conclude whether or not the security will be required to be sold before forecasted recovery can occur. The assessment as to whether or not an AFS debt security will be required to sell is consistent with current GAAP[28], and companies should continue to consider all facts and circumstances both internally concerning regulatory, contractual, or operational requirements, and externally at the security level for those items listed at ASC 326-30.

The FASB took a very different approach to write-downs between the HTM debt and AFS debt impairment models. For HTM debt, the FASB retained the existing write-off guidance in GAAP, which requires a company to write off a financial asset in the period the asset is deemed uncollectible.[29] For amounts deemed uncollectible on HTM debt securities, companies should record the charge-offs through the ACL during the period the security is **deemed uncollectible**, establishing a new amortized cost basis. Recoveries aren't recorded until amounts are actually received, thus subsequent recoveries in unrealized fair value aren't recorded.

FIGURE 5

Calculating an ACL when a debt security is identified for sale.

FAIR VALUE − AMORTIZED COST BASIS = IMPAIRMENT ALLOWANCE

AFS DEBT SECURITIES ACQUIRED WITH CREDIT DETERIORATION

Similar to the accounting for loans under CECL, the AFS debt security impairment model uses the purchased credit-deteriorated (PCD) financial assets definition and accounting. The new standard requires the estimate of expected credit losses embedded in the purchase price of PCD assets to be estimated and separately recognized as an allowance as of the date of acquisition. Rather than report the amount of credit loss expense on date of purchase and record the security net, purchasers will need to gross up the purchase price by the determined amount of expected credit losses on date of purchase. The initial amortized cost basis for the purchased financial assets with credit deterioration is the new "purchase price" plus any determined ACL. The FASB is explicit that for AFS debt securities, this PCD analysis should be done at the individual security level, even when purchasing a pool of PCD financial assets. This effectively mirrors the PCD accounting for loans, as discussed above.

[27] See ASC 326-30-35-10

[28] ASC 320-10-35-33b

[29] See ASC 326-20-35-8

PCD DEBT SECURITY EXAMPLE

Let's assume the same facts as above in Example 3, but instead, the company pays $9.5 million for the security with $10 million par and classifies it as an AFS debt security. Under current GAAP, if the security is currently paying and is purchased in a rising interest rate environment, the company would likely record a purchase discount of $500,000 due to changes in market interest rates since origination, and begin accreting into income. ASC 326-30 requires an assessment to whether the security acquired qualifies as PCD.

If it's determined that a gross cash flow deficiency exists between unpaid principal and expected cash flows of $100,000, an ACL is recorded. The company must also gross up the purchase price by the allowance to record the PCD amortized cost of $9.6 million.

The original difference between purchase price and unpaid principal of $500,000 is reduced to $400,000, which represents a noncredit discount under ASC 326-30. The acquisition-date journal entry is as follows:[30]

AFS debt security	**$10,000,000**	
AFS debt security— noncredit discount		**$400,000**
Allowances for credit losses		**$100,000**
Cash		**$9,500,000**

The gross-up method is less complex than the current PCI accounting and should improve comparability of PCD and non-PCD assets. Day 2 accounting for the treatment of the noncredit discount accretion is through interest income over the remaining contractual life of the financial asset. Similar to non-PCD debt securities, the ACL is evaluated each quarter and adjusted as necessary by a charge or credit to the provision for credit losses. This non-permanent write-down through an allowance and the ability for subsequent changes going forward is a change from current GAAP and other-than-temporary impairment accounting.

For securities with previously recorded other-than-temporary impairment, it's worth noting that a company

shall apply **prospectively** the PCD guidance to both AFS and HTM debt securities. When an other-than-temporary impairment had been recognized before the date of adoption of the new standard, the amortized cost basis (including previous write-downs) of the debt security is to remain unchanged. The effective interest rate doesn't change with adoption either. Amounts previously recorded as other-than-temporary impairment will be accreted into interest income on a level yield basis over the **remaining life** of the security. Recoveries from improvements in cash flow subsequent to adoption will be brought in to income at that time.[31]

ASC 805 AMENDMENTS— IMPLICATIONS TO ACQUISITIONS

ASC Topic 805, *Business Combinations,* was modified so that PCD assets acquired in a business combination will be subject to the CECL guidance for PCD assets. These loans will be "grossed up" as discussed previously. Non-PCD financial assets will be recorded at fair value. The non-PCD assets acquired will also follow the new CECL guidance for financial assets subsequent to acquisition.

When a business acquisition is consummated, companies will bifurcate the fair value marks of non-PCD financial assets between interest rates and credit, and recognize a provision for losses in the income statement for the credit allowance portion of the fair value mark on Day 1 of the acquisition. While it's unclear how practice will evolve in this area, given the definition of PCD assets having "more-than-insignificant deterioration in credit quality," we would expect the credit mark on non-PCD to be an insignificant percentage of the asset, although the absolute dollar adjustment may in fact be material to a company.

MOSS ADAMS INSIGHTS

We don't see this accounting treatment as a significant inhibitor to future acquisition activity, as it will apply to everyone, and because of the growing prevalence of non-GAAP financial measures. However, it may provide incentive to accelerate the timing of a deal closing prior to the accounting standards adoption date, or incentivize an acquisition to close early in a reporting period, rather than later, for the combined operations to maximize net income recognized in the reporting period to offset the negative impact of the ACL being recorded (along with merger expenses). With that said, financial institutions should consider the impacts on equity (i.e. ability to pay dividends) when recording a significant credit mark that causes a net loss for the reporting period and significantly impacts capital and capital ratios.

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[30] ASC 326-30-30-3 states Estimated credit losses shall be discounted at the rate that equates the present value of the purchaser's estimate of the security's future cash flows with the purchase price of the asset.

[31] See ASC 326-10-65-1e.

CREDIT QUALITY DISCLOSURES

Many of the disclosures required under the new standard are similar to existing requirements, as these disclosures were already updated after the financial crisis. PBEs, however, have a newly required vintage disclosure that is optional for non-PBEs. Also, the objective of the disclosures remains the same:

- To provide insight into the credit quality of financial assets at each reporting date,

- To provide transparency around any credit quality changes or changes in underlying estimates that occurred over the course of the reporting period, and

- To provide information to allow users to understand how management monitors credit quality.

In general, disclosures that are required when an ACL is recorded are divided into two distinct groups:

- For finance receivables and net investment in leases receivable, certain disclosures are required to be made based on **portfolio segment**, and certain disclosures are required to be made based on the **class of financing receivable**.

- For HTM debt securities, the information required to be disclosed is based on the **major security type**.

Disclosures required based on these disaggregated levels are shown in the following table.

Financing and Lease Receivables		HTM Debt Securities
Portfolio Segment	**Class of Financing or Lease Receivable**	**Major Security Type**
The level at which a company develops and documents a systematic methodology to determine its ACL. Examples: - Type of financing receivable - Industry sector of the borrower or customer - Risk rating	A class of receivable is a level of further disaggregation that is more granular than portfolio segment, which will be determined based on both of the following elements: - Risk characteristics of the receivable - A company's method for monitoring and assessing credit risk	Major security types are based on the nature and risks of the security, which may be based on some or all of the following elements: - Shared activity or business sector - Vintage - Geographic concentration - Credit quality - Economic characteristics

Additionally, for periods in which an ACL is recorded against AFS debt securities, the new standard requires companies to disclose information by **major security type** that provides a user of the financial statements with insight into the methodology and significant inputs used to measure the amount of credit losses deemed appropriate by management. Some of the examples of significant inputs the new standard provides include:

- Performance indicators of the underlying assets in the security, such as default rates, delinquency rates, and percentages of non-performing assets within the security pool

- Debt-to-collateral-value ratios

- Third-party guarantees

- Current levels of subordination

- Vintage

- Geographic concentration

- Industry analysts' reports and forecasts

- Credit ratings

- Other market data that are relevant to the collectibility of the security

For AFS debt securities, when management has determined that no ACL is required to be recorded at the reporting date, but impairment exists (i.e. as a result of changes in interest rates since the date the security was purchased), companies should disclose information management considered in reaching its conclusion. Such information should include the performance indicators listed on the previous page, along with information such as the volatility of the security's fair value and interest rate changes since the security was purchased. These disclosures may be aggregated by investment category, but individual securities with significant unrealized losses can't be aggregated. We've provided further discussion of these disclosures on pages 47-49.

The principal objective of providing disclosures at the identified disaggregated level is to give users a sufficient amount of detail to understand the significant elements of the portfolio, without being overwhelmed by insignificant information.

As a result, companies will have some latitude in defining the segments, classes, and major security types for which disclosures are provided. However, these categories are meant to be relatively consistent with categories required for pre-existing credit quality disclosures.

We also expect companies will be aligning their credit quality disclosures with the loan segments they identify in implementing the loss estimation model of CECL. While some companies will be able to leverage the disclosure categories they have already been utilizing, many companies will need to align their disclosures more closely with the development of their CECL loss implementation models.

As with many recent accounting standards, the new standard includes baseline disclosures for all companies, and incremental disclosures for PBEs.

CREDIT QUALITY INDICATORS

The most significant change in disclosure requirements relates to loans, leases, and receivables. For these financing receivables measured at amortized cost (excluding revolving lines of credit, which are grouped in a non-maturity column), a PBE must disclose credit quality indicators for each financing receivable class, disaggregated by vintage for as many as five annual periods[32].

Examples of Credit Quality Indicators

- Consumer credit risk scores
- Credit rating agency ratings
- A company's internal credit risk grades
- Loan-to-value ratios
- Collateral
- Collection experience
- Other internal metrics

[32] Upon transition, this disclosure is built up by one and is only required for the current and prior-year amortized cost balances. For each year subsequent to transition, this disclosure is built by one year until the fourth year after adoption, at which time the five most recent historical periods will be presented from that point forward.

Following is an example of the credit quality disclosure by asset class and vintage for a PBE that was provided in the new standard[33]:

AS OF DECEMBER 31, 20X5	Term Loans Amortized Cost Basis by Origination Year						Revolving Loans Amortized Cost Basis	TOTAL
	20X5	20X4	20X3	20X2	20X1	Prior		
Residential Mortgage								
Risk rating:								
1–2 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
3–4 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
5 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
6 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
7 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Total Residential Mortgage Loans	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Residential Mortgage Loans								
Current-period gross write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period recoveries	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period net write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Consumer								
Risk rating:								
1–2 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
3–4 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
5 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
6 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
7 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Total consumer	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Consumer Loans								
Current-period gross write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period recoveries	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period net write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Commercial Business								
Risk rating:								
1–2 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
3–4 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
5 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
6 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
7 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Total residential commercial bus.	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Commercial Business Loans								
Current-period Gross Write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period Recoveries	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period net write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Commercial Mortgage								
Risk rating:								
1–2 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
3–4 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
5 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
6 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
7 internal grade	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Total commercial mortgage loans	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Commercial Mortgage Loans								
Current-period gross write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period recoveries	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –
Current-period net write-offs	$ –	$ –	$ –	$ –	$ –	$ –	$ –	$ –

MOSS ADAMS INSIGHTS

The previous example uses internal risk ratings as the credit quality indicator differentiator. While this is likely to be the prevalent presentation for complying with the new disclosure requirement, we believe the use of internal risk ratings may not be the most effective way to comply with CECL because most companies lack sufficient stratification within their portfolio. For example, a community financial institution's commercial portfolio with 97% of the portfolio in a "Pass" rated category may struggle to differentiate risk simply based on a risk rating.

Depending on the nature of a PBE's existing record-keeping systems, this new disclosure requirement may present operational challenges. For instance, PBEs will need to determine the year of origination for each term loan in order to prepare accurate disclosures under the new standard. Even identifying the year of origination requires companies to make a determination based on the requirements of the new standard.

To make this determination, companies will need to follow the guidance set forth in ASC 310-20-35-9 through 35-12, which indicates that, for a refinanced or restructured loan, it should be classified as a newly originated loan if the new loan's terms are at least as favorable to the lender as terms for comparable loans to other customers with similar credit risk. Thus, there may be a need for underlying record-keeping systems to capture the "original" origination date for loans and also the

"new" origination date per this standard at the date of a subsequent refinancing or restructure. This presently may not be a field that is being captured in this manner for some companies, or may simply not be a field that can be reported upon easily with current record-keeping systems, and careful thought should be placed on how to appropriately capture and report this data.

There are a couple of additional nuances about the disclosure of credit quality indicators and vintage to consider. For **purchased** finance receivables and leases, the reporting company must use the initial date of issuance for the year of origination, not the date that the assets were purchased. This will undoubtedly require more data mining of the loan and lease record-keeping systems of acquired companies by acquirers that must report this information.

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[33] Disclosure example represents Example 15 in ASC 326-20-55-79. Note that this vintage disclosure by credit quality indicator is only required for financing receivables and net investment in lease receivables, not for HTM or AFS debt securities.

A simplified example of a credit-quality information disclosure that may be appropriate for a non-pPBE is as follows, in part[34]:

CREDIT-QUALITY INDICATORS AS OF DECEMBER 31, 20X1, AND 20X0

| CREDIT WORTHINESS CATEGORY | Corporate Credit Exposure—Credit Risk Profile | | | |
| | Commercial Real Estate | | Commercial Real Estate—Construction | |
	20X1	20X0	20X1	20X0
AAA-AA	$XX,XXX	$XX,XXX	$XX,XXX	$XX,XXX
A	XX,XXX	XX,XXX	XX,XXX	XX,XXX
BBB-BB	XX,XXX	XX,XXX	XX,XXX	XX,XXX
B	XX,XXX	XX,XXX	XX,XXX	XX,XXX
CCC-CC	XX,XXX	XX,XXX	XX,XXX	XX,XXX
D	XX,XXX	XX,XXX	XX,XXX	XX,XXX
Total	$XX,XXX	$XX,XXX	$XX,XXX	$XX,XXX

| LOAN-TO-VALUE RATIO | Consumer Credit Exposure—Credit Risk Profile | | | |
| | Residential—Prime | | Residential—Subprime | |
	20X1	20X0	20X1	20X0
0%–60%	$XX,XXX	$XX,XXX	$XX,XXX	$XX,XXX
60.01%–80%	XX,XXX	XX,XXX	XX,XXX	XX,XXX
80.01%–100%	XX,XXX	XX,XXX	XX,XXX	XX,XXX
100.01%–120%	XX,XXX	XX,XXX	XX,XXX	XX,XXX
>120%	XX,XXX	XX,XXX	XX,XXX	XX,XXX
Total	$XX,XXX	$XX,XXX	$XX,XXX	$XX,XXX

[34] Example based on the FASB's Example 7 in its Proposed Accounting Standards Update, Financial Instruments—Credit Losses (Subtopic 825-15)

MANAGEMENT'S ESTIMATION PROCESS AND UNDERLYING ASSUMPTIONS

There are several new disclosure requirements surrounding management's process for estimating the ACL included in the new standard, along with the requirement to provide this information for each portfolio segment and major security type. This likely provides some opportunity for inadvertent repetitive disclosure without careful coordination of this discussion within the footnotes. Some items for which the new guidance requires disclosure include:

- How expected loss estimates are developed

- Risk characteristics relevant to each portfolio segment or major security type

- A discussion of the factors that influenced management's current estimate of expected credit losses, including:

  - Past events

  - Current conditions

  - **Reasonable and supportable** forecasts about the future

- Changes in the factors that influenced management's current estimate of expected credit losses and the reasons for those changes

- Changes to a company's accounting policies and changes to the methodology from the prior period, a company's rationale for making those changes, and the quantitative effect of such changes

- Reasons for significant changes in the amount of charge-offs

- The reversion method applied for periods beyond the **reasonable and supportable** forecasting period

- The amount of any significant purchases or sales of financial assets during the period

- The amount of any reclassifications of loans to the held for sale category during each reporting period

A key takeaway from these disclosure requirements for users of the financial statements should be sufficient insight into what drove management's judgment to make changes to the ACL during the period. Preparers of financial statement disclosures might ask themselves the following questions to assess whether sufficient information about management's judgments has been provided. Note that this list isn't meant to be all-inclusive, but rather designed to demonstrate the objective of the qualitative disclosures required by the new standard.

- Do disclosures describe how much of the change in the allowance relates to expected changes in economic factors?

- Are those impacts of changes in expected economic factors directionally consistent with changes in the allowance (if not offset by other quantitative or qualitative factors)?

- Do disclosures provide enough transparency for users to understand why the allowance for this company changed in a specific direction compared to the directionality of changes in the allowance at another similar company?

SEC filers will also likely be expected to expand on this discussion within the MD&A sections of the interim and annual financial reports.

Discounted Cash Flow Method

For financial assets carried at amortized cost for which the expected credit losses are measured using the discounted cash flow method, companies are allowed to report the entire change in present value during the period as a provision for credit losses. Alternatively, the change in present value during the period that is due solely to the passage of time may be classified as interest income in the statement of operations. This is an accounting policy election, rather than an asset by asset election. Companies that select this latter alternative will be required to disclose the amounts that are recognized within interest income associated with this method. Additionally, a company's policy for accounting for changes in the present value must be disclosed.

Activity in the ACL

One pre-existing disclosure table that will require a slight modification under the new standard is the roll-forward of the ACL to include the balance added, if applicable, during the period related to credit losses recognized on financial assets purchased with credit deterioration. Following is an example table showing this disclosure:

ALLOWANCE FOR CREDIT LOSSES	Commercial and Agricultural	Construction and Land Development	Residential Real Estate	Commercial Real Estate	Consumer and Other	Unallocated	TOTAL
Balance, beginning of year	$515,000	$950,000	$45,000	$900,000	$10,500	$85,000	$2,505,500
Provisions, charged to operations	89,000	–	–	85,000	–	1,000	175,000
Purchased credit deteriorated	250,000	150,000	120,000	250,000	8,500	–	778,500
Loans charged-off	(80,000)	–	–	(45,000)	(4,000)	–	(129,000)
Recoveries of loans previously charged-off	20,000	–	–	40,000	5,500	–	65,500
Balance, end of year	**$794,000**	**$1,100,000**	**$165,000**	**$1,230,000**	**$20,500**	**$86,000**	**$3,395,500**

PURCHASED CREDIT DETERIORATED FINANCIAL ASSETS

There's very little incremental disclosure of credit quality specifically required for PCD assets in the new standard, because once they're purchased, they're evaluated with other similar financial assets and subject to class, segment, or major security type disclosures for that category of financial asset.

However, during the period that PCD assets are acquired, a company must reconcile the purchase price to the par value. This reconciliation must include the purchase price, the allowance for expected credit losses at the acquisition date, the discount or premium attributable to other factors, and the par value.

NOTE XX–CREDIT QUALITY OF LOANS RECEIVABLE

During 20X1, the bank purchased certain loans receivable which had more than insignificant credit deterioration since their origination. These purchased credit deteriorated loans are held in the portfolio of loans receivable in their natural classes at December 31, 20x1.

Following is a reconciliation of the purchase price to the unpaid principal balance at the acquisition date of the loans that were purchased with credit deterioration during the year. An example of this disclosure follows:

(000s)

Unpaid principal balance	**$150,000**
Allowances for expected credit losses at acquisition	**(6,750)**
Purchase premium	**1,500**
Purchase price	**$144,750**

PAST DUE AND NONACCRUAL FINANCIAL ASSETS

Similar to pre-existing credit quality disclosure guidance, the new standard will require disclosure of the past due and nonaccrual status of financing receivables, disaggregated by class.

In addition to the applicability of this disclosure to financing receivables, however, the new standard will require disclosure of the past due and nonaccrual status of HTM debt securities, disaggregated by major security type. Companies will be required to disclose their policies for determining when receivable and HTM debt securities are considered past due.

Nonaccrual disclosures that previously applied to financing receivables are extended with the new standard to apply also to HTM debt securities. Those disclosure requirements, disaggregated by class of financing receivable or major security type, include:

- The amortized cost basis on nonaccrual status as of the beginning and end of the reporting period;

- The amount of interest income recognized during the period on nonaccrual financial assets;

- The amortized cost basis of financial assets that are 90 days or more past due but not on nonaccrual status at the reporting date;

- The amortized cost basis on nonaccrual status for which there's no ACL as of the reporting date; and a company's policies for the following:

  – Placing receivables and securities on nonaccrual status

  – Recording payments received on such assets (cost recovery and cash basis, for example)

  – Determining past due status

  – Resuming the accrual of interest

  – Recognizing write-offs within the ACL

COLLATERAL-DEPENDENT FINANCIAL ASSETS

As previously discussed, the new standard requires an updated approach to defining and accounting for collateral-dependent financial assets. In an effort to provide enhanced disclosure about such assets, the new standard requires a company to describe, by class or major security type, the type of collateral and the extent to which it is secured by collateral. Inherent in this disclosure will be an analysis required by management to evaluate the value of underlying collateral at each reporting date.

Presentation and Disclosure for AFS Debt Securities

Financial Statement Presentation

Companies will continue to record and present AFS debt securities on the balance sheet at fair value. A change with ASC 326-30 is that, in addition to the fair value, the amortized cost and related ACL must be shown parenthetically. This is a notable change, especially if a company holds both AFS debt and AFS equity securities, because equity securities are removed from AFS status through ASU 2016-01.

Similarly, in the statements where the components of accumulated other comprehensive income are reported, a company must show **separately** the amounts related to AFS debt securities for which an ACL has been recorded.

Required Disclosures

The FASB's intent regarding disclosures within ASC 326-30 is to provide the financial statements user with enough information to understand not only the overall estimate of credit losses on AFS debt securities and the changes in the estimate during the period, but also the overall credit risk inherent in the AFS debt security portfolio.

Before digging into required new disclosures, companies should revisit their current investment disclosures to ensure that the current disaggregation makes sense with the intent of the new standard. A company will have to strike a balance between disaggregation that overburdens financial statements with excessive detail and too little disaggregation that obscures important information.[35]

AFS Debt Securities with No Allowance Recorded

The new disclosures differentiate between AFS debt securities without an ACL and those with an ACL. ASC 326-30 retains some previous disclosures under current GAAP, but also requires some new information. The major change is the removal of the concept of other-than-temporary impairment.

As noted previously, AFS debt securities can have impairment without incurring an ACL. Companies will be required to discuss their pertinent considerations when making a determination that an ACL isn't required for an AFS debt security in an unrealized loss position by major security type. Although discounted cash flows are required for calculating credit losses for AFS debt securities, this quantitative present value analysis may not always be

required to conclude that an AFS debt security doesn't require an ACL. As previously noted, a company may be able to demonstrate, through a thorough qualitative assessment using the factors listed in ASC 326-30[36], that all contractual cash flows will be received timely. These types of analysis will drive the amount of disclosure details required by ASC 325[37].

While some considerations were noted in previous guidance (default and delinquency rates and any underlying non-performing assets, geographic concentration, vintage, etc.), the new disclosures also expand on existing disclosures. One noted change was the explicit addition of the consideration of **interest rate changes since the purchase** of the debt security.

Issuers under current guidance often cited the changing of interest rates as the reason an unrealized loss wasn't indicative of other-than-temporary impairment, but it wasn't included in the factors listed under current GAAP guidance.[38]

[35] See ASC 326-30-50-3
[36] See ASC 326-30-55-1 and 2
[37] See ASC 325-30-50-4
[38] See ASC 320-10-50-6

As previously stated, an important change from existing guidance to ASC 326-30 was that a company shouldn't consider the length of time a security has been impaired in making the determination that an AFS debt security doesn't require an ACL. However, the FASB retained the requirements to disclose the number of securities in an unrealized loss position, as well as which securities have been in an unrealized loss position for less than 12 months and those that have been in a continuous unrealized loss position for 12 months or longer.

Example disclosures about investments in AFS debt securities in an unrealized loss position with no credit losses reported.[39]

DESCRIPTION OF AFS DEBT SECURITIES	LESS THAN 12 MONTHS		12 MONTHS OR GREATER		TOTAL	
	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses	Fair Value	Unrealized Losses
US Treasury obligations and direct obligations of US government agencies	$172	$2	$58	$1	$230	$3
Federal agency mortgage-backed securities	$367	$5	$18	$1	$385	$6
Corporate bonds	$150	$7	–	–	$150	$7
Total	$689	$14	$76	$2	**$765**	**$16**

Examples of illustrative narrative disclosures that would follow the illustrative table:

US Treasury obligations

The unrealized losses on Entity B's investments in US Treasury obligations and direct obligations of US government agencies were caused by interest rate increases. The contractual terms of those investments don't permit the issuer to settle the securities at a price less than the amortized cost bases of the investments. Entity B doesn't intend to sell the investments and it's more likely than not that Entity B won't be required to sell the investments before recovery of their amortized cost bases.

Federal agency mortgage-backed securities

The unrealized losses on Entity B's investment in federal agency mortgage-backed securities were caused by interest rate increases. Entity B purchased those investments at a discount relative to their face amount, and the contractual cash flows of those investments are guaranteed by an agency of the US government. Accordingly, it's expected that the securities wouldn't be settled at a price less than the amortized cost bases of Entity B's investments. Entity B doesn't intend to sell the investments and it is more likely than not that Entity B won't be required to sell the investments before recovery of their amortized cost bases.

Corporate bonds

Entity B's unrealized loss on investments in corporate bonds relates to a $150 investment in Entity C's Series C debentures. Entity C is a manufacturer. The unrealized loss was primarily caused by a recent decrease in profitability and near-term profit forecasts by industry analysts resulting from intense competitive pricing pressure in the manufacturing industry and a recent sector downgrade by several industry analysts. The contractual terms of those investments don't permit Entity C to settle the security at a price less than the amortized cost basis of the investment. While Entity C's credit rating has decreased from A to BBB (Standard & Poor's), Entity B currently doesn't expect Entity C to settle the debentures at a price less than the amortized cost basis of the investment (that is, Entity B expects to recover the entire amortized cost basis of the security). Entity B doesn't intend to sell the investment and it's more likely than not that Entity B won't be required to sell the investment before recovery of its amortized cost basis.

[39] Example from implementation guidance paragraphs ASC 326-30-55-8 and 9.

Disclosure for When an Allowance Is Required

At the reporting date, when an allowance is recorded on AFS debt securities, a company should disclose the methodology and significant inputs used to measure the recorded credit losses.[40]

This requirement is by major security type, similar to the disclosure of AFS debt securities with no recorded ACL. As noted earlier, a company will need to revisit their accounting policies for AFS debt securities to the policy surrounding estimating and recognizing credit losses.

This is also different from current disclosure requirements, as a company should ensure that accounting practices for impairment and related accounting policies are differentiated between AFS and HTM debt securities.[41]

The FASB also specifically states that a company will need to disclose its policy for recognizing write-offs of uncollectible AFS debt securities. Current GAAP doesn't require a company to disclose its accounting policy for recognizing write-offs of uncollectible AFS debt securities.

Similar to the guidance provided for CECL, ASC 326-30 requires disclosure of the changes in the ACL on AFS debt securities by major security type in a **tabular rollforward** format. ASC 326-30-50-9 states that companies need to disclose, at a minimum, all of the following:

- The beginning balance of the ACL on AFS debt securities held by a company at the beginning of the period

- Additions to the ACL on securities for which credit losses weren't previously recorded

- Additions to the ACL arising from purchases of AFS debt securities accounted for as purchased financial assets with credit deterioration (including beneficial interests that meet the criteria in paragraph 325-40-30-1A)

- Reductions for securities sold during the period (realized)

- Reductions in the ACL because a company intends to sell the security or more likely than not will be required to sell the security before recovery of its amortized cost basis

- If a company doesn't intend to sell the security and it's more likely than not that a company won't be required to sell the security before recovery of its amortized cost basis, additional increases or decreases to the ACL on securities that had an allowance recorded in a previous period

- Write-offs charged against the allowance

- Recoveries of amounts previously written off

- The ending balance of the ACL related to debt securities held by a company at the end of the period

Disclosure for Purchased Financial Assets with Credit Deterioration Held as AFS

Specific disclosures surrounding PCD financial assets classified as AFS debt securities are only required during the period(s) presented in which the acquisition takes place. When PCD financial assets are purchased, a company must disclose a reconciliation between the purchase price of the assets and the par value, and should include the following:[42]

- The purchase price

- The ACL at the acquisition date based on the acquirer's analysis

- The discount (or premium) attributable to other noncredit factors

- The par value

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[40] See ASC 320-30-50-7 for listing of significant input examples.
[41] See ASC 326-20-50 for disclosure of HTM debt security. Equity securities removed from AFS status through ASU 2016-01.
[42] See ASC 326-30-50-10

EFFECTIVE DATES AND TRANSITION

THE EFFECTIVE DATES OF THE NEW STANDARD ARE AS FOLLOWS:

- **Public business entities (PBEs) that meet the definition of an SEC filer, excluding SRCs as defined by the SEC, must adopt the new standard on fiscal years beginning after December 15, 2019, including interim periods within those fiscal years. For a calendar year-end company, this was the quarter ending March 31, 2020.**

- **All other entities—all other PBEs including SRCs, private companies, not-for-profit organizations, and employee benefit plans—must adopt the new standard on fiscal years beginning after December 15, 2022, including interim periods within those fiscal years. For a calendar year-end company, this would be the quarter ending March 31, 2023.**

Note: In November 2019, the FASB issued ASU 2019-10, Financial Instruments – Credit Losses (Topic 326), Derivative and Hedging (Topic 815), Leases (Topic 842): Effective Dates, which deferred the effective date of the CECL standard for entities other than PBEs that meet the definition of an SEC filer and aren't SRCs. The effective dates above incorporate this deferral.

For the purposes of applying the effective dates, an entity is required to use its most recent determination of whether the entity is eligible to be an SRC as of November 15, 2019, in accordance with SEC regulations. For example, for calendar year-end companies, the determination date would generally be June 28, 2019—the last business day of the second quarter.

MOSS ADAMS INSIGHTS

The adoption dates are deceptive in terms of what needs to be done to determine the modified retrospective adjustment to retained earnings. A company has to perform the CECL calculation not only as of the adoption date, but also at the beginning of the period for that adoption date.

For example, a company adopting as of December 31, 2021, would also have to perform the calculation as of January 1, 2021, to calculate both the amount of the retained earnings adjustment and the CECL provision recognized in the income statement for the entire year. The assumptions utilized to determine the allowance at December 31 may not, depending on the model, be appropriate to use for January 1 of that year.

The difference in assumptions between the adoption date and the balance sheet date is likely less of an issue for those that adopt as of an interim date (March 31, for example), but is something to consider. Companies that don't have an established methodology in place ahead of the adoption dates may not have the necessary data readily available to go back and perform the beginning period calculation, which may result in material issues related to the financial statement audit.

EARLY ADOPTION

Early adoption of the new standard is permitted for fiscal years beginning after **December 15, 2018**, including interim periods within those fiscal years.

OTHER TRANSITION-RELATED HIGHLIGHTS

AFS DEBT SECURITIES

When accounting for impairment of AFS debt securities, the new standard should be applied prospectively on transition.

PCD ASSETS

Under existing GAAP, a company records acquired loans (and other financial assets) at the price paid. To comply with the new standard, a company must gross up the carrying value of PCD assets, and record an offsetting allowance for expected credit losses, for all PCD assets at the date of adoption. A company should also continue to recognize interest income based on the yield of such assets as of the adoption date.

To accomplish this, companies should gross up the nonaccretable difference (i.e., convert it to an allowance and add to the carrying value as well) and continue interest income recognition based on the yield as of the adoption date. Loans that are accounted for as PCI under ASC 310-30 are considered PCD under the new standard. Loans that weren't accounted for as PCI aren't considered PCD under the new standard (i.e., there's no reassessment process upon adoption, so there should be no changes to the overall PCI population as a result of adoption).

ALL OTHER FINANCIAL ASSETS GOVERNED BY THE CECL MODEL

For all other financial assets, a company should record a cumulative-effect adjustment as of the first date of the fiscal year of adoption (not the earliest period presented in the financial statements). Specifically, a company should compare the allowance calculated under the CECL model with the carrying value of its existing bad debt reserves as of the adoption date. The difference should be recorded as a debit to opening equity in the year of adoption, net of tax impacts, assuming the ACL will increase under the CECL model. Companies should review ASC 326[43], which contains additional transition related guidance.

[43] See ASC 326-10-65-1

What You Should Be Doing Now

If you're reading this guide and aren't responsible for loan-level data, you're probably at least utilizing it. Consider organizing an implementation team to deal with the far-reaching impact of CECL. The team would communicate the importance and need to focus on data, both internal and external. There's also an opportunity for you to get out in front of this process with effective communication between the right parties.

Here are some practical first steps for the implementation team:

- Preserve your loan data
- Develop a formal loan information management process
- Identify what data can be recovered quickly and economically
- Determine missing data and the cost of acquiring it
- Enhance understanding of collateral values and credit scores data, as well as your ability to archive and update it in your system
- Improve the quality of guarantor data
- Understand which systems your data interfaces with
- Accumulate historical and forecasted national economic data (unemployment rate, Treasury rates, or Consumer Price Index, for example) to correlate to historical losses for forecasting purposes

Adjusting to the new standard will require collaboration. Accountants will have a good understanding of when the new standard will need to be implemented as well as the new accounting and disclosure requirements. Credit risk management teams should be thinking about modeling options and portfolio risk management. Both of those groups of people will likely benefit from collaborating with individuals who have intimate knowledge of:

- Loans
- Customer operations supporting repayment of the loan
- Guarantors
- Loan data, both inside and outside of the system

Personnel with critical loan and system knowledge who get involved early can provide key insights to help financial institutions navigate one of the most significant accounting changes in recent history.

Once the data issues are vetted, further consideration can be given to modeling issues, such as:

- Which models will work with the data available
- Whether the model will inherently forecast lifetime losses (i.e. DCF, Regression, or PD/LGD), or if the methodology results in a forecast period shorter than the life of the assets
- How the "historical loss period" will be defined (think lifetime loss rates for similar asset cohorts versus annual loss rates of blended cohorts)
- Evaluating whether different models for different segments makes sense
- Whether there's correlation of industry/economic data to losses and whether it varies by segment
- Depending on the complexity of the model being contemplated, model risk management processes will need to be enhanced
- Forecasting considerations:
  – Find the data you think matters (what makes sense when you think about the losses at your company), both internally and externally
  – The data you use should make intuitive sense; if you aren't able to justify the relationship to losses, it probably isn't the best data for you
  – Follow credible forecasts and adjust reserves accordingly
  – Forecasts need to be reasonably consistent with other modeling (ALM, capital stress testing, etc.), however, stress testing is by no means the same as CECL, but the differences should make sense

Many companies have shown an interest in hiring consultants or implementing a third-party solution to help them with CECL. While this may be helpful in specific circumstances, it may not be the right choice for your company. Before signing any contracts, consider the size and complexity of your company, and consider how much

assistance you need. If a third-party provider is used, think beyond the vendor management checklist and aim to really understand what the provider's model looks like, how it will interact with your data and assumptions, and the track record of other companies that have used the provider. Good vendor risk management will pick up the more routine issues, such as the presence of a SOC 1 report.

Beyond the nuts and bolts of implementing the new standard, consider capital impacts as you start to understand what your CECL allowance for losses will look like. Regulators haven't committed to any regulatory capital

relief, and companies will want to plan their implementation time line with sufficient cushion to address any capital concerns that may arise.

Companies that are SEC issuers will need to consider the internal control implications around gathering, accessing, and storing data as well as reporting for both the adoption and post-adoption phases. The SEC has also been messaging the need for more robust transition disclosures, particularly as the adoption date looms closer. We expect this focus to continue until the implementation date.
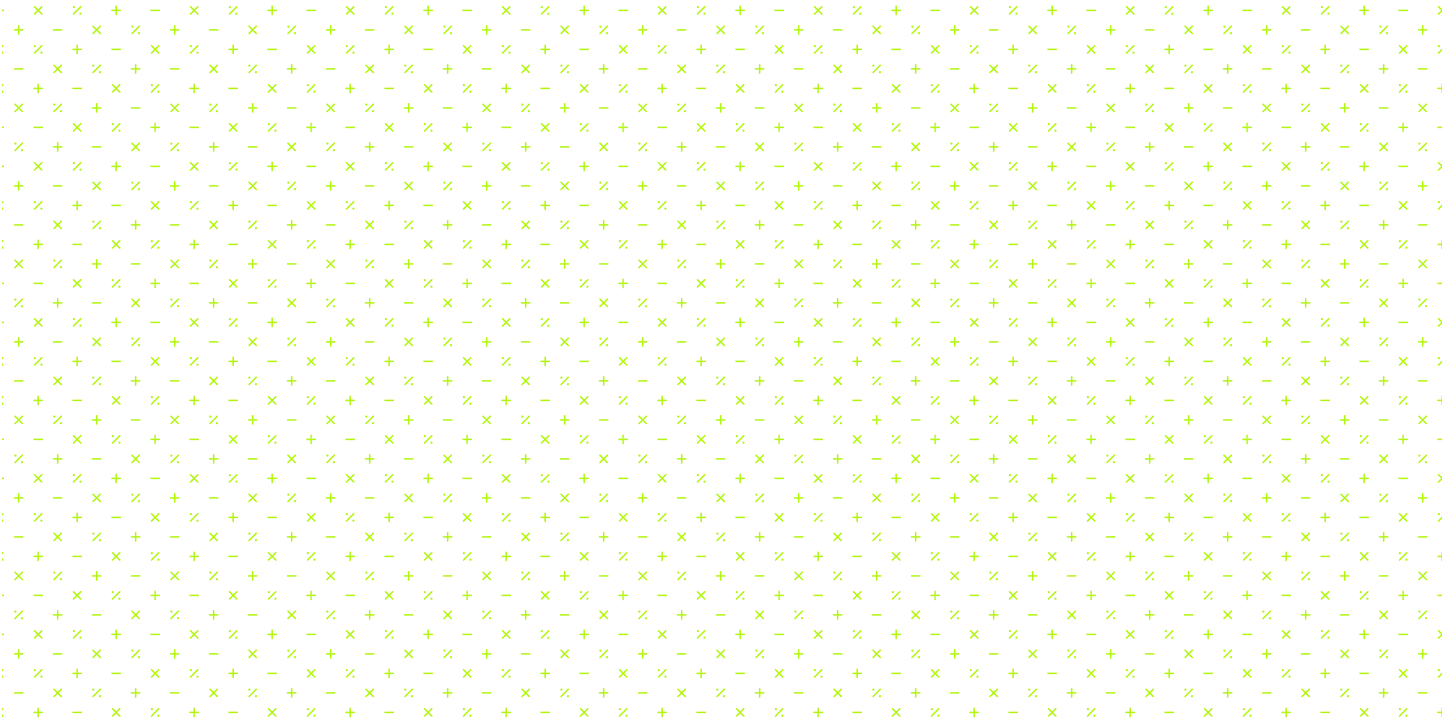
CONCLUSION

The goal of this guide was to summarize the key accounting changes and describe some—but certainly not all—of the potential modeling changes that will result from the new standard. We expect our views to evolve as companies implement the new standard, and as the FASB, regulators, companies and auditors further weigh in on the process.

If you have questions on how the new standard could affect your business, please contact your Moss Adams professional.

Potential Methodologies for Estimating Credit Losses

LOSS-RATE METHOD

A possible method to recognize CECL reserves is a loss-rate method. Loss-rate methods can take various forms, but the common thread is they are based on historical rates of loss.

In the example below, a company would estimate future credit losses by using the percentage of receivables that have historically "gone bad," and then make any necessary adjustments based on relevant information around current or future conditions.

To demonstrate, assume a company has historical loss rate experience for different categories of loans receivable, as shown in the following table. It then determines that historic loss averages should be adjusted upwards by 10% to reflect current conditions and expectations of future conditions. Accordingly, the expected loss reserves should total $1,188.

Days Past Due	Receivables Carrying Value	Unadjusted Credit Loss Rate	Unadjusted Credit Loss	Adjustment*	Estimated Loss
Current	$100,000	0.5%	$500	10%	$550
31–60	$1,000	8.0%	$80	10%	$88
61–90	$750	40.0%	$300	10%	$330
>91	$250	80.0%	$200	10%	$220
Total	$102,000		$1,080		$1,188

*Upwards adjustment to account for rise in unemployment rate from 5.0% to 5.5% in relevant geographic area as compared to period over which historical loss data was collected

The FASB attempts to demonstrate another variant of a loss-rate model scenario as well in Example 1 of the new standard, which is more representative of what can be found in community financial institutions.

EXCERPT FROM ASC

Example 1: Estimating Expected Credit Losses Using a Loss-Rate Approach (Collective Evaluation)

326-20-55-18 This Example illustrates one way an entity may estimate expected credit losses on a portfolio of loans with similar risk characteristics using a loss-rate approach.

326-20-55-19 Community Bank A provides 10-year amortizing loans to customers. Community Bank A manages those loans on a collective basis based on similar risk characteristics. The loans within the portfolio were originated over the last 10 years, and the portfolio has an amortized cost basis of $3 million.

326-20-55-20 After comparing historical information for similar financial assets with the current and forecasted direction of the economic environment, Community Bank A believes that its most recent 10-year period is a reasonable period on which to base its expected credit-loss-rate calculation after considering the underwriting standards and contractual terms for loans that existed over the historical period in comparison with the current portfolio. Community Bank A's historical lifetime credit loss rate (that is, a rate based on the sum of all credit losses for a similar pool) for the most recent 10-year period is 1.5 percent. The historical credit loss rate already factors in prepayment history, which it expects to remain unchanged. Community Bank A considered whether any adjustments to historical loss information in accordance with paragraph 326-20-30-8 were needed, before considering adjustments for current conditions and reasonable and supportable forecasts, but determined none were necessary.

326-20-55-21 In accordance with paragraph 326-20-55-4, Community Bank A considered significant factors that could affect the expected collectibility of the amortized cost basis of the portfolio and determined that the primary factors are real estate values and unemployment rates. As part of this analysis, Community Bank A observed that real estate values in the community have decreased and the unemployment rate in the community has increased as of the current reporting period date. Based on current conditions and reasonable and supportable forecasts, Community Bank A expects that there will be an additional decrease in real estate values over the next one to two years, and unemployment rates are expected to increase further over the next one to two years. To adjust the historical loss rate to reflect the effects of those differences in current conditions and forecasted changes, Community Bank A estimates a 10-basis-point increase in credit losses incremental to the 1.5 percent historical lifetime loss rate due to the expected decrease in real estate values and a 5-basis-point increase in credit losses incremental to the historical lifetime loss rate due to expected deterioration in unemployment rates. Management estimates the incremental 15-basis-point increase based on its knowledge of historical loss information during past years in which there were similar trends in real estate values and unemployment rates. Management is unable to support its estimate of expectations for real estate values and unemployment rates beyond the reasonable and supportable forecast period. Under this loss-rate method, the incremental credit losses for the current conditions and reasonable and supportable forecast (the 15 basis points) is added to the 1.5 percent rate that serves as the basis for the expected credit loss rate. No further reversion adjustments are needed because Community Bank A has applied a 1.65 percent loss rate where it has immediately reverted into historical losses reflective of the contractual term in accordance with paragraphs 326-20-30-8 through 30-9. This approach reflects an immediate reversion technique for the loss-rate method.

326-20-55-22 The expected loss rate to apply to the amortized cost basis of the loan portfolio would be 1.65 percent, the sum of the historical loss rate of 1.5 percent and the adjustment for the current conditions and reasonable and supportable forecast of 15 basis points. The allowance for expected credit losses at the reporting date would be $49,500.

In the example above, there's no explanation as to how Bank A determined the real estate value and unemployment factors that would impact losses. Neither the new standard nor the examples demonstrate how to quantify adjustments to historical information, so it remains up to the company to establish documentation as to why the adjustment was a 10bps increase for real estate values and not 15 or 25.

This example further complicates itself by referring to a reversion to historical losses after the two-year forecast period, yet the reversion rate is 1.5%, but the CECL of $49,500 is clearly based off of 1.65%* $3 million in loans. How does the CECL reserve compute to 1.65% overall in this example when 1.5% is reverted to beyond the two-year forecast period? Wouldn't the CECL be something less than 1.65% (and more than 1.5%), depending on the estimated life of the underlying pool? How did the 1.5% get calculated in the first place?

In this example, Bank A opted to revert to historical losses with the current economic adjustments unchanged going forward and used the 1.65% factor for the remaining contractual life of the portfolio.

There are multiple ways to reconstruct these amounts using a hypothetical open loan pool. We believe the 1.5% in this example could have been calculated as follows [(a) = lifetime of losses of 2010 originated loans) / (b) = year-end balance of loans originated in 2010) = $7,500 / $500,000 = 1.5%]:

BALANCE AT YEAR-END											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2010	$500,000	$470,000	$435,000	$385,000	$265,000	$198,000	$95,000	$35,000	$0	$0	$0
2011		$550,000	$495,000	$435,000	$384,000	$313,000	$245,000	$150,000	$70,000	$0	$0
2012			$670,000	$595,000	$515,000	$400,000	$301,000	$234,000	$125,000	$90,000	$0
2013				$730,000	$645,000	$595,000	$489,000	$402,000	$333,000	$200,000	$50,000
2014					$745,000	$667,000	$576,000	$425,000	$299,000	$189,000	$90,000
2015						$805,000	$660,000	$450,000	$377,000	$225,000	$150,000
2016							$823,000	$650,000	$454,000	$325,000	$270,000
2017								$800,000	$640,000	$450,000	$340,000
2018									$856,000	$609,000	$520,000
2019										$875,000	$680,000
2020											$900,000
Total	$500,000 (b)	$1,020,000	$1,600,000	$2,145,000	$2,554,000	$2,978,000	$3,189,000	$3,146,000	$3,154,000	$2,963,000	$3,000,000

ORIGINATION YEAR

CHARGE-OFF $												
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	Totals
2010	$650	$700	$900	$800	$1,000	$1,300	$1,250	$900	-	-	-	$7,500 (a)
2011		$800	$1,200	$1,600	$1,800	$1,560	$1,400	$1,200	$900	-	-	$10,460
2012			$347	$1,100	$1,200	$2,100	$2,500	$2,700	$2,300	$900	-	$13,147
2013				$400	$1,250	$2,000	$3,200	$2,800	$2,400	$1,900	$600	$14,550
2014					$466	$899	$1,400	$1,950	$2,350	$2,250	$1,200	$10,515
2015						$75	$950	$1,235	$1,800	$2,230	$2,300	$8,590
2016							$265	$2,000	$3,000	$2,000	$1,800	$9,065
2017								$750	$1,560	$1,800	$1,200	$5,310
2018									$80	$1,700	$900	$2,680
2019										$50	$600	$650
2020											$300	$300
Total	$650	$1,500	$2,447	$3,900	$5,716	$7,934	$10,965	$13,535	$14,390	$12,830	$8,900	$82,767

ORIGINATION YEAR

CHARGE-OFF %											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
2010	0.13%	0.15%	0.21%	0.21%	0.38%	0.66%	1.32%	2.57%	0.00%	0.00%	0.00%
2011		0.15%	0.24%	0.37%	0.47%	0.50%	0.57%	0.80%	1.29%	0.00%	0.00%
2012			0.05%	0.18%	0.23%	0.53%	0.83%	1.15%	1.84%	1.00%	0.00%
2013				0.05%	0.19%	0.34%	0.65%	0.70%	0.72%	0.95%	1.20%
2014					0.06%	0.13%	0.24%	0.46%	0.79%	1.19%	1.33%
2015						0.01%	0.14%	0.27%	0.48%	0.99%	1.53%
2016							0.03%	0.31%	0.66%	0.62%	0.67%
2017								0.09%	0.24%	0.40%	0.35%
2018									0.01%	0.28%	0.17%
2019										0.01%	0.09%
2020											0.03%
Total	**0.13%**	**0.15%**	**0.15%**	**0.18%**	**0.22%**	**0.27%**	**0.34%**	**0.43%**	**0.46%**	**0.43%**	**0.30%**

ORIGINATION YEAR

This is the simplest form of a loss-rate approach. The primary issue with this approach is that the simpler you get in determining the loss rate—using a single cohort of 2010 in this case—the more likely that the loss rate isn't representative of expected losses for all the loans originated subsequent to 2010, and thus more effort is required to support the adjustments to that historical loss rate.

In practice, we expect that smaller, less complex financial companies will modify (or blend) one of the many models which are used by financial companies today, as all models are ultimately based on an estimated rate of loss, whether mechanically calculated, empirically established, or a combination of the two.

If we take the simple single cohort loss-rate approach above and attempt to compare the incurred loss model to what we believe is expected of a CECL model, we believe the comparison would be as follows:

Comparing the Models—December 31, 2020, ACL Estimates

INCURRED LOSS MODEL

Most recent loss year (1-year loss emergence period) % (c)	**0.30%**
Qualitative adjustments (d)	**0.60%**
Total incurred loss %	**0.90%**
2020 ending loan balance	**$3,000,000**
Total incurred loss $	**$26,900**

CECL MODEL

Cumulative losses from 2010 cohort $	**$7,500**
2010 ending loan balance	**$500,000**
10-year cumulative loss %	**1.50%**
Qualitative adjustments - forecast/ expectations (e)	**0.15%**
Total current expected loss %	**1.65%**
2020 ending loan balance	**$3,000,000**
Total expected loss $	**$49,500**

(c) Many models utilize a longer loss emergence period, thereby averaging and/or weighting a longer look-back period losses.
(d) This represents the cumulative adjustments for qualitative factors; there are likely multiple factors that sum to this amount.
(e) This represents the cumulative adjustments for qualitative factors; there are likely multiple forecasted factors that sum to this amount.

DISCOUNTED CASH FLOW MODEL

Reporting companies can use a discounted cash flow (DCF) model to estimate expected future cash flows and record appropriate loan loss reserves. The new standard, other than the examples, was careful not to characterize expected credit losses as "lifetime" losses for a number of reasons, one of them being that the terminology may lead preparers to believe they must specifically identify the exact timing of uncollected cash flows. Nonetheless, the expectation remains that CECL is a lifetime loss estimate.

MOSS ADAMS INSIGHTS

We have seen primarily two DCF model formats currently in use, one where cash flows are projected by month, and another where a loss factor is applied to the overall contractual cash flows (often a modified version of the monthly projected cash flow model). The loss factor-based models were constructed in a manner that made them effective for calculating an allowance for interest rate concessions on troubled-debt restructurings under existing GAAP, but based on the requirements of CECL, we believe using the loss factor-based model is effectively the same as applying a loss-rate approach, but more cumbersome.

When a DCF is used, the ACL shall reflect the difference between the amortized cost basis[44] and the present value of the expected cash flows (discounted at the loan's original borrowing rate). If the contractual interest rate varies based on an independent factor, such as Prime or LIBOR, the ACL changes each time it's calculated as the rate changes over the life of the asset. In other words, don't make projections regarding future interest rates (ASC 326-20-30-4). For methodologies other than DCF, purchase discounts shouldn't offset the estimate of expected credit losses (ASC 326-20-30-5).

EXCERPT FROM ASC

Other Presentation Matters

326-20-45-3 When a discounted cash flow approach is used to estimate expected credit losses, the change in present value from one reporting period to the next may result not only from the passage of time but also from changes in estimates of the timing or amount of expected future cash flows. An entity that measures credit losses based on a discounted cash flow approach is permitted to report the entire change in present value as credit loss expense (or reversal of credit loss expense). Alternatively, an entity may report the change in present value attributable to the passage of time as interest

income. See paragraph 326-20-50-12 for a disclosure requirement applicable to entities that choose the latter alternative and report changes in present value attributable to the passage of time as interest income.

326-20-50-12 Disclosure

Paragraph 326-20-45-3 explains that a creditor that measures expected credit losses based on a discounted cash flow method is permitted to report the entire change in present value as credit loss expense (or reversal of credit loss expense) but also may report the change in present value attributable to the passage of time as interest income. Creditors that choose the latter alternative shall disclose the amount recorded to interest income that represents the change in present value attributable to the passage of time.

Multiple scenarios aren't required, but can be utilized as well. To demonstrate using multiple DCF scenarios, assume that a financial institution originates one-year commercial loans to a manufacturer. All contractual payments under the loans—namely principal of $100 and interest of $10—are due in one year's time. Using historical loss data, along with information around current macro-economic conditions and creditworthiness of the borrower, the financial institution models the following possible repayment scenarios.

[44] Amortized Cost Basis: the amount at which a financing receivable or investment is originated or acquired, adjusted for applicable accrued interest, accretion, or amortization of premium, discount, and net deferred fees or costs, collection of cash, write-offs, foreign exchange, and fair value hedge accounting adjustments.

SCENARIO	Payment	Credit Loss (A)	Probability of Occurrence (B)	A* B
Scenario 1 **Full payment**	$110	$0	85%	$0.00
Scenario 2 **Partial payment**	$100	$10	14%	$1.40
Scenario 3 **Total default**	$0.00	$110	1%	$1.10
Total			**100%**	**$2.50**

*Note that time value of money is ignored in this example due to the relatively short time horizon

Under this simple multiple scenario example, the financial institution would establish a reserve of $2.50 at origination under the CECL model. Note that this methodology isn't a best nor worst case scenario rather, it must reflect the risk of loss, and doesn't have to be based solely on a single outcome (ASC 326-30-35-7), nor is a company required to reconcile the estimation technique it uses with a discounted cash flow model (ASC 326-20-30-3).

The challenge with any scenario-based modeling, whether DCF or another model, is the documentation related to the probability of each scenario. Companies may find it requires even more effort to document that 85% of all originations (adjusted for future expectations) result in a full payment scenario. The documentation necessary to support such a calculation might be deemed adequate enough to support the probability of default portion in a PD/LGD methodology.

Needless to say, application of this methodology for companies that have loan portfolios with lengthy repayment terms and no prepayment data may not be practical or worthwhile. But this approach may be viable for companies that have keen insight into the assets' underlying cash flows and that have shorter duration assets or that have limited asset groups that are homogeneous.

There are a number of vendors in the marketplace that provide outsourced cash flow modeling assistance. Whether internal or outsourced, companies need to be mindful that their DCF models incorporate reasonable and supportable forecasts regarding future expectations (which is lacking in current DCF models), and they should conduct appropriate vendor due diligence.

VINTAGE ANALYSIS

Vintage analysis is essentially a variant of the loss-rate model, but with "closed pools." Loans are grouped by similar risk profiles and by origination period (typically by month, quarter, or year) so that once a period has passed, no loans are added to the pool, i.e. the pool is "closed." Under a vintage analysis, a company is able to completely deconstruct a portfolio, which allows insight into independent parts of the portfolio, making it easier to isolate financial performance and potential behavioral aspects. It can also be useful in identifying trends in the portfolio. Below is a triangular compilation of losses on a hypothetical loan portfolio.

Fact Pattern: Bank originates fully amortizing loans with four-year term and tracks loans and losses by year of origination. Below are the historical losses. Assume the Bank originates the same number of loans each year. At December 31, 20X8, the Bank needs to estimate its future credit losses (derived from Example 3 of ASC 326-20-55-28).

CREDIT LOSSES						
	Year 1	Year 2	Year 3	Year 4	Total	Expected
20X1	$50	$120	$140	$30	**$340**	–
20X2	$40	$120	$140	$40	**$340**	–
20X3	$40	$110	$150	$30	**$330**	–
20X4	$60	$110	$150	$40	**$360**	–
20X5	$50	$130	$170	$50	**$400**	–
20X6	$70	$150	$180	??	**??**	??
20X7	$80	$140	??	??	**??**	??
201X	$70	??	??	??	**??**	??

(ORIGINATION YEAR is the vertical label for the first column)

In analyzing the data, losses are most significant in years two and three and are trending up each year. Expected losses should be based on current economic conditions and historical losses by year. Assuming no adjustments to historical trends based on current or future expectations, expected losses may be estimated as follows:

CREDIT LOSSES						
	Year 1	Year 2	Year 3	Year 4	Total	Expected
20X1	$50	$120	$140	$30	**$340**	–
20X2	$40	$120	$140	$40	**$340**	–
20X3	$40	$110	$150	$30	**$330**	–
20X4	$60	$110	$150	$40	**$360**	–
20X5	$50	$130	$170	$50	**$400**	–
20X6	$70	$150	$180	$60	**$460**	$60
20X7	$80	$140	$190	$70	**$480**	$260
201X	$70	$150	$200	$80	**$500**	$430
					Expected credit losses	$750

(ORIGINATION YEAR is the vertical label for the first column)

The expected credit losses for each year in this hypothetical scenario were based on interpolating losses from the prior periods. A more quantitative process could be utilized as well. This example ignores the adjustments for current and future conditions, which would be required and result in an adjustment to the quantitative analysis. If, for example, local unemployment data was considered to be most correlated to the losses in this portfolio, both current conditions (relative to the periods that caused the losses) and expectations on the future, and the impact of losses, would be considered.

MOSS ADAMS INSIGHTS

We expect to see the vintage method used in retail/consumer portfolios, where homogeneous portfolios exist and there's a greater likelihood that trends in data are more easily identifiable and predictable. The more sophisticated the organization, the greater the number of cohorts (e.g. origination by months or quarters instead of years).

PROBABILITY OF DEFAULT (PD)/LOSS GIVEN DEFAULT (LGD)

Under the PD/LGD model, a company will, for each pool of loans, make two estimates:

* The probability of a default (PD)—the likelihood that a default event will occur to an asset/pool

* The amount of loss, given a default (LGD)—i.e. the magnitude of the loss

  - LGD can be further broken down as: Exposure at Default (EAD) * (1 – recovery rate)), where EAD represents the maximum loss possible, considering collateral values, credit enhancements, insurance, etc. Note that if the loan is unsecured or you don't have good collateral data, the entire loan balance is subject (or exposed) to loss.

By way of simple example, assume that on January 1, 20X1, a financial institution originates four family mortgage loans. Principal and interest due equals $300,000 over the life of each 30-year mortgage. After applying analyzing historical default rates, the financial institution estimates that the probability of default for the pool of four loans is 1.25%. That is, one of the four loans has a 5% chance of default. If a loan does in fact default, based on historical loss data, the financial institution estimates a loss of $30,000 (or 10% of the initial individual loan balance).

Total loan balance	X	PD	X	LGD	=	Estimated loss
$1,200,000		1.25%		10.00%		$1,500

After multiplying the total loan balance by the PD and LGD percentages, the financial institution would set up a reserve of $1,500 at loan origination.

Here is an expanded example with a $1 million loan pool, a different PD/LGD, and showing the further breakdown of the LGD:

Total loan pool balance	X	PD	X	LGD = EAD* (1 - recovery rate	=	Loss rate (or ACL)
$1,000,000		3%		40%* (1-5%)		1.14% (or $11,400)

In the expanded example, we see the additional components of the LGD that require estimation. The EAD, after evaluating collateral and other considerations, was determined to be a potential maximum loss of 40%. Recovery rate, based on historical data, was determined to be 5%.

The challenge presented by CECL is that neither of these PD/LGD examples has shown any elements of the reasonable and supportable forecasts required by the new standard. While there's no prescribed way to address this, it is unclear if there will be quantitative adjustments to one or more of the factors in the examples above, an additional factor layered into the calculation, or whether it will simply be addressed qualitatively—either narratively or through judgment related to the data sets used to determine the PD and/or LGD. We will be paying particular attention to see how PD/LGD modeling evolves and whether qualitative adjustments are made as "top of the model" adjustments to the traditional models, or become embedded in the calculation. Either way, we expect some level of documentation to be presented to support the forecast adjustment (or lack thereof).

PROVISION MATRIX

As the name suggests, the provision matrix method relies on construction of a matrix for each identified factor affecting credit losses. Multiple matrices are then used to arrive at a blended loss rate.

For example, say that a financial institution originates $1 million of five-year automobile loans. The financial institution believes that the following factors materially affect loss rates on these loans:

- Borrower credit ratings
- Loan-to-value ratios

The financial institution creates two matrices, one for each factor, adjusted based on current conditions and future forecasts of portfolio credit score and collateral value migration.

Borrower Credit Rating*	Loan Balance	Credit Loss Rate	Estimated Loss
720+	$200,000	0.10%	
680–719	$600,000	1.00%	
620–679	$200,000	5.00%	
Total/Wtd Avg	$1,000,000	1.62%	$16,200

*Financial institution doesn't extend credit to customers with credit rating below 620

Loan-to-Value Ratio	Loan Balance	Credit Loss Rate	Estimated Loss
91%–100%	$200,000	0.10%	
81%–90%	$300,000	1.00%	
71%–80%	$150,000	5.00%	
61%–70%	$100,000	4.00%	
51%–60%	$50,000	3.00%	
41%–50%	$50,000	2.00%	
31%–40%	$40,000	1.00%	
21%–30%	$60,000	0.50%	
<20%	$50,000	0.10%	
Total/Wtd Avg	$1,000,000	1.80%	$18,000

Under the CECL model, the financial institution would initially establish an ACL of $34,200 ($16,200 + $18,000) at the date of origination.

REGRESSION ANALYSIS

Regression analysis, specifically linear regression, is a widely used statistical technique that studies the relationship between dependent variables (e.g., charge-offs) and independent variables that can serve as predictors for the dependent variables (e.g. unemployment rates, interest rates, real estate values, vacancy rates, etc.).

The graph below represents a hypothetical segment of loans with 1) historical loss percentages for the past seven years; 2) corresponding economic data for the same period; 3) a forecast period of two years; and d) reversion to unadjusted historical losses after the forecast period. Note that we don't show how the historical losses are calculated below (see section on loss-rate method for further discussion). Also note that while this depicts a percentage loss rate, it isn't intended to be an annual loss rate, but rather the expected loss rate over what is effectively the life of the loan, and ultimately must be converted to dollars.
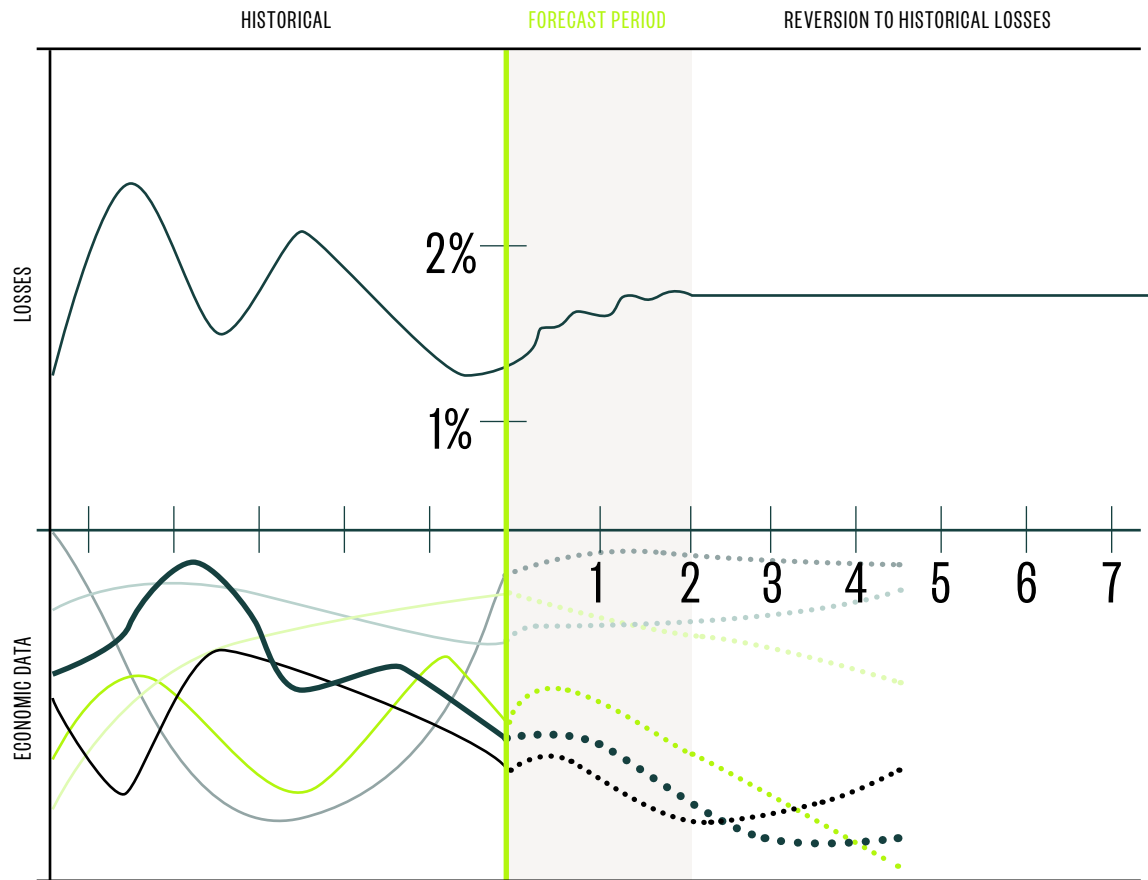
How we interpret the above graph:

- Losses for this segment of loans have generally ranged between 1% and 2% historically, going slightly above 2% for a time.

- The outlook, based on reasonable and supportable forecasts, is that the losses will trend from about 1.25% to 1.5% over the next two years, and then for estimating of the ACL thereafter, we will revert to their historical average of 1.5%. (Note: the actual measurement period to get to the historical 1.5% is undefined in this example, but can be interpolated as the seven years of historical losses from similar loans.)

- Economic data is all over the board, but the thick dark green line (hypothetically, let's say it's the national unemployment rate) appears to have the most correlation to losses for this single loan segment.

- Further analysis of the correlation between historical losses and economic factors can yield some useful information.

For those desiring to utilize a regression-based methodology, the idea is to find data, presumably economic data that is widely available from reputable sources, and find correlation amongst the independent variables and the historical charge-offs. Depending on the sophistication of a company, this can be done at varying degrees of portfolio segmentation. Multiple points of correlation would be ideal, and more data points are necessary if there are potential data accuracy issues in historical periods.

MOSS ADAMS INSIGHTS

Reverting to the mean—known as unadjusted historical losses—shouldn't be considered a safe-harbor or practical expedient. The method to transition from the forecast to the mean must be rational and supported with appropriate documentation.

In the basic example below, we have plotted the historical California unemployment rate (not seasonally adjusted), and net charge-offs for California banks under $5 billion in assets.

DATA

Date	Unemployment	Net Charge-offs
March 2013	9.4%	0.39
June 2013	9.2%	0.34
September 2013	8.5%	0.30
December 2013	8.0%	0.29
March 2014	8.3%	0.18
June 2014	7.4%	0.17
September 2014	7.0%	0.17
December 2014	6.6%	0.18
March 2015	6.7%	0.12
June 2015	6.2%	0.11
September 2015	5.6%	0.11
December 2015	5.7%	0.13
March 2016	5.6%	0.15
June 2016	5.7%	0.16

REGRESSION ANALYSIS OUTPUT

UNEMPLOYMENT LINE FIT PLOT
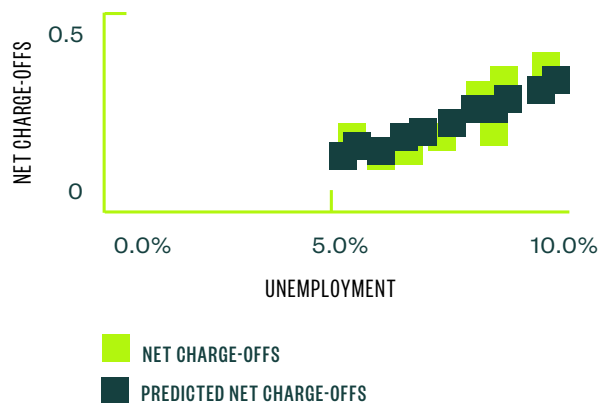
As you can see in this example, there's historically a high level of correlation between charge-offs and unemployment. When you think about CECL and determining expected losses within the portfolio, and meeting the "reasonable and supportable" threshold within the new standard, if the consensus forecast is for unemployment to be 6% for the next two years, you should have a reasonable baseline idea of what charge-offs you may experience in your portfolio.

Remember, though, that this is the most basic of examples, as other variables would likely impact your estimate as well, including changes in underwriting and skill/experience of personnel.

While regression may not ultimately be how a company calculates its CECL reserve, the concepts within regression are valuable when considering how to meet the "reasonable and supportable" standard. If historically a segment of loans experiences 2% in lifetime losses each time national unemployment is 9%, GDP growth is 1.5%, and the 10-year Treasury Bill rate is 1.5%, and a company's forecast for these factors is consistent with these numbers, this correlation provides very compelling evidence of a needed 2% reserve, absent compelling borrower-specific credit factors.

Such support could be deemed compelling enough to alleviate the need for further extensive support for qualitative adjustments, as might be needed with a methodology that lacks any correlation to observable economic forecast data.

To take things one step further, we'll use our previous example and further segment the portfolio. The FASB clearly valued the concept of "year of origination" as the new standard was developed, which is further made clear in the new disclosure requirements. Equally important, or possibly more so, is the year of maturity. If two loans had a similar 60-month term and comparable underwriting, and the only difference is where they are at in their life cycle—months remaining to maturity, for example—CECL embraces the concept that a loan with six payments left would likely represent less credit risk than one with 54 payments left.

Many of the ACL models in place today would have the same loss factor for these two loans, which would arguably result in being over-reserved if the portfolio were disproportionately shorter in duration than the average life (or under-reserved if longer than average).

Think of the loss line below as the cumulative loss rate for a company's entire hypothetical segment. But if there were seven years of expected maturities within the segment, and a company tracked the timing of the losses, there would be seven different loss lines that aggregate to the one shown. For example, loans within one year of maturity may only lose 20bps historically over their remaining life. Loans with seven years of maturity would probably have the highest loss rates, let's say 225bps for example, as they have the largest horizon for experiencing a loss. Put together the historical losses for two-, three-, four-, five-, and six-year maturity buckets, and we could assume the historical loss rate for this hypothetical segment is 1.5%. So why not just apply 1.5% to the entire total of loans at the reporting date? You could. But if all the loans just happen to be within two years of maturity at the reporting date, does the 1.5% still make sense?
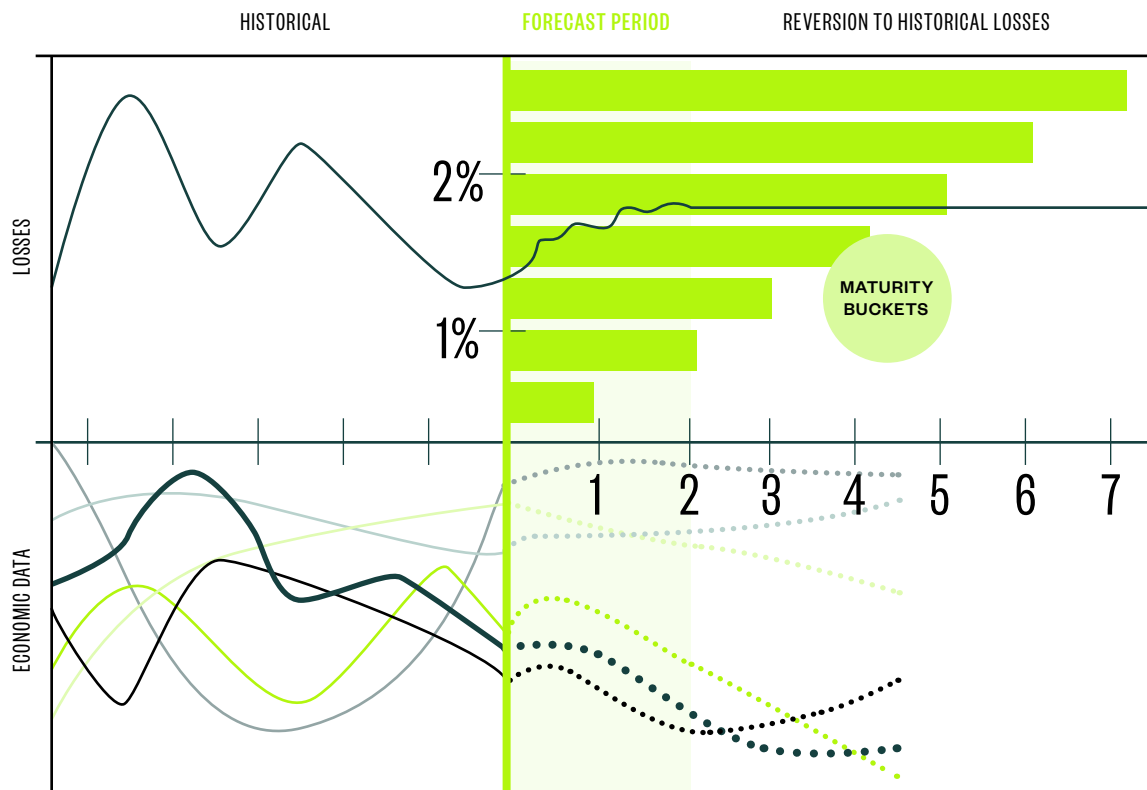
Regression is about correlation between dependent and independent variables, and the more segments of historical charge-offs, the more opportunities to find correlation with economic data sets. Ideally, the economic data can serve as a loss predictor, but in some cases it may be a trailing indicator. Again, the concepts in regression analysis are likely to be extremely helpful in terms of documenting "reasonable and supportable" forecasts, even if your CECL model isn't ultimately regression based, particularly for smaller financial companies that may apply global forecast factors to the aggregate ACL, rather than by individual segment.

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