

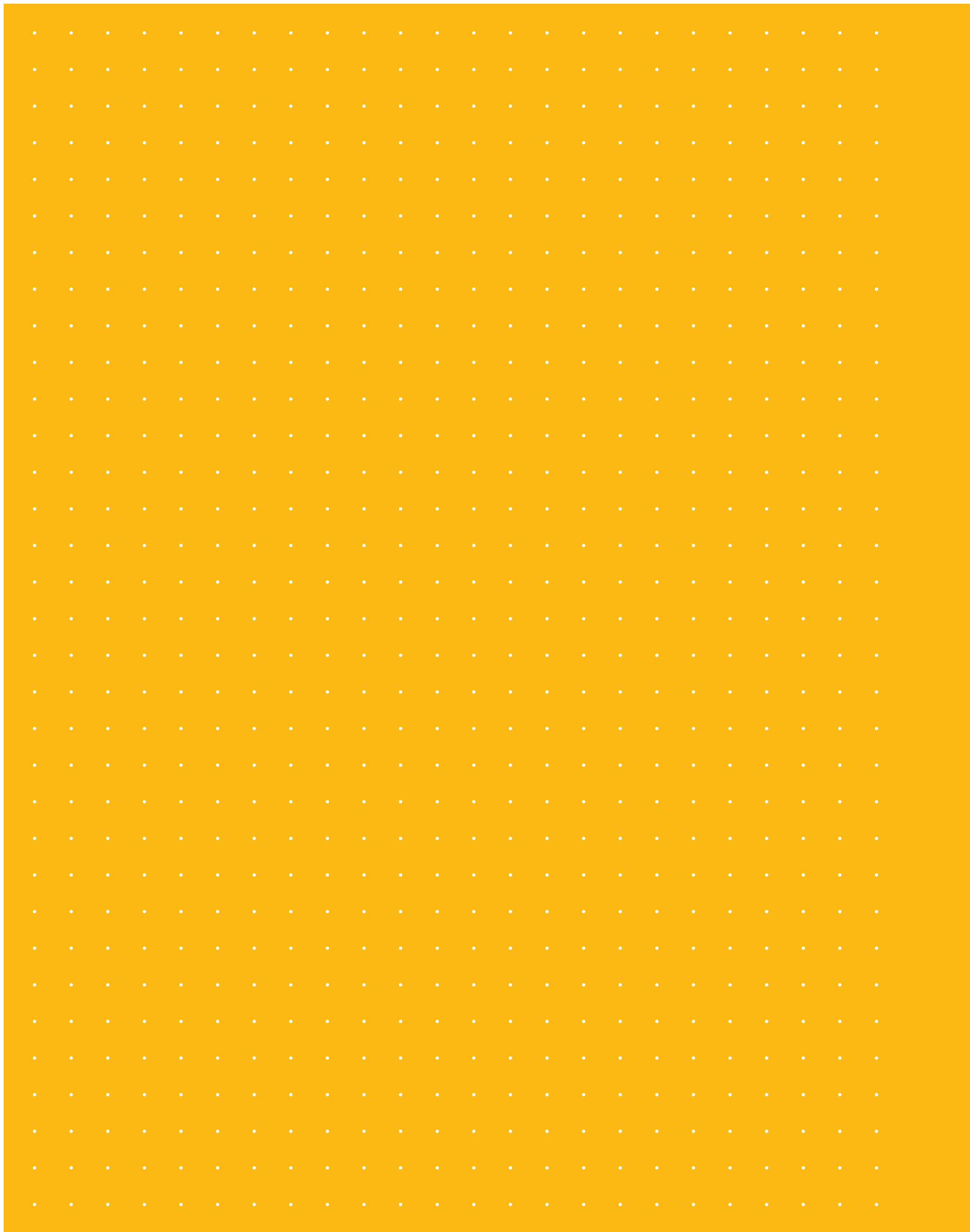
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Inside the new credit loss model

Requirements and implementation considerations

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For most financial services entities, the new model for credit loss accounting is the most significant financial reporting change in decades.

With Accounting Standards Update (ASU) No. 2016-13, “[Financial Instruments – Credit Losses \(Topic 326\): Measurement of Credit Losses on Financial Instruments](#),” the Financial Accounting Standards Board (FASB) replaces the incurred loss model of estimating credit losses that’s in current U.S. generally accepted accounting principles (GAAP) with an expected loss model, which is referred to as the current expected credit loss (CECL) model. Because the standard has an impact on many financial assets, most banks, thrifts, credit unions, insurance entities, and specialty finance entities will be affected.

The final accounting standard, issued June 16, 2016, began as a project in response to the concerns expressed by some preparers and users of their financial statements that the “probable” threshold inherent in the incurred loss method inappropriately delays the recognition of credit losses and overstates financial assets in the balance sheet. Both the FASB and the International Accounting Standards Board (IASB) studied the issues related to the 2008-2009 financial crisis¹ and have changed the accounting to have earlier recognition of credit losses. This means that, upon origination, the lifetime loss estimate will be reflected in the financial statements and re-measured continually throughout the life of the asset.

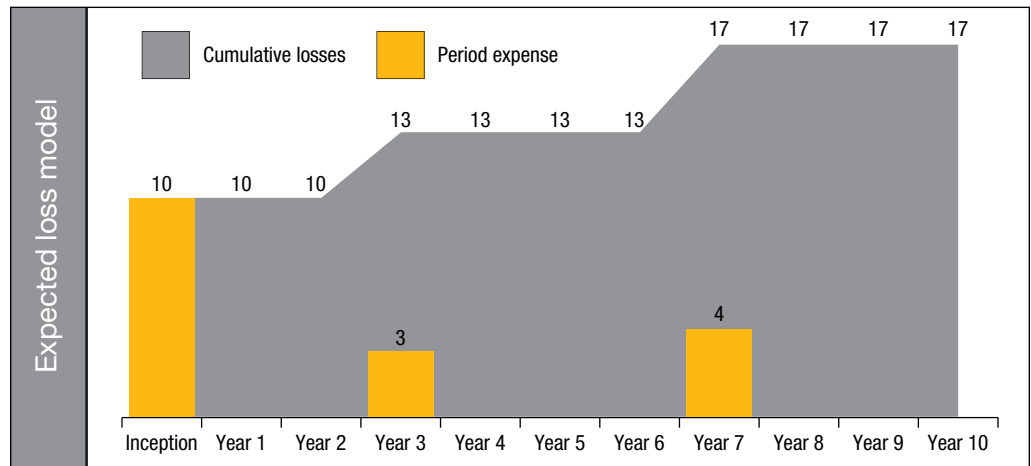
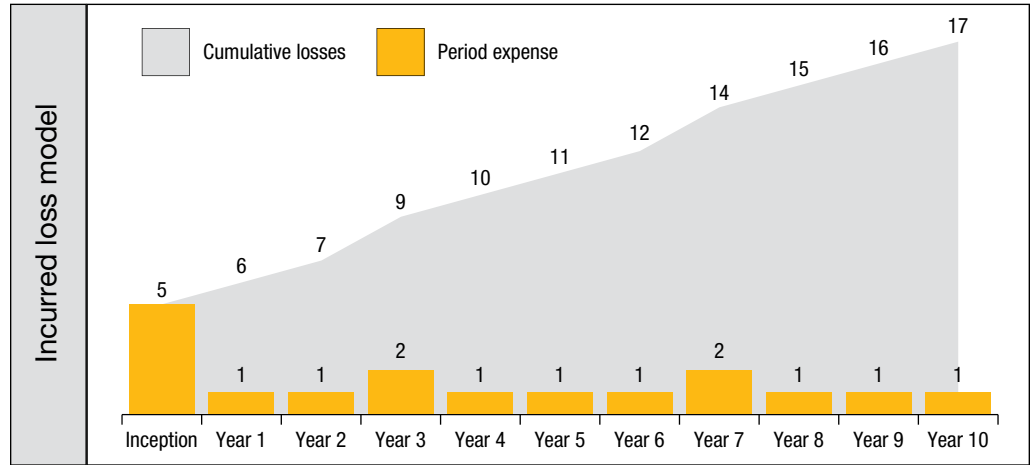
Applying the CECL model has greater potential than today’s accounting methods to negatively affect capital, earnings projections, and credit risk decisions for the financial services industry. However, the total losses recognized under CECL over the life of the financial asset, including subsequent measurement periods, will not change from what they are under the incurred loss model of current GAAP. It is the timing of when losses are recognized that will differ.

As illustrated in Exhibit 1, the cumulative credit losses recognized at the final resolution of the asset (charge-off) are the same whether the incurred loss model or the new CECL model is used. However, the allowance recognized in earlier periods is likely to be different.

For many entities, implementing ASU 2016-13 will require a meaningful effort. To be accommodating, the FASB is providing a healthy amount of implementation time, and the standard does not prescribe a particular approach for determining expected credit losses.

Exhibit 1: Example of cumulative credit loss

10-year asset class with loss estimates determined at inception and revised in years 3 and 7.



Source: Crowe analysis

CECL methodology

The CECL methodology will move the measurement of credit losses from an incurred loss basis to an expected loss basis, by 1) requiring that entities consider information that is more forward-looking than is permitted under current GAAP and 2) recognizing the expected lifetime losses on financial assets upon acquisition or origination. In addition, off balance sheet commitments, to the extent not unconditionally cancellable, will require an estimate of the expected credit losses over the remaining contractual life of the obligation to extend credit.

As the FASB states in the “Background Information and Basis for Conclusions” of the new standard, the CECL model does not change the economics of lending; rather, it affects the timing of the recognition of loss. To understand the standard, it is important to take note of what the FASB sees as improvements to the current incurred loss model. In the ASU, the FASB says it “expects this updated guidance to accomplish the following”:

- a. Result in an earlier measurement of credit losses
- b. Result in greater transparency about the extent of expected credit losses on financial assets held at the reporting date
- c. Improve a user’s ability to understand the realizability of assets held at each reporting period
- d. Improve a user’s ability to understand changes in expected credit losses that have taken place during the period
- e. Improve a user’s ability to understand purchased financial assets with credit deterioration by enhancing the comparability of the reporting with that of originated assets, while also reducing the cost and complexity of accounting for those assets
- f. Provide greater transparency to the user in assessing the credit quality indicators of a financial asset portfolio and changes in composition of the financial asset portfolio over time.

The scope

The scope is broad and applies to many financial assets. The CECL methodology applies to the measurement of credit losses on financial assets measured at amortized cost, including:

- Financing receivables
- Held-to-maturity (HTM) debt securities
- Receivables from revenue transactions within FASB Accounting Standards Codification (ASC) Topic No. 606, “Revenue From Contracts With Customers” or ASC 610, “Other Income”
- Receivables from repurchase agreements and securities lending transactions
- Reinsurance receivables

It also applies to off balance sheet credit exposures not accounted for as insurance (loan commitments, standby letters of credit, financial guarantees, and other similar instruments, except for instruments within the scope of ASC 815, “Derivatives and Hedging”) and net investments in leases recognized by a lessor.

The scope excludes:

- Financial assets measured at fair value through net income
- Available-for-sale (AFS) debt securities (although certain existing AFS guidance has been amended)
- Loans made to participants by defined contribution employee benefit plans
- Policy loan receivables of an insurance company
- Pledge receivables of a not-for-profit entity
- Receivables between entities under common control

Outside the scope of the CECL methodology but included in the new standard are revisions to the credit loss model for AFS debt securities. The FASB is tweaking the other-than-temporary impairment (OTTI) model by removing three factors: 1) the length of time that a security has been underwater, 2) the historical and implied volatility of the fair value of the security, and 3) whether recoveries or further declines in fair value exist after the balance sheet date. Removing these factors is expected to result in losses being recognized sooner than they are under today’s guidance.

Another welcome change is that debt securities will use an allowance for credit losses instead of a direct write-down – which means losses may be reversed immediately if conditions improve.

Although the standard revises some of the impairment guidance for debt securities classified as AFS, those securities are excluded from the scope of CECL and remain in the scope of ASC 320, “Investments – Debt and Equity Securities.”

The accounting

An allowance for credit losses reflecting the current estimate of all expected credit losses will be established on the balance sheet. The income statement will reflect the change in the estimate of losses (credit deterioration or improvement resulting from changes in credit risk, current conditions, and reasonable and supportable forecasts) since the previous reporting date. Entities using a discounted cash flow approach will also have changes in the estimate of credit losses, based on the passage of time, which can either be included in credit loss expense or recorded separately in interest income.

The estimate is based on the consideration of available information relevant to assessing the collectibility of the amortized cost basis of the financial assets – including information about past events (that is, historical experience), current conditions, and reasonable and supportable forecasts.

Recognizing that adjustments to historical loss experience for current conditions and reasonable and supportable forecasts might be necessary, the standard provides implementation guidance to describe the factors that an entity should consider when making such adjustments.

The standard also requires consideration of relevant qualitative and quantitative factors – both those that relate to the environment in which the entity operates and those that are specific to the borrower, which may be based on internal or external information (for example, as evidenced by changes in entity or industrywide underwriting standards).

The standard does not require an exhaustive search for all possible information if it requires “undue cost and effort” to obtain. The standard provides examples for both collective and individual asset evaluation.

Entities may revert to a historical loss experience for the future periods beyond which the entity is able to make or obtain reasonable and supportable forecasts. The standard is extremely flexible about how entities are allowed to revert to the historical loss experience. However, entities may not make adjustments to that historical loss information.

All contractual cash flows, including expected prepayments, must be considered. The prepayment risk may be embedded in the historical performance observed when generating a loss rate methodology or when directly assessed as a component of the methodology employed if using a discounted cash flow methodology, for example.

Crowe Observation

The prepayment assumption is a potentially sensitive assumption to align past performance, current conditions, and reasonable and supportable forecasts when calculating expected credit losses. Increased expected prepayments will reduce the amount of potential credit losses over the life of the financial asset – all else being equal – given the decrease in amortized cost exposure over the life of the contract.

However, expected extensions, renewals, and modifications should not be considered in the estimate, unless the entity anticipates executing a troubled debt restructuring (TDR). Similarly to what is performed today in purchased credit impaired (PCI) loan accounting, certain loans can present a higher probability of workout scenarios and TDR modifications based on entity-specific practices, and if significant should be considered when estimating the lifetime risk of loss under the CECL methodology.

The evaluation of financial assets must be performed on a collective (pool) basis when similar risk characteristics exist. An individual financial asset that shares no common risk characteristics with other assets in the portfolio should be evaluated individually and should not be included in the collective analysis in order to avoid layering effects on the allowance.

An entity should always reflect the risk of loss – even when the risk is remote. However, entities are not required to recognize a loss when the risk of nonpayment of the amortized cost is zero after being adjusted for current conditions and reasonable and supportable forecasts. A current collateral valuation by itself would not be an adequate basis for supporting zero credit losses unless that financial asset is deemed collateral-dependent. Unless the asset is deemed currently collateral-dependent, one would need to consider the nature of the collateral, potential future changes in values of the collateral, and loss histories of similar assets.

In addition, if an entity measures its allowance based on a method other than a discounted cash flow method, the allowance must reflect expected credit losses of the amortized cost basis, including premiums and discounts.² An entity may separately measure expected credit losses on the following amortized cost basis components: 1) the unpaid principal balance of the financial asset and 2) the premiums or discounts (including net deferred fees and costs) as well as foreign exchange and fair value hedge accounting adjustments.

Crowe Observation

ASU 2016-13 specifically states, in ASC 326-20-30-5, that discounts that are expected to accrete into interest income may not be used to offset the expectation of credit losses. This accounting implication can have a dramatic impact on capital ratios in certain situations, such as business combinations, because financial assets might carry discounts for credit and interest rate risk for fair value purposes and still require an allowance for lifetime credit losses in accordance with the CECL model.

Collateral-dependent financial assets

While the collateral-dependent method will continue to be required if foreclosure is probable, the method is allowed only “if repayment is expected to be provided substantially through the operation or sale of the collateral when the borrower is experiencing financial difficulty based on the entity’s assessment as of the reporting date.”

The expected credit losses for collateral-dependent assets will be measured as the difference between the collateral’s fair value (adjusted for selling costs, when applicable) and the amortized cost basis of the asset. For financial assets that require the borrower to continually post or adjust collateral to secure the asset, the allowance for expected credit losses will be limited to the difference between the collateral’s fair value (adjusted for selling costs, when applicable) and the amortized cost basis of the asset.

Troubled debt restructurings

Credit losses on TDRs should be measured using the CECL methodology – a change from existing GAAP, which currently requires credit losses for TDRs to be measured using a discounted cash flow technique. Under the CECL model, losses will be recognized using an allowance account that includes any concessions, such as principal or interest forgiveness. Using an allowance for TDRs will provide the opportunity for reversal upon increases in expected cash flows. In addition, depending on the method applied to incorporate concessions, the passage of time could result in reductions to the credit loss amount.

Available-for-sale debt securities

The CECL methodology applies to financial assets measured at amortized cost. Debt securities classified as AFS are excluded from the scope of the CECL methodology, but the impairment guidance has been moved to ASC 326-30 and enhanced, with the following modifications:

-
- An allowance, rather than a direct write-down, will be used for recognizing impairment losses, which allows an entity to recognize reversals of credit losses.
 - ASC 320-10-35-33F(a) has been amended to no longer consider the length of time that the fair value has been less than its amortized cost basis, when estimating whether a credit loss exists.
 - ASC 320-10-35-33F(c) has been removed to no longer consider the historical and implied volatility of the fair value of the security.
 - ASC 320-10-35-33F(g) has been removed. When estimating whether a credit loss exists, an entity no longer considers recoveries or additional declines in the fair value after the balance sheet date.

In addition, a fair value floor has been incorporated into the credit loss methodology for AFS debt securities so that the credit losses on those securities will be limited to the difference between a debt security's amortized cost basis and its fair value.

The standard requires an entity to consider whether it intends to sell or is more likely than not to be required to sell the security before the recovery of its amortized cost basis. This guidance, retained from the current guidance, will require an entity to charge off the allowance if either of those considerations exists.

Purchased credit deteriorated assets

The purchased credit impaired (PCI) accounting model will be replaced by the purchased credit deteriorated (PCD) accounting model. At acquisition, the par or principal amount, allowance for credit losses, and noncredit discount or premium will be recorded for all acquired assets with evidence of "more-than-insignificant" credit deterioration since origination. This is an expansion of the scope of the current PCI model, which considered only assets with "significant" credit deterioration. The scope does not, however, include all acquired financial assets or all assets acquired in a business combination.

The existing PCI methodology has been changed to establish, at acquisition, an allowance for credit losses by "grossing up" the acquisition price. A discounted cash flow approach is not required to measure expected credit losses on PCD assets. However, for estimating an allowance based on a method that does not discount expected future cash flows, the allowance should be based on the par (or unpaid principal) amount of the PCD asset. When an allowance estimation method that does include discounted expected future cash flows is used, the discount rate that equates the purchase price of the PCD asset to the present value of estimated future cash flows should be used.

The par or principal amount of an asset is recorded, and the noncredit discount or premium is accreted into income over the life of the asset. The noncredit-related discount or premium resulting from acquiring a pool of PCD financial assets must be allocated to each individual financial asset, thus removing the ability to pool for the unit of account. However, certain transitional accommodations have been made for historical PCI pools and are discussed later in this article. Increases in expected cash flows are recognized immediately instead of prospectively, as in existing GAAP.

Beneficial interests

Certain beneficial interests classified as HTM or AFS will use the PCD model either if they meet the PCD definition or there is a significant difference between contractual and expected cash flows. Credit losses for these beneficial interests will be calculated using the PCD model measurement guidance. For all other beneficial interests, the standard requires that allowance for beneficial interests must be measured using a present value of cash flows technique.

The inclusion of an allowance in the beneficial interest model significantly changes practice such that favorable and unfavorable adjustments must be considered first as adjustments to the allowance. Remaining changes in expected cash flows due to factors other than credit will be accreted into interest income over the life of the asset.

Off balance sheet credit exposure

Regarding certain off balance sheet credit exposures, such as unfunded loan commitments, a liability for expected off balance sheet credit losses should be calculated by taking into account the likelihood of funding the commitment and estimated credit losses that will result over the contractual period. Unless the commitment is unconditionally cancellable by the lender, expected credit losses should be calculated. The estimate of expected credit losses should be recorded separately from the allowance for credit losses that is related to recognized financial assets.

Crowe Practice Tip

Certain credit card and other line-of-credit arrangements might be unconditionally cancellable by the lender – thus, in some cases, eliminating the existing liability accruals made under current GAAP. As part of implementation planning, entities should inventory, analyze, and document the various active contracts that give rise to unfunded commitments.

Write-offs and recoveries

Consistent with existing GAAP, write-offs will continue to be recognized in the period in which the receivable is deemed uncollectible, and recoveries will be recorded when received.

Disclosures

ASU 2016-13 requires a number of disclosures, such as a description and discussion of the factors that influenced management's current estimate of expected credit losses, including reasonable and supportable forecasts about the future. The changes in the influencing factors and reasons for those changes should also be disclosed.

Disclosure is not explicitly required for the time period covered by the reasonable and supportable forecasts. However, the method applied to revert to historical credit-loss experience for periods beyond which the entity is able to make or obtain reasonable and supportable forecasts should be disclosed.

A qualitative disclosure relating to collateral-dependent financial assets is required. Also required is a quantitative disclosure for the roll-forward of the allowance for expected credit losses by portfolio segment and major security type for both financial assets measured at amortized cost and those measured at fair value through other comprehensive income (OCI).

Many of the existing disclosures are carried forward. The following new disclosures must be made under the new standard:

- A description and discussion of factors that influenced management's estimate, including reasonable and supportable forecasts about the future
 - The factors that influenced management's current expected credit losses, the changes in those factors, and the reasons for those changes
 - The method applied to revert to historical credit loss experience
- Vintage disclosure
 - Disaggregated credit-quality data by the year of the asset's origination (that is, the vintage year) for all classes of financing receivables, net investments in leases, and major security types (excluding revolving lines of credit such as credit cards, reinsurance receivables, and repurchase and securities lending agreements)
 - The disaggregation year is limited to no more than five annual reporting periods, with the balance for financing receivables originated before the fifth annual reporting period shown in aggregate.
 - For an interim reporting period, the year-to-date originations of the current annual reporting period are considered to be current-period originations.
 - For the purpose of determining the vintage year for disaggregated credit-quality disclosures, an entity uses current GAAP to determine a new loan that results from loan refinancing or restructurings.

- Relief for certain entities
 - For public business entities (PBEs) that do not file with the U.S. Securities and Exchange Commission (SEC) (discussed in the next section, “Transition and effective dates”), a practical expedient is available during the transition: disclosure of only three years of the required vintage information in the year of adoption and four years in the year after adoption.
 - In years thereafter, PBEs that are not SEC filers must comply with the full five-year disclosure requirement.
 - An alternative is provided for non-PBEs (including private companies, employee benefit plans, and not-for-profit entities) to elect not to make the vintage disclosure.

Crowe Observation

Users of the financial statements have grown accustomed to observing directional consistency with recognizing credit loss expense relative to the portfolio’s performance over time. Rising delinquencies generally have meant rising expense.

Disclosures that communicate to users of the financial statements how the CECL methodology was developed and how it has changed from period to period will be critical under the new standard.

There might no longer be a directional consistency link between credit loss expense and the current credit quality of the financial assets. In fact, if one perfectly estimated the risk of loss upon origination, there would be no future provision expense as credit quality deteriorated. Thus, being able to communicate how expectations of financial asset performance were assessed and embedded in the methodology is likely to be more important under CECL than it is under current GAAP, as are how those assumptions compare to actual performance observed in a particular reporting period.

Transition and effective dates

For debt securities with OTTI recognized prior to adoption, the guidance is to be applied prospectively. This means that the amortized cost of such debt securities will be unchanged by adoption of the new standard. The effective rate of interest will also remain unchanged as a result of adoption. In addition, further improvements in expected cash flows subsequent to adoption, reflecting recovery of amounts previously written off as OTTI, will be recognized when received.

Existing PCI assets will be grandfathered and classified as PCD assets at the date of adoption. At adoption, an entity may elect to maintain pools previously accounted for under ASC 310-30. The asset will be grossed up for the allowance for expected credit losses for all PCD assets at the date of adoption and will continue to recognize interest income based on the yield of such assets as of the adoption date. Subsequent changes in expected credit losses will be recorded through the allowance.

Similar transition will be applied to beneficial interests for which ASC 310-30 has been applied in the past or for which there is now a significant difference between the contractual and expected cash flows. Entities are not able to reassess whether individually acquired assets are TDRs as of the date of adoption.

For all other assets in CECL's scope, a cumulative-effect adjustment will be recognized in retained earnings as of the beginning of the first reporting period in which the guidance is effective.

Recognizing the pervasive impact that the final standard will have, particularly on the financial institutions industry, the FASB created a subgroup of what it termed "public business entities" or "PBEs" to delineate those entities that meet the definition of an SEC filer from those that do not. In the definition of SEC filer, the FASB included entities that both file and furnish financial statements with the SEC as well as entities subject to Section 12(i) of the *Securities Exchange Act of 1934* that file with the appropriate regulatory agency under that section. Entities that are PBEs only because their financial statements have been included in a submission by another SEC filer are not included in the SEC filer definition.

- For PBEs that meet the definition of an SEC filer, the standard will be effective for fiscal years beginning after Dec. 15, 2019, including interim periods within those fiscal years.
- For PBEs that do not meet the definition of an SEC filer, the standard will be effective for fiscal years beginning after Dec. 15, 2020, including interim periods within those fiscal years.
- For all other entities, the standard will be effective for fiscal years beginning after Dec. 15, 2020, and interim periods within the fiscal years beginning after Dec. 15, 2021.

For all entities, early adoption is permitted for fiscal years beginning after Dec. 15, 2018, including interim periods within those fiscal years.

Crowe Observation

The staggered effective dates and disclosure accommodations are meant to provide additional time and cost relief for smaller entities. The FASB acknowledges that smaller entities have fewer resources to leverage and that the standard will require significant effort from the financial institutions industry to adopt. Many financial institutions meet the definition of a PBE, which is why the FASB further segregated the effective dates between SEC filers and non-filers to provide smaller institutions more time to implement the standard.

However, delaying interim reporting for the smallest entities has a unique result related to recognition in the regulatory call reports filed quarterly during the adoption year. Non-PBE banks with calendar year-ends would adopt CECL for 2021. Because interim reporting is not required until 2022, non-PBEs will use the incurred loss model for the first three quarters of 2021. At the end of the year, they will record a cumulative adjustment to retained earnings as of the beginning of the period of adoption, which for calendar year-ends is Jan. 1, 2021, and record expected credit loss expense, using the CECL model, as if it had been adopted for the entire year. This means the first three quarters' allowance and provision, using the incurred loss model, recognized in the call reports would be inconsistent with the year-end call report.

We understand that the adoption is expected to be handled by the federal financial institution regulators as they have handled other prior accounting standards with similar effects – that is, revised call reports will not need to be filed for the first three quarters and the fourth-quarter report will reflect all necessary adjustments. We encourage those affected to discuss this issue with the appropriate regulatory agency.

Methods for estimating credit losses

When the FASB decided not to restrict the types of methodologies used to develop an estimate of expected credit losses, the board provided flexibility. More specifically, the standard states that entities will not be prohibited from using “discounted cash flow methods, loss-rate methods, roll-rate methods, probability-of-default methods, or methods that use an aging schedule” when developing their estimates. Many methods currently used by financial institutions would fit into one of these categories and be capable of assisting in the development of an expected credit loss estimate.³

Exhibit 2 lists layers and factors to be considered when a CECL methodology is being implemented.

Exhibit 2: What to consider when implementing CECL methodology

HISTORICAL LOSS INFORMATION	Includes relevant internal or external information or a combination of both. Pooling or segmentation is based on identification of common risk characteristics.
+ CURRENT CONDITIONS	Adjustments to adequately fit historical information to current conditions – in other words, to be consistent with current asset-specific risk characteristics. This may be through qualitative or quantitative factors.
+ REASONABLE AND SUPPORTABLE FORECASTS	Adjustments to adequately reflect an entity's forecast of economic impact on the asset in the future. These adjustments may be qualitative or quantitative. In addition, they may be made at the input level or as top-of-model adjustments.
+ REVERSION TO HISTORY	Entities are to revert to <i>unadjusted</i> historical loss information when unable to make reasonable and supportable forecasts. This reversion may be done at the input level or in aggregate, and it should follow a rational, systematic approach.
= EXPECTED CREDIT LOSS	The result should represent the expected credit loss over the remaining contractual term of the financial asset or group of financial assets.

Source: Crowe analysis

It is likely that different methods will be used for disparate asset classes and risk characteristics. While the standard requires pools to be aggregated based on common risk characteristics, forming pools also accounts for the various risks present over the life of the financial assets and takes advantage of diminishing risk factors over the assets' life.

To quote directly from ASC 326-20-55-5:

In evaluating financial assets on a collective (pool) basis, an entity should aggregate financial assets on the basis of similar risk characteristics, which may include any one or a combination of the following (this list is not intended to be all inclusive):

- a. Internal or external (third-party) credit score or credit ratings
- b. Risk ratings or classification
- c. Financial asset type
- d. Collateral type
- e. Size
- f. Effective interest rate
- g. Term
- h. Geographical location
- i. Industry of the borrower
- j. Vintage
- k. Historical or expected credit loss patterns
- l. Reasonable and supportable forecast periods

Crowe Practice Tip

Loss estimates for loans with relatively short lives may not differ dramatically from currently employed incurred loss methodologies. To take advantage of inherent benefits of certain loan structures, such as fully amortizing loans that create significant collateral cushions, one might look to build methodologies that directly incorporate seasoning factors. In addition, when formulating pooling methodologies, it will be important to address remaining-life risk factors such as principal repayment structures, remaining term, and potentially interest rate sensitivities inherent in the asset structure and terms. This may be accomplished through any of the following:

- Collective evaluation (pooling) structures at a disaggregated basis
- Financial modeling of individual asset structures via a discounted cash flow basis
- Qualitative and/or quantitative adjustments made to more aggregated pooling structures

Consistent with FASB and regulatory guidance, complex modeling techniques are not expected to be required for smaller and less complex institutions. Small institutions and small portfolios do not benefit from the “law of large numbers” when formulating methodologies, so institutions will need to balance relevance and availability of disaggregated data when creating their CECL methodologies.

In previous articles and webinar presentations, we have discussed how one might convert various incurred loss methodologies into a CECL methodology.⁴ Several of the many methods for estimating credit losses are discussed in the rest of this section. Following up on past articles, this section discusses more practical issues associated with the methodologies that might be employed:

- Loss rate methods
 - Open pool – cumulative credit loss
 - Closed pool – vintage
 - Closed pool – static pool analysis
- Component loss methods
 - Probability-of-default methods
 - Vintage default curves method
 - Ratings transition method and other migration methods
 - Regression method
 - Loss given default and exposure-at-default components
 - Discounted cash flow method
- Qualitative factors
- Off balance sheet credit exposures

Loss rate methods

The average charge-off method is the approach currently used most commonly for evaluating impairment on pools of financial assets under the incurred loss model. This method is used for calculating an estimate of losses based primarily on experience, and the data needs of this method are modest compared to those of other methods. Following is a discussion of two concepts that could be employed under a loss rate methodology. These are not meant to be all-inclusive.

Open pool – cumulative credit loss

We expect many smaller and less complex institutions to use the open pool concept, with little change from the pooling methodology used now in the current incurred loss methodology.

The open pool concept essentially takes a snapshot of the balance of assets outstanding in a portfolio at a particular point in time and follows the respective losses generated by those assets that are outstanding over the life of the pool. This could be done in an iterative fashion, looking at the balance outstanding at various quarter-ends or year-ends and watching how those particular assets played out over time until that pool is “exhausted” (see sidebar, “Converting current incurred loss methodology to CECL and the steady-state assumption”⁵).

This type of model makes a significant simplifying “steady-state” assumption, and that is that the pooling construct used to track history is commensurate with the credit risk factors of the current pool being assessed. It also assumes that the origination volume and prepayment are consistent with the current portfolio, as are the losses incurred and the timing of those losses incurred in the historical periods observed.

Regulatory agencies have indicated that smaller and less complex institutions may continue to use segmentation methodologies that are currently used under the incurred loss methodology. For example, recent interagency guidance titled “[Joint Statement on the New Accounting Standard on Financial Instruments – Credit Losses](#)” states, “Although the new accounting standard provides examples of such characteristics, smaller and less complex institutions may continue to follow the practices they have used for appropriately segmenting the portfolio under an incurred loss methodology or they may refine those practices.”⁶

Clear documentation and consideration of the relevant risk factors are important when employing the open pool loss-rate methodology.

Following are some of the pros and cons of employing the open pool loss-rate methodology.

Pros and cons of the open pool loss-rate method

PROS	CONS
Calculation is simpler calculation than that of other methods.	Steady state (of terms, product mix, prepayment, collateral values, etc.) is assumed.
Data needed to develop unadjusted historical loss rates might be easier to obtain than data for more complex methodologies.	Data needs and challenges shift to supporting qualitative factors.
Qualitative factor is likely a simple “top of model” adjustment for current condition fitting and reasonable and supportable forecasts.	Top-of-model adjustments are harder to support quantitatively.
For smaller entities, the use of an open pool concept at a minimally disaggregated level might provide better information. Smaller institutions and portfolio segments often do not have significant populations and data sets, and results may be erratic as further disaggregation occurs.	Segmented pools are required to have similar risk characteristics. Support is needed for the evaluation of similar risk characteristics – entities might prefer disaggregation beyond current state of allowance for loan and lease losses (ALLL) segmentation.

Sidebar

Converting current incurred loss methodology to CECL and the steady-state assumption

This example illustrates the difference between current practice under the incurred loss model and how one might establish an allowance under CECL using assumptions from Example 1 in ASU 2016-13. The objective under each methodology is to assess the allowance needed on the 2020 ending balance of \$3 million outstanding.

PERIOD ENDING	XYZ CALL CODE AMORTIZED COST	XYZ CALL CODE ANNUAL LOSS	INCURRED LOSS EXAMPLE		CECL EXAMPLE	
			XYZ ANNUAL LOSS RATE (%)		XYZ CALL CODE 2010 LOSS	
2010	\$1,500,000	\$4,000	0.28%		-	
2011	\$1,610,000	\$4,300	0.28%		\$3,900	
2012	\$1,730,000	\$4,600	0.28%		\$3,700	
2013	\$1,850,000	\$4,900	0.27%		\$3,400	
2014	\$1,980,000	\$5,300	0.28%		\$3,200	
2015	\$2,120,000	\$5,700	0.28%		\$2,900	
2016	\$2,270,000	\$6,100	0.28%		\$2,400	
2017	\$2,430,000	\$6,500	0.28%		\$2,000	
2018	\$2,610,000	\$7,000	0.28%		\$1,000	
2019	\$2,800,000	\$7,500	0.28%		-	
2020	\$3,000,000	\$8,000	0.28%		-	
		\$63,900	0.28%	1-year emergence (%)	\$22,500	2010 – Cumulative loss
			+ 0.50%	Q-factor (hypothetical)	÷ \$1,500,000	2010 ending balance XYZ call code
			= 0.78%	Total incurred loss (%)	= 1.50%	10-year cumulative loss (%)
			× \$3,000,000	Year-end 2020 XYZ call code	+ 0.00%	Q-factor for current conditions
			= \$23,300	Total incurred loss	+ 0.10%	Q-factor – Forecast real estate values
					+ 0.05%	Q-factor – Forecasted unemployment
					+ 0.00%	Other forecasts and reversion
					= 1.65%	Total expected loss (%)
					× \$3,000,000	Year-end 2020 XYZ call code
					= \$49,500	Total expected loss

Incurred loss example:

- Created a hypothetical incurred loss model based on call report code segmentation currently employed by many smaller, less complex financial institutions.
- Loss emergence period determined at one year and historical loss factor determined at 28 bps based on losses observed over the average balance for the period.
- Hypothetical qualitative factor of 50 bps assumed to represent current requirements under the incurred loss model.

CECL example:

- Used assumptions provided in CECL Example 1 from ASC 326-20-55-18 through 326-20-55-22.
- Only losses observed in loans outstanding in the 2010 call report balance are captured to represent that pool's lifetime loss experience.
- Various qualitative factors are created for current conditions, reasonable supportable forecasts, and reversion.

Closed pool – vintage

Vintage analysis measures impairment based on the origination date and the historical performance of assets with similar risk characteristics. This methodology works well with financial assets that follow patterns or loss curves that are comparable and predictive for subsequent generations of financial assets (indirect auto loans, for example).

First, an entity determines appropriate types of financial assets that share similar risk characteristics. Then, based on historical data, the entity develops a cumulative loss curve for the applicable financial assets. It is common for different “vintages” to be analyzed by year of origination, if the pool of loans is homogeneous.

For vintage analysis, adjustments may be made for differences in quantitative or qualitative factors from period to period, but generally the financial asset would be assigned a loss factor based on the point on the loss curve that correlates to the financial asset’s age.

For example, a pool of similar five-year financial assets might show this loss experience:

Loss experience by year following origination

YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5
0.25%	0.50%	1.00%	0.75%	0.00%

Typically, the incurred losses for a pool of assets in year three would be 1 percent. However, based on the historical loss experience shown above, the total expected losses for the life of the pool of assets would be 2.5 percent, which is the accumulation of the five-year loss experience. Such loss curves are used to generate loss estimates based on the age or seasoning of the loan portfolio.

When further broken down into year of origination, the more granular loss rates lend themselves to regression analysis in order to establish relationships between loan underwriting (such as credit score or loan-to-value ratio) and economic variables (such as unemployment and housing price index for mortgage loans). This analysis makes it easier to determine if, for example, the bank had a very different first-year loss experience with loans originated five years ago than it did with loans originated last year.

Exhibit 3 shows a simple example, similar to the examples provided in the CECL standard, of how one might apply a vintage loss-rate analysis to a pool of assets. Based on history from 20X1 through 20X4, cumulative loss rates were tracked, with 20X5 through 20X9 still presenting some level of loss risk potential, and we try to solve for the remaining loss potential based on past performance.

Given that the economic environment and underwriting in this example are consistent over time, the entity assumes cumulative losses will be commensurate with past performance, which ranged from 3 percent to 3.25 percent. The entity deemed 3.25 percent more appropriate, based on a detailed allowance policy considering all the relevant risk factors. Thus, the goal is to solve for the remaining loss represented in the orange-highlighted section of Exhibit 3. In addition, given that the loan structures are consistent in each origination period, the loss curve for previous years is used to project the expected losses for the open periods.

In a static pool analysis, the originated amortized cost is used to estimate the remaining credit loss exposure. The remaining loss expected is simply the 3.25 percent cumulative loss less the previous period's observed losses.

Exhibit 3: Example of vintage loss-rate method

YEAR OF ORIGIN	ORIGINATED BALANCE	YEAR 1	YEAR 2	YEAR 3	YEAR 4	YEAR 5	TOTAL LOSS %	REMAINING LOSS EXPECTED %	\$ EXPECTED
	(a)							(b)	(a) x (b)
20X1	\$25,000	0.300%	0.900%	0.900%	0.600%	0.300%	3.00%		
20X2	26,250	0.325%	0.975%	0.975%	0.650%	0.325%	3.25%		
20X3	27,563	0.300%	0.900%	0.900%	0.600%	0.300%	3.00%		
20X4	28,941	0.325%	0.975%	0.975%	0.650%	0.325%	3.25%		
20X5	30,388	0.325%	0.975%	0.975%	0.650%	0.325%	3.25%	0.325%	99
20X6	31,907	0.325%	0.975%	0.975%	0.650%	0.325%	3.25%	0.975%	311
20X7	33,502	0.325%	0.975%	0.975%	0.650%	0.325%	3.25%	1.950%	653
20X8	35,178	0.500%	0.975%	0.975%	0.650%	0.325%	3.25%	2.925%	1,029
20X9	36,936	0.325%	0.975%	0.975%	0.650%	0.325%	3.25%	3.250%	1,200
									\$3,293

Source: Crowe analysis

Closed pool – static pool analysis

The terms “vintage analysis” and “static pool analysis” are often used interchangeably; however, “static pool” means simply segmenting and tracking assets over a period of time based on similar risk characteristics. In practice, the main difference between vintage and static pool analysis is that vintage analysis is based on the year of origination or the age of the asset (or both), while static pool analysis is based on a type of shared pooling criterion and assets originated in a similar time period.

Static pools are often segmented by similar risk characteristics, such as collateral type, loan structure, credit risk indicators like risk rating or consumer credit scores, and loan-to-value ratio for assets originated in the same period. Commonly used to track loss rates, static pools also can be used to track other assumptions that affect credit loss and timing – assumptions about prepayment rates, cumulative default probabilities and default curves, and loss severity, for example. Thus, static pools often are used to support many components of the various acceptable methodologies.

Following are some of the pros and cons of employing the closed pool loss-rate methodologies – either the vintage or the static pool methodologies.

Pros and cons of the closed pool vintage and static methods

PROS	CONS
Can be used to isolate changes such as those in the economic environment, collateral value, and underwriting.	Can require extensive data based on level of disaggregation and the requirement to fully analyze the expected lifetime credit loss.
Forecasting ability improves as more data sets are collected, and qualitative and quantitative adjustments can be made more precisely at the static pool or vintage level.	Since vintage methods use the originated balance to determine the remaining credit losses, actual performance on open vintage pools may yield unusual results and requires oversight of data integrity to verify that prepayments have been incorporated adequately so that loss rates are not overstated on prepaid pools.
Appropriately segmented data eliminates changes in portfolio growth and mix.	Formed static pools require a remaining-life-of contract coverage in terms of tracking historical performance. Under current GAAP, static pool performance is likely to be studied only over the course of a year, and, depending on the attributes selected, various lived instruments may be contained in the pool. This requires longer study periods to cover contractual lives.
One may find that the data sets compiled for the loss rate methods could be leveraged to develop component loss assumptions (prepayment, default probability, or severity, or loss given default (LGD)) through study of historical performance. This is generally the case because static pool and vintage analyses are performed at a more disaggregated basis or on a loan level.	Given the population size observed as disaggregation increases, smaller entities might struggle to generate representative pools as the loan counts diminish.

Component loss methods

The primary benefit of the component loss models is the ability they provide to pull various levers to adjust the expected loss outcome. Having more granular data sets and an analysis that segregates the likelihood of default from the magnitude of the loss experienced upon default allows for more diagnostic capabilities for identifying trends in historical data sets and how assets with common risk characteristics may react in the future under various economic conditions.

If an entity employs a more complex component loss model, it may glean additional benefits through its ability to use the same methods for some aspects of stress testing. This may be very beneficial for smaller institutions that have not already built stress-testing models. By studying the components of the loss, one could modify each individual component to compensate for historical events, to align with current conditions, and to forecast expectations. In addition, components often provide more direct linkage to the macroeconomic effects on financial assets.

With component loss methodologies, the complexity of the analysis increases significantly. In addition, many of these methodologies rely on the significant observable data points in order to provide meaningful results. Small institutions might find these methods unreliable and burdensome.

Probability-of-default methods

The probability-of-default method is used to estimate credit losses by considering three components: 1) probability of default, 2) loss given default, and 3) exposure at default. The method is also used by many risk management systems and within the Basel II and Basel III frameworks.

The three components are usually defined as follows:

- **Probability of default (PD)** – probability of default over a given time period
- **Loss given default (LGD)** – loss amount at the time of default for a particular exposure
- **Exposure at default (EAD)** – balance of the relationship at default

Assuming none of the three components is correlated with either of the other two components, the calculation of credit losses could be determined by using this simplified equation:

$$\text{Credit losses} = \text{PD} \times \text{LGD} \times \text{EAD}$$

For example, consider a financial asset with an amortized cost of \$100,000 (assumed to be the EAD) with a 20 percent probability of default and a 20 percent loss given default. The calculated expected loss would be \$4,000 (4 percent of \$100,000):

PD	LGD	EAD	EXPECTED LOSS
20%	20%	\$100,000	\$4,000

A financial institution must segment its portfolio by risk characteristics and develop estimates of these three components based on uniform definitions of “default” and “loss.” The development of each estimate is usually completed as follows:

- PD can be a simple average, externally acquired and mapped to the specific segments analyzed, or it could be based on various default probability methods on a by-borrower or by-dollar basis.
- LGD can be a simple average, externally acquired, or based on other reasonable methods such as mapping collateral values to property value indexes and adjusting for costs to sell.
- EAD can be the balance of the financial asset today or a higher or lower balance, depending on the type of product (amortizing, nonamortizing, or revolving instrument).

After the portfolio is segmented and these factors are developed, further adjustments can be made based on correlations that might exist among the factors. One consideration for a probability-of-default model is the impact of correlation between the components. For example, during a recession it is common for both the PD and the LGD to rise. To avoid misstating the amount of credit loss, an entity should consider making appropriate adjustments for the correlation of these components.

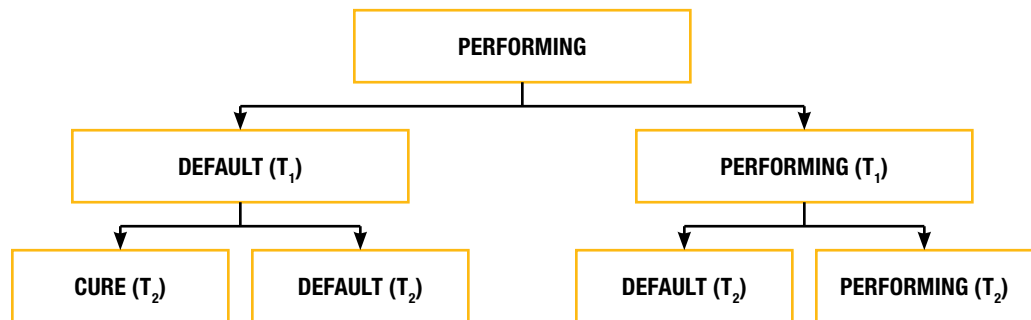
To develop a model driven by the PD method, an institution must consider significant attributes that underlie the various pools of assets and demonstrate the strong predictive power of the model through continual back-testing.

Institutions applying a PD method for the first time will need to assess the reliability and accessibility of historical data sets that may be used to build the cumulative default probabilities and LGD. Again, it is important to note that the use of this methodology in the incurred loss model typically focuses on a shorter time horizon than will be required in the future. The CECL methodology will require even more data sets to be tracked over time.

The institution will need to assess a standard definition of “default” and paths to default that might occur within a product line. Tracking defaults and cure factors in existing data systems can often prove burdensome, and few credit systems were established with this goal in mind. It’s important to establish definitions and automate the process from the outset.

The primary drivers of default probabilities (for example, risk rating, past-due status, consumer credit scores, and loan-to-value) will need to be determined and tested over a significant period of time before the model is implemented, so that the predictability of those drivers of default can be assessed. Exhibit 4 shows the typical path of determining default or cure over various periods of time. In addition, cure rates of the defaulted loans might be an important attribute to be considered when the lifetime credit losses are being assessed.

Exhibit 4: Example of probability-of-default method timing progression



Source: Crowe analysis

To supplement the entity’s own experience, various industry sources of data can be used to assess probabilities of default over various economic cycles. The performance of commercial mortgage-backed securities (CMBS) and residential mortgage-backed securities (RMBS) – reflecting defaults, prepayment activity, and severity assumptions, for example – can be obtained from various ratings agencies and servicer reports. However, an institution using industry data must demonstrate that the portfolios being measured are comparable.

Probability of default assumptions may be generated under a variety of different methodologies. Following is an endeavor to address a few of these methodologies.

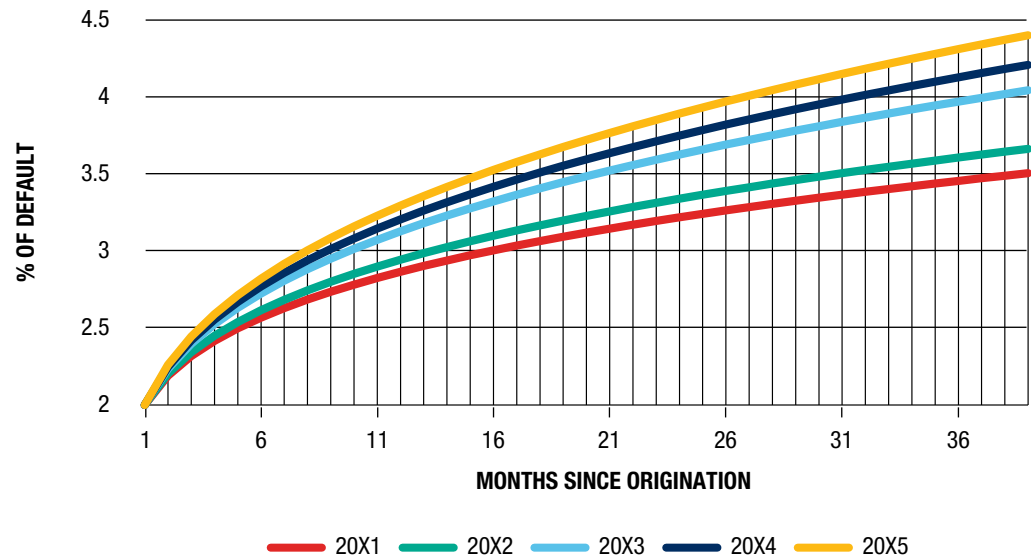
Vintage default curves method

As with studying the vintage loss-rate methodology, studying the timing of defaults over the financial assets' contractual life may provide valuable insights into the timing of losses.

The methodology is very similar to the loss rate method discussed previously; however, instead of focusing on the resultant loss, one would need to focus on the default trigger. Typically, instead of tracking the amount of loss relative to the originated balance, one would instead track the count of defaulted loans relative to the originated loan count. Less frequently, we have observed some methodologies employing relative balance default analytics as well when the portfolio studied has a varied range of balances originated and a low frequency of originations.

This methodology provides more discrete observations of economic factors and historical underwriting practices employed over the individual periods studied and allows more diagnostic capabilities to fit to current and forecast expectations of performance.

Exhibit 5: Example of vintage default curves method



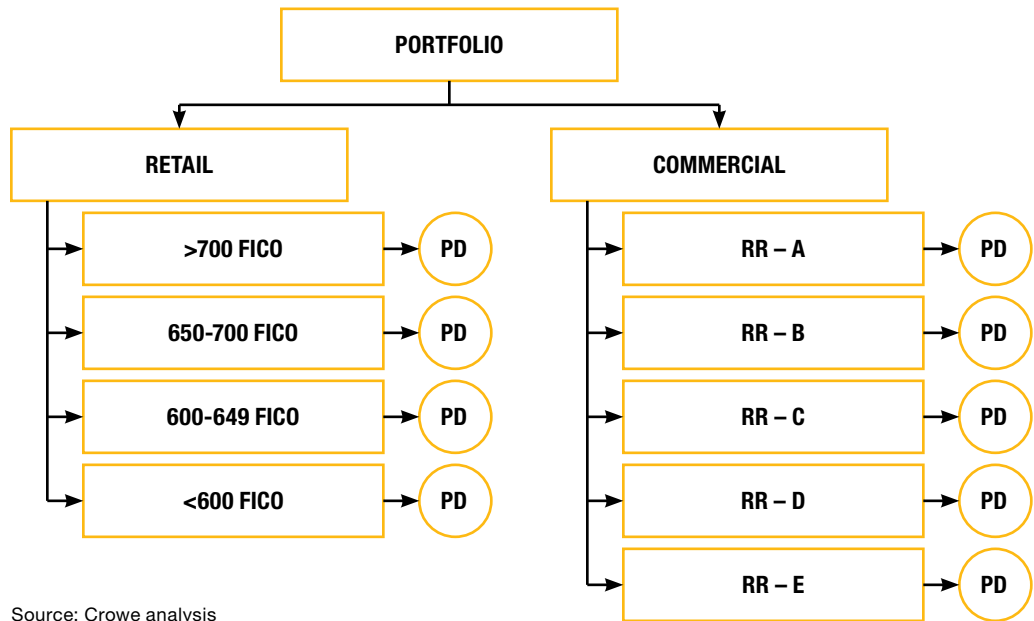
Source: Crowe analysis

Ratings transition method and other migration methods

Ratings transition and other attribute migration methodologies to derive a probability of default are similar to static pool loss-rate methodology, but again instead of focusing on the resultant loss and balance, one focuses on the count of assets in the various cohorts identified. Often, we see ratings transitions employed for commercial loans and delinquency status for consumer loans, but with this strategy each entity might experience differing results, depending on how the portfolios are managed and collected. Other attributes, such as consumer credit score transitions and loan-to-value, may be used.

To deploy these methodologies, data management is important and adequate populations must exist to generate meaningful results. Data warehouses are typically established to take snapshots on a periodic basis in order to follow and map the transitions over time to the ultimate default trigger. Typical core systems do not archive ratings or credit scores, because these are often overwritten as new information is obtained. One of the most important assumptions, though, in using ratings transitions is that loans must continually be risk-rated and data systems must be updated in a timely manner for changes to those risk ratings.

Exhibit 6: Example of probability-of-default risk buckets



Source: Crowe analysis

Regression method

Regression analysis can incorporate elements such as economic data (for example, unemployment rates, bankruptcy rates, property values, and the consumer debt-to-income ratio) to estimate a relationship between this data and losses in a portfolio. Essentially, an institution uses statistics to determine an estimate of credit losses (the dependent variable) based on one or multiple inputs (independent variables). Because of the complexity of the methods, the data requirements, and the need for highly trained personnel, regression analysis is not widely in practice, but it is used at times in combination with some of the other methodologies.

The two most common methodologies employed are logit regression and survival/hazard models. In order to address the lifetime loss aspect of the CECL standard, the current use of logit regression would likely need to be modified to better account for cumulative default factors because those models are not time-sensitive; however, one could incorporate age of the asset as a variable. Hazard models automatically incorporate time as a variable. Other attributes, such as loan level characteristics and macroeconomic factors, can be incorporated as well.

Institutions must assess the confidence level or imprecision acceptable with the use of statistical methods. They should understand and assess imprecision in the methods relative to the materiality impact of the allowance calculation and continually calibrate the methods to actual experience. Given the specialized skills needed to interpret and test the results of statistical analyses, institutions may need to purchase additional quantitative tools or acquire new talent to implement these more complex methodologies.

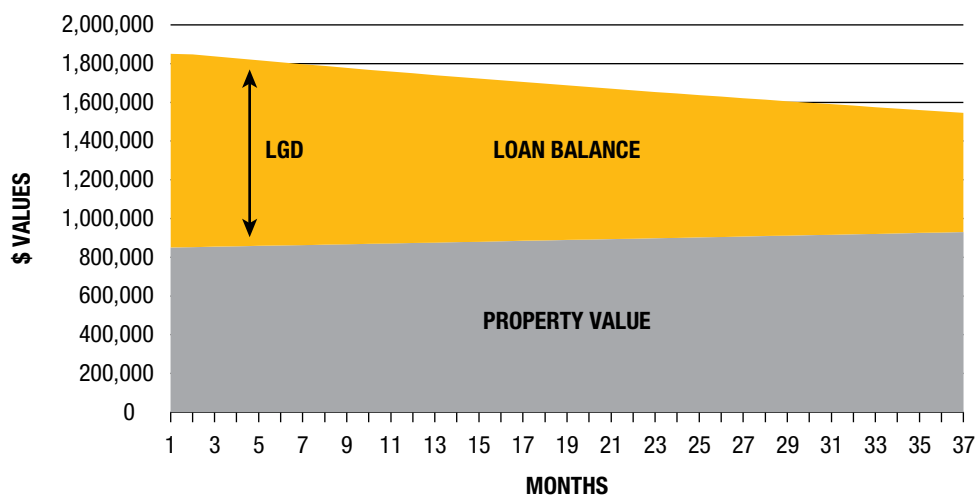
Loss given default and exposure-at-default components

Loss given default and exposure at default are very much interrelated. As depicted in Exhibit 7, as the exposure decreases over time and as collateral values improve, one could observe a decreasing LGD. The loss given default is often defined as a percentage based on the following equation:

$$\text{LGD} = (\text{Net Principal Balance} - \text{Collateral Value}) / \text{Net Principal Balance}$$

With the use of a component loss model, the ability to adjust the levers affecting the probability of a loan defaulting and the amount of loss to be recognized when the loan does default can have a dramatic impact.

Exhibit 7: Example of the loss given default method



Source: Crowe analysis

Discounted cash flow method

As described in ASC 326-20-30-4, a discounted cash flow analysis is based on the present value of expected future cash flows discounted at the loan’s effective interest rate. This type of analysis is one of the currently prescribed methods for measuring impairment on an individual impaired loan. Expected cash flow assumptions used in the discounted cash flow analysis today are based on an entity’s best estimate of “reasonable and supportable assumptions and projections.” Under CECL, there is no explicit requirement to consider probability weighted outcomes; however institutions will not necessarily use their best estimate the same way they do today, because they must always consider the risk of loss.

The effective interest rate includes the accretion or amortization of premiums and discounts and might not be explicitly displayed in the asset accounting or servicing system. In addition, while variable-rate assets adjust the coupon based on an underlying factor, such as the prime rate, the standard does not allow the effective interest rate or estimate of future cash flows to be affected for projections of the rate change over time. However, rate forecasts might have a dramatic impact on the prepayment assumptions for fixed-rate assets and could be an appropriate factor for consideration when a discounted cash flow analysis is performed.

The direct benefit of using a discounted cash flow method is that it incorporates the component loss assumptions while taking into account the distribution of the cash flows relative to the loan-specific attributes. Additional assumptions, such as assumptions about prepayment probabilities, can then be directly factored into the modeling. The effects of the interest rate environment on the portfolio performance can have a significant impact on the life of the asset, which directly affects the probability of default and EAD.

Discounted cash flow methodologies can be performed at the instrument level (the “bottom-up approach”) or in aggregate pools using weighted average assumptions. It is important to note, however, that weighted averaging is a midpoint; therefore, when losses are projected against a static default or prepay curve, the losses may be truncated too quickly.

A true bottom-up approach is preferable because it takes into account all of the loan-specific attributes (such as principal repayment terms, coupon, and actual maturity dates) and overlays the component loss assumptions to those cash flow streams. However, it is important to recognize the computing power required to process loan-level cash flows and the data requirements needed to generate all of the component loss assumptions.

Qualitative factors

Because of the complexities involved in modifying history to current conditions and providing reasonable and supportable forecasts for estimating credit losses, under CECL, qualitative factors will remain a significant factor to be considered.

In addition to some [2006 interagency guidance](#), which outlined the nine factors to consider,⁷ the new guidance brings with it new qualitative adjustments to be considered. Depending on which methodology is employed, it is probable that there will need to be qualitative and quantitative adjustments to fit historical observations to current conditions and incorporate reasonable and supportable forecasts.

Following are a few considerations about macroeconomic factors to be taken into account and possibly incorporated into the CECL methodology:

- How macroeconomic factors, such as interest rate cycles, affect prepayment and debt service capabilities over the long-term horizon
- How current unemployment forecasts may fit to historic observation periods and how far they can be projected
- How collateral valuation forecasts may affect loss rates relative to observed history
- How various economic factors such as gross domestic product, consumer price index, and producer price index may play a role in helping forecast the impact on expected credit losses, as is consistent with stress-testing requirements today

In addition to these forecast variables, CECL may require qualitative and quantitative adjustments to align the current portfolio mix and other structural attributes with the observable history that is being used to compensate for steady-state assumptions. As noted previously, in the description of the open pool loss-rate methodology, changes in the loans originated over time – including underwriting, distribution of maturities, and many other factors that can cause an open pool not to match the specific risk characteristics of the historical loss pool being used – will affect how the lifetime loss estimate could be modified using qualitative adjustments and corresponding documentation.

No matter what a qualitative factor is intended to address, documentation under CECL will be vital. More complex institutions might be expected to have quantitative support for their qualitative adjustments. As noted in recent speeches by SEC staff,⁸ many aspects of the SEC's existing guidance related to the loan loss allowance methodologies, principally Staff Accounting Bulletin (SAB) No. 102⁹ and FR-28,¹⁰ will continue to be relevant under the new CECL standard.

Adjustments to historical factors to capture factors not already included in the entity's loss estimation model fit squarely into the guidance, with an expectation that management applies sufficient rigor to understanding the assumptions and biases in the historical data to establish a starting point for making adjustments. Adjustments under the CECL model in order to capture differences in the future economic environment are a new element that will require focused attention and sufficient and objective evidence to support those adjustments.

SAB 102 and FR-28 collectively discuss the SEC's expectations for developing, documenting, and validating a systematic allowance methodology grounded in appropriate procedural discipline. Much of this guidance is consistent with the federal financial institution regulatory guidance. Further, public companies and many *Federal Deposit Insurance Corporation Improvement Act of 1991* (FDICIA) institutions are required to comply with various books and records, as well as internal control requirements, to provide reasonable assurance that the financial statements and regulatory reports are prepared appropriately.

For the current incurred loss methodology, at least a decade's worth of documentation and trending precedents has been established about each method of estimating credit loss. One new challenge CECL presents is that initial baseline qualitative factors will need to be established anew with no predetermined basis for directional consistency and new considerations for reasonable and supportable forecasts.

Off balance sheet credit exposures

Many institutions have long reported a liability for the potential loss exposure present in unfunded commitments, primarily those related to credit cards and lines of credit. As noted in the new standard, if the agreements are unconditionally cancellable by the lender, the institution would not need to record a liability. This is contrary to current guidance, issued by the Office of the Comptroller of the Currency (OCC) through its [Bank Accounting Advisory Series](#), which required cancellable contracts to be recorded as liabilities.¹¹

The implementation of CECL might eliminate the liabilities recorded for certain contracts. In addition, the recognition of these liabilities under current GAAP is based on a probable and estimable criteria, so methodologies might need to be adjusted to fully capture the life of contract exposure under CECL. The liability would be formulated based on the probability of funding the commitment and the likelihood of loss. The likelihood of loss may be derived from the CECL methodology employed. The probability of funding on the contractual commitment would likely be based on internally or externally observed history.

Another alternative to the component method that might be suitable for small, non-complex institutions is using a loss rate methodology based on the commitment balance and the relative loss incurred over time. This loss rate first would be applied to the current commitment balance rather than amortized cost. The total commitment loss then would be allocated to the allowance for credit loss and liability for unfunded commitments. The allocation would be based on the ratio at the time of the current funded balance and unfunded commitment balance to the total commitment balance.

Exhibit 8: Making the transition to a CECL model

RISK IDENTIFICATION

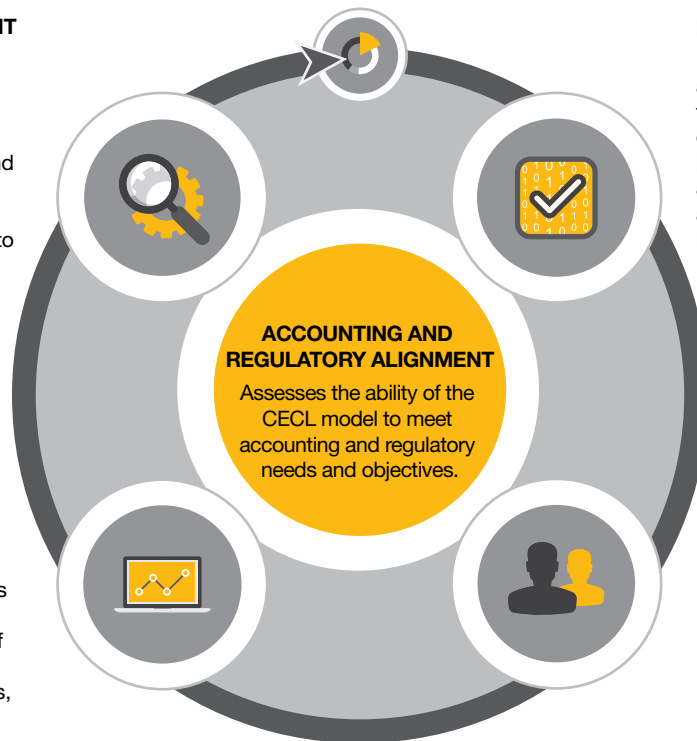
Understanding portfolio characteristics and drivers of portfolio performance, including lending attributes, loan structures, prepayment risks, and changes in the macroeconomic environment. This component will enable the entity to appropriately segment and model the portfolios based on common drivers of risk.

GOVERNANCE AND OVERSIGHT

Understanding risk management practices surrounding the development, execution, and maintenance of the CECL model. This includes established roles and responsibilities of the board and senior management, as well as policies and procedures in place to articulate the expectations of the CECL model and ongoing execution of the model.

DATA INVENTORY

Understanding the availability and limitations of data required to develop and maintain an effective CECL model. This includes the reliability and accuracy of data elements in addition to the historical time horizon of data availability.



Source: Crowe analysis

Implementation considerations

Regardless of how allowance amounts are calculated, the CECL methodology incorporates a significant change: a transition from today's incurred loss model to an expected credit loss model, which is a lifetime loss estimate. Because of that fundamental change, financial services entities will have to develop estimates that are more forward-looking than in the past.

Entities will be required to change their method of estimating credit losses (either by modifying their existing methods or making a wholesale method change) to implement the CECL methodology. While this is a significant change, the new methods do not need to be complex, and only factors relevant to the underlying financial assets should be used.

Entities might need to re-evaluate the current primary drivers of loss when revising their methodologies. While it's likely that more than one driver of expected losses exists for each portfolio, factors that do not demonstrate a correlation with expected losses should not be incorporated. Although entities might use existing risk management practices or systems to develop this forward-looking estimate, many of those systems have been subjected to financial statement and internal control audits – a consideration to take into account as plans are developed for implementing the CECL methodology.

Fundamentally, entities will see changes in the data needed to implement the CECL methodology. For example, entities might need to develop and construct loan pools to analyze historical performance. These loan pools likely will need to include longer look-back periods and new data to enable the analysis of new factors such as prepayments. Changes in the methodologies implemented or the risk characteristics used to organize the portfolio also could require new data to be gathered from legacy systems and historical data sets as well as prospectively tracked. (Examples of such data include credit scores or other underwriting criteria.)

To comply with the new standard, entities will need to make significant changes in the way they identify risk, determine the necessary data sources and capabilities, gain an understanding of human resource requirements, adapt existing or acquire new technology, and adopt and modify appropriate governance and oversight structures (Exhibit 8). While there are no simple solutions for such implementation issues, it is possible to outline a comprehensive program to assess the coming challenges and begin planning for the changes the new standard will require entities to make over the next few years.¹²

Appendix A: Abbreviations

AFS	available for sale
AICPA	American Institute of Certified Public Accountants
ALLL	allowance for loan and lease losses
ASC	Accounting Standards Codification (issued by the FASB)
ASU	Accounting Standards Update
CECL	current expected credit loss
CMBS	commercial mortgage-backed securities
EAD	exposure at default
FASB	Financial Accounting Standards Board
FDIC	Federal Deposit Insurance Corporation
FDICIA	<i>Federal Deposit Insurance Corporation Improvement Act of 1991</i>
GAAP	generally accepted accounting principles in the United States (issued by the FASB)
HTM	held to maturity
IASB	International Accounting Standards Board
IFRS	International Financial Reporting Standard (issued by IASB)
LGD	loss given default
OCC	Office of the Comptroller of the Currency
OCI	other comprehensive income
OTTI	other-than-temporary impairment
PBE	public business entity
PCAOB	Public Company Accounting Oversight Board
PCD	purchased credit deteriorated
PCI	purchased credit impaired
PD	probability of default
RMBS	residential mortgage-backed securities
SAB	Staff Accounting Bulletin (issued by SEC)
SEC	U.S. Securities and Exchange Commission
TDR	troubled debt restructuring
TRG	Transition Resource Group (formed by the FASB to address implementation issues for some standards)
UPB	unpaid principal balance

Appendix B: Crowe resources – from exposure draft to final standard

To provide an in-depth discussion of the December 2012 exposure draft, Crowe published the article [“Is the Third Time the Charm? The FASB Proposes Major Changes for Credit Losses.”](#)

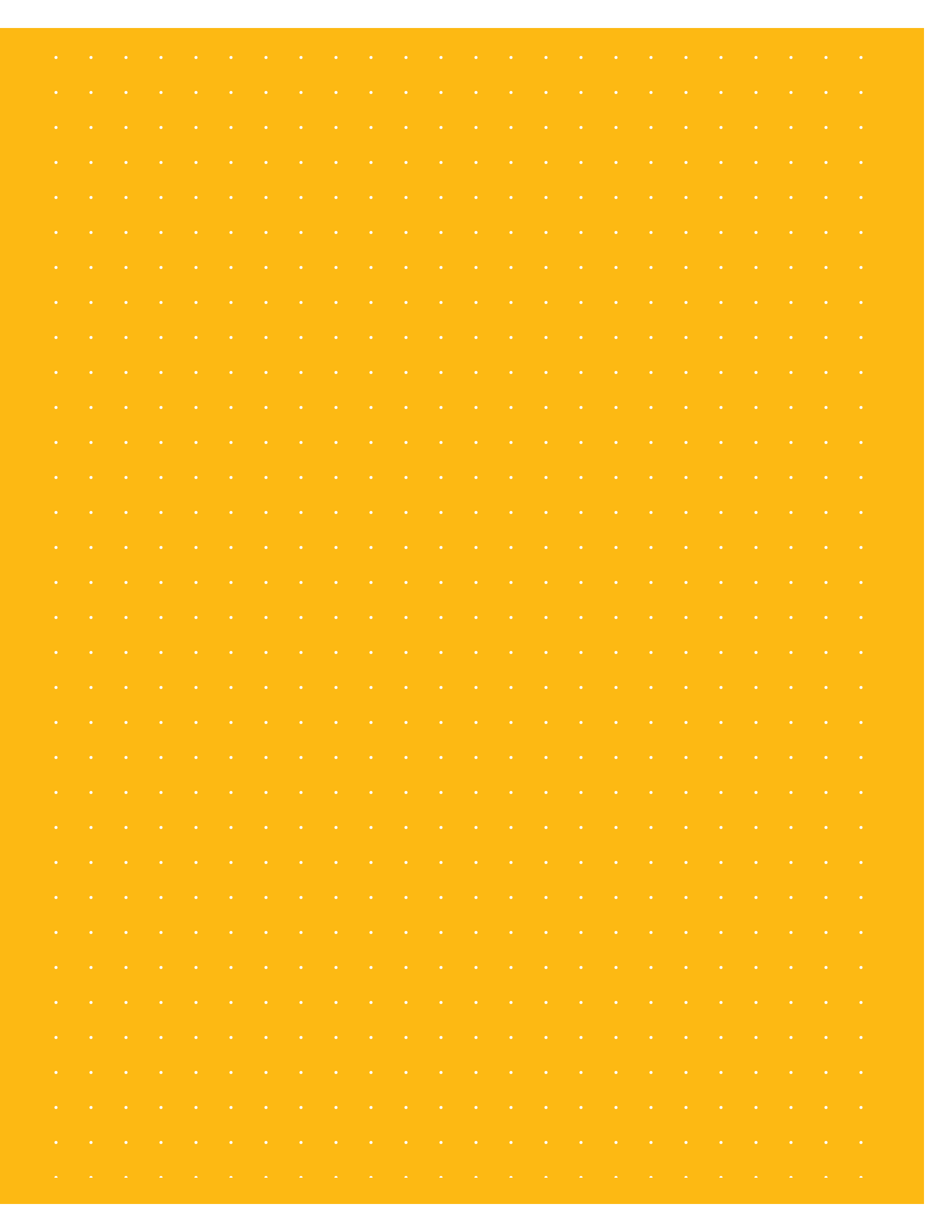
In [comment letter No. 318](#), Crowe expressed to the FASB its views on the proposal on May 31, 2013.

Crowe published an article, [“FASB’s CECL Model: Navigating the Changes,”](#) in December 2014, while the proposal was being re-deliberated, and published the following e-communications leading up to the final standard:

- On Nov. 11, 2015, [“FASB Answers the Million-Dollar Question: What Is the Effective Date for Credit Losses \(CECL\)?”](#)
- On March 30, 2016, [“FASB’s Current Expected Credit Losses \(CECL\) Model to Be Discussed on Friday”](#)
- On April 27, 2016, [“FASB Votes to Proceed With CECL and Delays Effective Dates by One Year”](#)
- On June 16, 2016, [“Here’s CECL: FASB Issues Final Standard for Credit Losses”](#)

In addition, Crowe is publishing a series of articles, each addressing one of the five broad areas of implementation – risk identification, data inventory, resource capabilities, enabling technology, and governance and oversight. The first two are:

- June 2016, [“Adapting to CECL, Part I: Identifying Portfolio Risks”](#)
- July 2016, [“Adapting to CECL Part II: Taking Stock of the Data Requirements”](#)





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-
- ¹ Financial Crisis Advisory Group, "Report of the Financial Crisis Advisory Group," July 28, 2009, http://www.fasb.org/cs/ContentServer?c=Document_C&pagename=FASB%2FDocument_C%2FDocumentPage&cid=1176156365880
 - ² This requirement does not apply to purchased credit deteriorated assets, which use the unpaid principal balance.
 - ³ ASC 326-20-30-3: "The allowance for credit losses may be determined using various methods. For example, an entity may use discounted cash flow methods, loss-rate methods, roll-rate methods, probability-of-default methods, or methods that utilize an aging schedule. An entity is not required to utilize a discounted cash flow method to estimate expected credit losses. Similarly, an entity is not required to reconcile the estimation technique it uses with a discounted cash flow method."
 - ⁴ See R. Chad Kellar and Matthew A. Schell, "FASB's CECL Model: Navigating the Changes," Crowe, December 2014, <http://www.crowe.com/Website/SiteTemplates/template-main.aspx?id=10350>
 - ⁵ For a complete walkthrough and background of the example provided, see "CECL: What You Need to Know," webinar presentation, <https://event.webcasts.com/starthere.jsp?ei=1109060>, starting at minute 35.
 - ⁶ Board of Governors of the Federal Reserve System, Federal Deposit Insurance Corporation, National Credit Union Administration, and Office of the Comptroller of the Currency, "Joint Statement on the New Accounting Standard on Financial Instruments – Credit Losses," June 17, 2016, <https://www.ncua.gov/newsroom/Documents/interagency-joint-statement-accounting-standard-financial-instruments-06-17-16.pdf>
 - ⁷ The factors are: 1) existence and effects of concentration of credit; 2) delinquency and problem loan trend; 3) economic and business conditions; 4) effects of external factors (competition, legal, and regulatory); 5) lending management and staff; 6) lending policies and procedures; 7) nature and volume of portfolio; 8) quality of loan review system and board oversight; and 9) other adjustments. See "Interagency Policy Statement on the Allowance for Loan and Lease Losses," www.federalreserve.gov/boarddocs/srletters/2006/SR0617a1.pdf
 - ⁸ Wesley Bricker, "Remarks Before the 2016 Baruch College Financial Reporting Conference," May 5, 2016, <https://www.sec.gov/news/speech/speech-bricker-05-05-16.html>
 - ⁹ Staff Accounting Bulletin: No. 102, "Selected Loan Loss Allowance Methodology and Documentation Issues," July 6, 2001, <https://www.sec.gov/interps/account/sab102.htm>
 - ¹⁰ Securities and Exchange Commission Accounting Series Release No. FR-28 (Article 9, Section 401.09), "Accounting for Loan Losses by Registrants Engaged in Lending Activities," December 1986, which was codified as item L into Codification of Staff Accounting Bulletins, Topic 6: "Interpretations of Accounting Series Releases and Financial Reporting Releases," <https://www.sec.gov/interps/account/sabcodet6.htm#L>
 - ¹¹ Topic 2C, "Commitments," Question 4, Bank Accounting Advisory Series, OCC, September 2015, rev. November 2015, <http://www.occ.gov/publications/publications-by-type/other-publications-reports/BAAS.pdf>
 - ¹² Crowe is publishing a series of five articles, each addressing one of the broad areas of implementation shown in Exhibit 8. The first two are:
 - Michael J. Budinger and Ryan A. Michalik, "Adapting to CECL, Part I: Identifying Portfolio Risks," June 2016
 - David W. Keever, "Adapting to CECL, Part II: Taking Stock of the Data Requirements," July 2016

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