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## **Analyzing Current Loan Performance Under CECL**

*A Discussion Paper of the*

AMERICAN BANKERS ASSOCIATION

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## **Summary**

Within ABA’s efforts to coordinate community bank efforts to implement the CECL accounting standard,<sup>1</sup> community bankers continue to voice concern of any requirements in CECL that would prevent them from relying on spreadsheet applications to perform their quarterly accounting processes. As a principles-based standard, CECL has no requirement to apply specific software tools. Acknowledging that the historical data inputs underlying CECL-based credit loss estimates will be different from data used today, both regulators and auditors agree that smaller institutions may utilize tools and models scaled to the sophistication of the entity in implementing a CECL process and they have encouraged banks to leverage their existing systems as they transition to CECL. ABA has learned that many bankers believe that such “leveraging” and “scaling” will result in little to no change to their current processes and reliance on common spreadsheet software. This can have a significant adverse effect on the ultimate effective implementation of CECL within the industry.

The purpose of this paper is to initiate discussion on the relevance of current loan performance trends (changes in the level of past due loans and changes in risk ratings are two examples) in evaluating potential changes to life of loan credit loss expectations, and then further discuss the implications of performing a credible analysis of the impacts of those trends. The ideas conveyed in this paper are meant to provoke thoughtful discussion between bankers, auditors, and regulators related to implementation of the CECL accounting standard. Unless otherwise noted, the ideas are not meant to reflect minimum requirements or best practices, but implementation processes that will address the practical and ongoing issues that can be expected in estimating and managing expected credit losses. While the concepts discussed herein can apply to banks of any size, this paper specifically addresses the challenges facing community banks.

For brevity purposes, this summary will address the related issues in a “question and answer” format, though “answers” (as just noted) are meant to provoke discussion, rather than outline policy or requirements.

**Question 1:** Since CECL is mainly about recording life of loan credit losses at the time of origination, will current loan performance be relevant?

**Response:** Yes. The relevance of analysis of current loan performance actually increases, since the intent of the CECL standard is to provide earlier loss recognition. Changes to original (or most recent) loss expectations can be identified by analyzing current loan performance. Regulatory and GAAP guidance both flag such metrics as risk factors that a bank may consider in adjusting historical credit loss experience in order to arrive at a final credit loss expectation.

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<sup>1</sup> Accounting Standards Update (ASU) 2016-13, issued by the Financial Accounting Standards Board (FASB), will be effective in 2020 for SEC filers and 2021 for all other institutions. “CECL” is an acronym for the “Current Expected Credit Loss” accounting model that is required in ASU 2016-13.

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On a practical level, the traditional directional consistency of such metrics with credit loss provisions will be diminished, and perhaps no longer expected to exist under CECL, since credit performance should effectively be anticipated at origination. Therefore, more granular explanations of the linkage of current performance to credit loss estimates will likely accompany the governance over the required disclosures of past-due loans, nonaccrual loans, and (where relevant) internal risk ratings.

**Question 2:** How will current loan performance be analyzed under CECL?

**Response:** Some bankers will consider a migration/roll rate analysis as their primary estimation method for specific portfolios. Since other estimation methods do not address current loan performance in a timely manner, banks will also consider using migration or other analyses to supplement the primary method being utilized. Other supplemental analyses may include developing loss ranges based on short- and long-term averages. For example, period-to-period increases in the level of loans past due between 61 and 90 days could indicate borrower deterioration that has not been captured in the vintage analysis data (which estimates credit loss rates based on charge-off data). Credit loss rates for loans between 61 and 90 days based on migration analysis over the past year, however, show a decline compared to rates using data over the past four years, indicating more effective loan workout processes. This second analysis would likely decrease the quantitative adjustment that would have otherwise been considered due to the increase in the level of past due loans.

Due to loss curves of specific loan products (such as residential home mortgages or auto loans), comparison of actual to expected past due levels may also likely be performed. For example, when past due levels have increased over the previous period, bankers may justify that credit loss expectations should not increase (or should decrease) because of the expectation that past dues would increase, due to loan production levels experienced in the prior year. Estimates of the quantitative impact of differences from expectations will provide a basis for adjustments to the starting point estimate.

**Question 3:** What data will be required to support these estimates?

**Response:** Life of loan credit loss (or default) rates and (in some cases) periodic migration rates will be needed. This will likely require maintenance of cohorts (static pools) that follow current activity (through past due status, internal credit rating, or other metric) of each loan in a cohort until all are resolved through pay-off or charge-off. An individual loan will likely be a member of many cohorts, based on its specific credit characteristics at each point in its life. To address loss curves, for example, detail of past dues may be needed by age (origination year).<sup>2</sup>

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<sup>2</sup> See ASC 310-20-35-9 through 11 for guidance on when a loan modification (one that does not qualify as a TDR) should be considered the pay-off of one loan and the issuance of a new loan. These modifications, as well as loan renewals, can change vintage information and, as a result, the expectations of past due levels by vintage. ABA understands that current processes to record this data are often non-existent or the data in digital format is overwritten. ABA expects that significant work will be needed to ensure the completeness and accuracy of such data, both historical data and data on an ongoing basis.

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Without using life of loan-based cohorts, reconciliation and other analyses will be required to ensure that the data supporting the estimate is relevant to the life of loan credit loss measurement objective.

**Question 4:** Do these processes require change by banks in gathering the data?

**Response:** Yes. Data now used by banks generally do not follow loans until the end of their contractual life. Therefore, analyzing current loan performance on a CECL-based life of loan credit loss basis requires retention and management of significantly more underlying data than currently managed by most community banks. Based on the level of detail needed to analyze relevant credit risk characteristics, the amount of data will likely be multiples of what is maintained today. For example, the current payment status and/or internal risk rating of each loan will need to be maintained each period for the entire loan life. In most cases, it appears difficult to manage such data and processes on a spreadsheet on a timely, quarterly basis.

- Most data used by those banks that utilize migration analysis covers one year or only focuses on classified loans.
- Most historical data maintained by banks is purged after three years after a loan is resolved. Some is retrievable by reading unformatted archive files. Some must be retrieved by hard-copy files.
- History of internal risk ratings or other relevant fields are often overwritten within core systems.
- Some historical reports (for example, past dues) are available in print file format only.

**Question 5:** Are there short-cuts that may work?

**Response:** Use of Transitional Matrix Models may provide reasonable estimates of the ultimate migration of specific loans while using less data.<sup>3</sup> Banks with very low loss activity can consider other processes:

- Analyzing credit metrics such as loan to value ratios that may cause adjustments due to credit grades or past due levels to be insignificant.
- Individually analyzing specific past due loans that may be “unique” and so, not indicative of the rest of the estimation pool (though such an analysis may beg the question of why the loan was in that pool in the first place).

No matter the short-cuts available, disclosures of past due loans and other current metrics may require credible analyses to be performed merely to respond to inquiries from investors and board members.

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<sup>3</sup> While extrapolation of matrix transitions based on short-term results (for example, the past year) can often result in ultimately inaccurate projections, such a forecast can be considered reasonable in certain circumstances.

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**Question 6:** Are there other issues community banks face?

**Response:** Quantitatively supporting an estimate of the impact of current loan performance is challenging, due to the non-linear nature of credit loss estimation and the likelihood that small changes to assumptions can have large quantitative impact. However, community bankers face certain specific challenges:

- The lack of current data maintained by banks may leave “data holes” (underlying data may be incomplete) that will need to be addressed through qualitative assumptions. These assumptions will require quantitative estimation. Such estimation will be difficult, considering there are no current credible baseline expectations, at least at the effective date.
- Some banks may never have the amount of data that will support life of loan credit loss estimates with reasonable reliability or precision. Market and other peer data will likely be needed for estimates to be reasonable. This will not alleviate the need to maintain internal data, as adjustments from the market rates will be expected, based on individual portfolio characteristics. With this in mind, it is critical that banks begin to collect data as soon as possible. With an effective date of 2021 for non-SEC filers, considering most banks retain three years of historical data, nearly six years of experience can be accumulated by the effective date.
- These smaller banks will also be challenged because, while market data may provide reasonableness to their estimates, actual loss rates will likely be significantly different on a year-to-year basis. Bank capital management processes will need to address this through possible capital buffers. Banking regulators should also consider how regulatory capital standards should be modified to account for such volatility.

**Question 8:** How much will additional processes cost?

**Response:** Management of loan performance data is part of a larger CECL effort and is not, for practical purposes, addressed separately. The related data warehousing addresses all CECL data and is often included with third-party modeling services by vendors that target the smaller bank CECL market. Current quotes of \$20,000 to \$30,000 for banks between \$250 million and \$500 million in assets have been reported. However, the ultimate final costs will depend on the internal resources a bank can dedicate to the implementation and ongoing data governance process, as well as the quality of data that the bank maintains. Because of these factors, ultimate internal “soft costs” can be significantly higher than fees charged by the vendors.

**Question 9:** Is there a recommendation that comes from all this?

**Response:** Bankers, auditors, and regulators must agree upon a common message to community bankers in how current loan performance should be addressed, as it seems to be the critical issue on whether a bank is able to maintain current spreadsheet-based systems to estimate credit losses and can also be integral within a bank’s decision to procure and analyze market/peer data. Unless a common message is communicated, the ability of much of the community banking industry to implement CECL will be impaired.

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## **Background and Scope**

As community banks evaluate alternatives in implementing processes to measure expected credit losses in response to the issuance of the CECL accounting standard, cost and complexity are naturally two significant factors affecting the decision process. As current impairment accounting processes are highly dependent on the use of spreadsheets and reports provided by their core service providers, most community banks wish to minimize (or completely avoid) the incremental costs of retaining and managing sophisticated modelling applications and data warehouses (or other software tools that allow a bank to efficiently collect, organize, and analyze data that come from disparate sources, such as underwriting, loan servicing, and loan review systems).<sup>4</sup>

This paper explains how the analysis of current loan performance will change under CECL, suggests various approaches that banks may consider when attempting to evaluate and quantify the impacts of current loan performance on life of loan credit loss estimates, and discusses operational challenges many banks will face in implementing such processes. Data quality will be an important issue during the CECL implementation, as much of the internal data used by banks related to credit risk analysis has not been subject to the typically stringent internal control standards for financial reporting, given the data was less relevant or not used in the incurred loss model. However, this paper does not address data quality. Further, a key aspect in analyzing current loan performance for some bank portfolios is the internal risk rating system. This paper focuses on risk ratings, but does not address challenges resulting from any inconsistencies or lack of timeliness a bank may have in the application of its risk rating system.

This discussion is not intended to provide a comprehensive analysis of CECL processes or of system requirements, but is intended to raise awareness of certain issues banks may want to consider when implementing a CECL-based process that measures expected credit losses over the life of the portfolio of assets. This paper is part of a planned series to assist bankers, regulators, and auditors in assessing the practical implications of CECL, and we hope that the examples provided stir creative thought throughout the industry in an ongoing effort to efficiently analyze credit risk under CECL. Feedback on this paper would also be very useful.

## **The Importance of Current Loan Performance within the Estimate of Credit Losses**

Analyzing current loan performance – normally monitored through trends in the proportion of past due loans, credit risk ratings, nonaccrual loans, charge-offs, etc. – is an important aspect of a

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<sup>4</sup> Underlying the discussion provided herein is the assumption that measuring and evaluating credit risk is a critical, if not the most critical, operational process performed by a bank. The Basel Committee document *Guidance on Credit Risk and Accounting for Expected Credit Losses* notes that regulators will expect bankers to integrate these processes with other risk management functions throughout the organization and this expectation has been confirmed by both regulators and auditors. Therefore, this paper assumes that the CECL processes will also have high visibility for non-accounting purposes.

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bank's credit risk management process.<sup>5</sup> Though not specifically mentioned within current GAAP, current loan performance is one of several risk factors noted within the 2006 Interagency Guidance on the Allowance for Loan and Lease Losses<sup>6</sup> that is considered within the ALLL estimate. As the intent of the CECL standard is to provide earlier loss recognition, the significance of ongoing credit risk analysis increases because conclusions from the analysis will result in changes to assumptions of losses that may come to ultimate resolution (in a charge-off or recovery of charge-off) several years in the future. In response to the potentially greater volatility to regulatory capital levels that such a forecast will naturally bring, supporting the quantitative impact of such changes will likely be subject to significantly increased scrutiny by many users of bank financial statements, including bank directors, auditors, and regulators. Indeed, detailed in the recent Release 2017-002 by the Public Company Accounting Oversight Board (PCAOB) *Proposed Auditing Standard – Auditing Accounting Estimates, Including Fair Value Measurements (Release 2017-02)* is the expectation that management analyzes the sensitivity of its significant assumptions to change, based on other reasonably likely outcomes that would have a material effect.<sup>7</sup>

Within the CECL standard, the volume and severity of past due and adversely classified assets are listed as risk factors that a bank may consider in adjusting historical credit loss experience in order to arrive at a final credit loss expectation.<sup>8</sup> The CECL implementation guidance also includes an example of a retail company that estimates its expected credit losses by applying factors to the levels of past due loans based on the time past due<sup>9</sup>. This estimation method is comparable to the migration (also known as “roll rate”) analyses used by some banks today in assessing incurred credit losses. Under both today's accounting and CECL, disclosures of those assets that are past due and those in nonaccrual status are required, as is a schedule of the amortized cost of loans and debt securities by the credit risk metric (such as risk rating) that is used for credit loss measurement purposes. It is clear, therefore, that current loan performance is

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<sup>5</sup> Current loan performance can be monitored through various other metrics, such as current estimates of loan to value ratios, FICO scores, vacancy rates, debt service coverage ratios, etc. This paper will focus on delinquency (past due loans) and risk ratings, though similar discussion can be conducted pertaining to any of these metrics.

<sup>6</sup> See page 9 at <https://www.fdic.gov/news/news/financial/2006/fil06105a.pdf>.

<sup>7</sup> While PCAOB standards are applicable only to audits of SEC registrants, it is reasonable to assume that the general auditing responsibility will not be significantly different when applied to non-registrants (currently within AICPA Professional Standards AU-C Section 540, *Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Disclosures*). In particular, a big emphasis in PCAOB Release 2017-002 is on auditor professional skepticism, with the terms “evaluate” and “compare” replacing “corroborate” when addressing certain audit testing. This emphasis will likely require significantly more testing of management assumptions.

<sup>8</sup> Paragraph 326-20-55-4.

<sup>9</sup> See ASU 326-20-55-37 through 40.

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considered highly relevant to measuring credit losses in both current accounting and under CECL.

### **Assessing Current Loan Performance under CECL**

Current loan performance will be analyzed differently within CECL, as compared to incurred loss accounting. Expected credit loss estimates under CECL are fundamentally different from incurred loss estimates. Under incurred loss, general practice for those banks that provide allowances based on internal risk ratings is to calculate them based on the risk rating at the measurement date. Under CECL, such an estimate will be based on how the loans are expected to migrate to their ultimate resolution, based on forecasted future macroeconomic factors. For example, it is likely that a smaller portion of loans rated “4” will eventually be charged-off if the forecast of the future reflects an improving economy compared with the current one.

Other analyses of loan performance will also change. Currently, loan performance metrics are analyzed in view of how loan status affects impairment at the measurement date. Under CECL, current loan performance becomes an indicator of current impairment for some loans and of future loan performance for others. This is not controversial. However, since credit loss provisions are initially recorded at the time of commitment/origination, current loan performance should also be analyzed in the context of original performance expectations (or the most recent expectations, if they are different from the original).

This changes the nature of the assessment. Trends in current loan performance metrics are normally directionally consistent with incurred credit loss provisions: for example, as the proportion of loans that are past due increases, the credit loss provision typically increases—and vice versa. Procedurally, since most banks rely on historical annualized charge-off rates as the primary estimation method to provide a starting point for incurred credit losses<sup>10</sup>, increases in the proportion of past due loans (or of criticized loans) will typically result in an upward adjustment to the historical averages (and vice versa).

This relationship, however, no longer exists under CECL, as credit performance should effectively be anticipated at origination. During a period of increasing loan delinquency, for example, the Allowance for Loan and Lease Losses (ALLL) and credit loss provisions under CECL may:

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<sup>10</sup> The “primary estimation method” is the method that will be disclosed by the bank in the notes to the financial statements for each pool estimated and provides the starting point for a credit loss estimate. Examples of primary estimation methods can include vintage analysis, migration analysis, and probability of default/loss given default analysis. Adjustments to the starting point estimate will come from supplemental analyses performed. Different estimation methods concentrate on different aspects of credit risk (for example, a migration/roll rate method emphasizes current loan performance). [See Therefore](#), while a bank may not necessarily select a migration analysis as the primary estimation method for a certain portfolio, supplemental analysis of migration can provide valuable insight into whether assumptions underlying previous estimates should change.

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- Decrease because the levels of delinquency were less than expected at the time of origination (or at the time of the previous estimate).
- Decrease because, while levels of delinquency were greater than expected at the time of origination (or at the time of the previous estimate), new forecasts of improvement in future macroeconomic conditions and collateral prices will more than make up for the credit deterioration experienced to that point.<sup>11</sup>
- Decrease because, while levels of delinquency were greater than expected at the time of origination (or at the time of the previous estimate), a significant drop in new loans originated during the period, coupled with aging and payoffs of seasoned loans, has decreased the outstanding loan exposure of the bank.<sup>12</sup>

In light of the general assumption that the long-term forecasts of the future required in the CECL standard can result in a wide range of credit loss estimates each period<sup>13</sup>, the forecast of the future and the lack of directional consistency presents a challenge to bankers both to provide quantitative impacts of current loan performance to the credit loss provision expense and to communicate those impacts to stakeholders. Assessing and estimating the quantitative impact of current loan performance will, therefore, be a critical and challenging process for bankers.

### **Approaches in Current Credit Performance Analysis**

#### ***Migration (Roll Rate) Analysis as an Estimation Method***

The most common estimation method using current credit performance metrics is the migration, or roll rate, analysis: credit loss rates by past due status, risk rating, or other credit metric, are applied to the current amortized cost balance of loans pertaining to each metric. Paragraph 320-20-55-37 through 40 in the CECL implementation guidance provides an example of such an analysis. Credit receivables are classified as current, 1 to 30 days past due, 31 to 60 days past due, 61 to 90 days past due, and over 90 days past due. Life of loan loss rates are based on a

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<sup>11</sup> Of course, bankers will also need to assess the accuracy of their models used to assess the quantitative impact of greater delinquency and changing macroeconomic conditions. For example, forecasts related to changes in delinquency and macroeconomic conditions may be accurate, but the quantitative impact of the assumed changes may be less precise.

<sup>12</sup> Of course, the converse results to all these circumstances may occur.

<sup>13</sup> Paragraph A134 of *Proposed International Standard on Auditing 540 (Revised) Auditing Accounting Estimates and Related Disclosures* (issued by the International Auditing and Assurance Standards Board), issued in reaction to expected credit loss accounting models: “In certain circumstances, the auditor’s range for an accounting estimate may be multiples of materiality for the financial statements as a whole...” Auditors at certain firms that audit banks have indicated that more documentation (in comparison to the level provided today) will, therefore, be required to quantitatively support the CECL credit loss estimate.

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forecast of the future, and then applied to each classification. The following is how it is illustrated within the Implementation Guidance:

<u>Past Due Status</u>	<u>Amortized Cost Basis</u>	<u>Credit Loss Rate</u>	<u>Expected Credit Loss Estimate</u>
Current	\$ 5,984,698	0.3%	\$ 16,159
1-30 days past due	8,272	7.2%	596
31-60 days past due	2,882	23.4%	674
61-90 days past due	842	52.2%	440
More than 90 days past due	<u>1,100</u>	73.8%	<u>812</u>
	<u>\$ 5,997,794</u>		<u>\$ 18,681</u>

Similar methods can also be applied to debt securities or to loans based on their credit rating or internal risk rating.<sup>14</sup> Major factors in this estimate are the forecast of future macroeconomic indicators and the quantitative impact that the forecast will imply. Based on the forecast of the future, loans with different status will likely perform differently during the future.

#### ***Current Performance Data Analysis to Adjust Estimates Based on Other Methods***

There are advantages and disadvantages to using migration analysis as the primary method used in estimating life of loan credit losses and in many cases, a migration analysis will not be used as the primary estimation method. When not applying this approach, analysis of current performance data to supplement the primary estimation method will, nevertheless, be a critical step in the CECL process, as current performance trends will generally be understood to be early indicators as to whether or not previous credit loss assumptions require adjustment. For example, a year over year increase in the proportion of past due loans may, nevertheless, be less than anticipated, given the “loss curve” pattern typically exhibited by borrowers for similar products.<sup>15</sup>

Per 326-20-50-8 of the CECL standard, “if an entity discloses internal risk ratings, then the entity shall provide qualitative information on how those internal risk ratings relate to the likelihood of loss”. Therefore, it is reasonable to assume that those banks that disclose the amortized cost of their portfolios by internal risk ratings will be subject to inquiries as to how changes to those risk ratings *quantitatively* translate into credit loss expectations.<sup>16</sup> Bank risk rating systems will

<sup>14</sup> Debt securities often have probabilities of default published over various time periods, as well as recovery rates using these methods.

<sup>15</sup> The analysis of credit loss curves, which recognizes that charge-offs often do not occur evenly over the life of the portfolio, are referred to as “historical or expected credit loss patterns” in paragraph 326-20-55-5i as one of several credit risk characteristics that an entity may consider during a credit loss estimate. Loss curves were often cited by both regulators and FASB board members during the discussions that led to issuance of the CECL standard.

<sup>16</sup> It is noteworthy that, during FASB’s deliberations on disclosures, certain members expressed the desire that banks disclose more detail on their loans rated “pass”. As a result, the example of amortized cost disclosures by risk rating in 326-20-55-79 exhibits loans with more disaggregated ratings than those noted in current GAAP guidance.

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require review to ensure that their risk rating processes and assumptions are consistent with life of loan credit loss expectations. Under existing model risk management standards,<sup>17</sup> the quantitative estimates provided within these models will be subject to validation procedures that, in light of the recent PCAOB proposed auditing standard on auditing accounting estimates, will likely be highly relied-upon by auditors in their testing of internal controls over the balance for the ALLL.

Examples of supplemental analyses of current credit performance under CECL may include:

- **Loan transition trends**: Banks may analyze the frequency that loans transition from one credit grade or risk rating to another grade/rating, comparing short-term (quarterly or yearly) results to long-term trends. Assuming long-term trends can provide estimates of life of loan probabilities of default (or loss), the difference between short- and long-term transition rates can form the quantitative basis for an adjustment to the probability of default.

For example, assume that five percent of the loans in a portfolio that are rated “3” historically transition to a rating of “4” during a year’s time. Five percent of those loans also improve to a “2” rating during a year. During the past year, however, seven percent of the loans that were rated “3” at the beginning of the year transitioned to the “4” rating, while the proportion of loans that improve to “2” was consistent. The two percentage point difference between short-and long-term transition rates can be applied to the long-term transition analysis (discussed later) to quantify any possible adjustment to the loss rates estimated by the primary estimation method.

- **Migration ranges**: Banks may often use the migration (roll rate) analysis as supplemental support for their primary estimation method. Such loss rates by grade/rating, based on short- and long-term averages, as well as selected similar economic environments, can serve as boundaries for a range in which the primary estimation method can fall.

For example, life of loan credit loss rates by risk rating based on historical data collected over the past three months can be compared to those using data collected over an economic cycle.<sup>18</sup> While the quantification of any amounts outside the range are harder to support, this process may, nevertheless, serve as an internal control process in which more investigation can be warranted when the estimates fall outside any designated ranges.

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<sup>17</sup> See SR11-7 *Supervisory Guidance on Model Risk Management*.

<sup>18</sup> Many banks will not have access to data that spans an economic cycle. The availability of sufficient relevant data is discussed in a separate section of this paper.

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- **Expected past due levels:** Higher (or lower) than expected levels of past due activity at various points of a loan’s life may form the basis to adjust the initial (or the previous) loss rates calculated through the chosen primary measurement method. This adjustment is currently performed within the “Q Factor” adjustment process today on nominal past due levels. For its CECL estimate, if the primary measurement method used by the bank explicitly enables loss estimates based on the loan’s age, then an analysis of past due expectation can potentially provide more quantitative support for this Q factor adjustment.

For example, if past due levels during the second year of a loan vintage’s<sup>19</sup> life are 20% higher than expected (based on averages of past vintage past due levels during the second year of their lives), a 20% adjustment to the credit loss estimated by the primary estimation method may be considered reasonable for that age of the portfolio.<sup>20</sup>

Adjusting losses by age of the portfolio, of course, assumes that the bank is using a primary estimation method that accounts for losses by age of the loan, such as a vintage loss rate method or most probability of default/loss given default methods. Further, a bank investigating the reasonableness of a 20% increase in past due loans will typically pursue and document whether the increase is due to increased frequency, increased size of the loans becoming past due, or merely timing (in which the trends may reverse in future periods) before making a recommendation for adjustment.

Bankers that are interested in more detailed analysis may consider analyzing the correlation between the levels of past due loans in one period and the level of nonaccrual loans in a future period. Loss curves (and, thus, the level of past due assets) can generally be forecast based on age of the loan, though they may also be based on changes to current risk ratings, loan to value ratios, or any other current credit metric.

## **The Processes and Data Required to Analyze Current Performance Data in CECL**

### ***Determining Life of Loan Credit Loss Rates***

It is not explained within the CECL implementation guidance as to how the loss rates were computed in the migration/roll rate example (or any other example in the standard). However,

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<sup>19</sup> A loan vintage is typically a group of loans originated within the same period (typically by year). Credit loss patterns are normally observed within vintage analysis, as charge-offs or defaults within the groups are identified by age of the loan. Credit loss patterns are often found not only within specific loan products, but also among borrowers of different credit ratings.

<sup>20</sup> An increase of 20% for that age of the portfolio should not be confused with a 20% increase for the whole portfolio. A 20% increase for that age of the portfolio may represent a small increase in the total expected loss of the portfolio because historic loss patterns in the portfolio indicate little credit loss at that age. On the other hand, a 20% increase for that age may also be a basis to consider similarly higher loss estimates for loans across all ages or for specific vintages.

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there is general agreement between regulators and auditors that the underlying data supporting loss rates in current accounting do not satisfy the CECL life of loan credit loss measurement objective because the loss rates are often based on subsequent performance of the loans over the next year or two, and not over the remaining lives of the loans.

The annualized loss rate commonly used today is the rate of loss based on charge-offs recorded within the year on a loan portfolio (or subset of a portfolio) whose composition is rolling and changing over time – different loans are included in the loss rate calculations from period to period. This contrasts with the life of loan credit loss rate that is based on charge-offs recorded over the remaining life of individual loans or of “cohorts” – discrete pools of loans that are tracked over their respective lives and whose designated pool composition remains static (unchanged) over time. It is possible to estimate life of loan credit losses without utilizing cohorts and without monitoring the ultimate resolution of each loan. However, reconciliation is needed to ensure that the data supports life of loan estimates. Year to year changes in loan production and product mix can often make such a reconciliation process more complex and time consuming on an ongoing basis than if life of loan data was maintained and analyzed in the first place.

Thus, the terms “cohort” and “static pool” are often used when tracking activity (such as charge-offs) within these pools. See the separate ABA Discussion Paper “Loss Rate Calculations and the Use of Historical Experience Under CECL” for detailed descriptions of how they are used in calculating specific “loss rates.”

Within the CECL standard migration example described above, a cohort would be formed to include all current loans as of a specific date (say, as of December 31, 2010), another static pool to include all loans past due between 1 and 30 days on the same date, another cohort to include all loans past due between 31 and 60 days on the same date, and so on. Activity within each pool is monitored until final resolution of charge-off or pay-off. The resulting loss rate for each pool is averaged with the loss rates of other cohorts of loans of the same delinquency status, but as of different points in time. For example, the loss rate for the pool of loans past due between 31 and 60 days at December 31, 2010 is averaged with the loss rate of the pool that includes loans past due between 31 and 60 days as of December 31, 2011, as of 2012, and so on. The resulting average of the rates would be applied to the balance of applicable loans (those past due between 31 and 60 days) at the measurement date.

When analyzing current credit performance, the same loan is often included in many different cohorts and different points in time, based on its status at each specific date. As an example, a loan has the following past due status:

<b><u>Date of status</u></b>	<b><u>Past due status</u></b>
1. December 31, 2010	Current
2. March 31, 2011	Past due 1 to 30 days
3. June 30, 2011	Current

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4. September 30, 2011	Past due 1 to 30 days
5. December 31, 2011	Past due 31 to 60 days
6. March 31, 2012	Past due 1 to 30 days
7. June 30, 2012	Past due 31 to 60 days
8. September 30, 2012	Past due 31 to 60 days
9. December 31, 2012	Past due 61 to 90 days
10. March 31, 2013	Past due over 90 days
11. June 30, 2013	Past due over 120 days
12. September 30, 2013	Past due over 150 days
13. December 31, 2013	Loss/Charge-off

This individual loan, along with other loans with the same past due status as of those dates, will be included in the twelve cohorts prior to charge-off, as noted. In order to maintain a system that monitors life of loan credit loss rates for migration analysis purposes, each loan would be assigned an indicator that allows the efficient retrieval and audit trail of cumulative totals for each cohort (if the indicator did not exist, separate calculations of past due status would be required on each loan at each point in time – a computer-intensive process). Depending on the analysis considered appropriate by the bank, this specific loan could be assigned to various cohorts with many differing characteristics. For example, past due status by origination year or by risk rating could both be considered relevant metrics to base cohort analysis. Of course, additional indicators would need to be assigned to track those specific cohorts.

### ***Forecasting Loan Transition***

An alternative way to estimate life of loan credit loss rates is to create a transitional matrix model (TMM). TMM focuses on loan default<sup>21</sup> and default rates can be estimated using shorter periods through TMM.

TMMs also use cohorts, though the life of the cohort typically lasts only one year. Loans in specific rating grades (or past due states) at the beginning of the year are tracked to the end of the year. Rates of movement between each grade/state are computed and average rates are then extrapolated over a period of time until it is estimated that all loans (or the vast majority) have either defaulted or paid-off. Thus, a life of loan default rate is estimated by applying short-term transition rates to each period of a portfolio's life.

For example, a bank has a portfolio of commercial loans with 50,000 loans rated grade 1; 150,000 rated grade 2; 250,000 rated grade 3; and 75,000 rated grade 4. At the end of the period, the loans have migrated to the following risk ratings:

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<sup>21</sup> TMMs are normally used to estimate a probability of default and not a total loss rate. The total loss rate would apply an estimate of average loss given default rate to the default rate.

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Table 1

<b>Beginning of Period</b>		<b>End of Period</b>					
<b>Rating</b>	<b>Balance</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>	<b>Defaulted</b>	<b>Paid-off</b>
Grade 1	50,000	40,000	5,000				5,000
Grade 2	150,000		95,000	22,500	10,000	2,500	20,000
Grade 3	250,000		25,000	125,000	37,500	12,500	50,000
Grade 4	75,000			6,500	50,000	15,000	3,500
<b>Total</b>	<b>525,000</b>	<b>40,000</b>	<b>125,000</b>	<b>154,000</b>	<b>97,500</b>	<b>30,000</b>	<b>78,500</b>

As can be seen, of the 50,000 loans in grade 1 at the beginning of the period, 5,000 have been downgraded to grade 2 and 5,000 loans paid off. The remaining 40,000 loans stayed at grade 1. Of the 150,000 loans in grade 2 at the beginning of the period, none improved to grade 1; 22,500 have been downgraded to grade 3; 10,000 were downgraded to grade 4; 2,500 defaulted; and 20,000 loans paid off (and so on). Percentage-wise:

Table 2

<b>Beginning of Period</b>		<b>End of Period</b>					
<b>Rating</b>	<b>Balance</b>	<b>Grade 1</b>	<b>Grade 2</b>	<b>Grade 3</b>	<b>Grade 4</b>	<b>Defaulted</b>	<b>Paid-off</b>
Grade 1	50,000	80.00%	10.00%	0.00%	0.00%	0.00%	10.00%
Grade 2	150,000	0.00%	63.33%	15.00%	6.67%	1.67%	13.33%
Grade 3	250,000	0.00%	10.00%	50.00%	15.00%	5.00%	20.00%
Grade 4	75,000	0.00%	0.00%	8.67%	66.67%	20.00%	4.67%
<b>Total</b>	<b>525,000</b>	<b>7.62%</b>	<b>23.81%</b>	<b>29.33%</b>	<b>18.57%</b>	<b>5.71%</b>	<b>14.95%</b>

Per Table 2, 50% of the number of loans in grade 3 at the beginning of a period will remain in grade 3; 15% of the loans in grade 2 at the beginning of a period will deteriorate and transition down to grade 3; and 8.67% of grade 4 loans at the beginning of the period will improve and transition up to grade 3. Per Table 3 below, this equals 83,400 loans that are grade 3 at the end of year 2.

These results would normally be averaged with other similar periods to arrive at a base estimate<sup>22</sup>. For example, if these rates were based on loan activity during 2010, they may be

<sup>22</sup> The base estimate would then need to be adjusted for a forecast of the future, as it is within the CECL implementation guidance.

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averaged with rates from 2011, from 2012, and so on. The results would then be applied over the number of periods needed to extinguish the respective pools. For example, supposing there were 300,000 loans in grade 3 at the beginning of the period, the grade 3 migration rates will be applied over fifteen years:

Table 3

	<u>Grade 1</u>	<u>Grade 2</u>	<u>Grade 3</u>	<u>Grade 4</u>	<u>Defaulted</u>	<u>Paid-off</u>
Current			300,000			
Year 1	0	30,000	150,000	45,000	15,000	60,000
Year 2	0	34,000	83,400	54,500	32,000	96,100
Year 3	0	29,873	51,523	51,110	47,637	119,857
Year 4	0	24,072	34,672	43,793	60,933	136,530
...						
Year 13	0	2,142	2,852	5,233	106,866	182,909
Year 14	0	1,642	2,201	4,059	108,090	184,009
Year 15	0	1,260	1,698	3,145	109,040	184,857

Life of loan probability of default: 109,040/300,000 =36.3%

(109,040+184,857)/300,000 = 98%: The vast majority of loans are resolved.

Of the 300,000 grade 3 loans at the beginning of year 1, 30,000 were upgraded to grade 2 and 45,000 downgraded to grade 4 by the end of year 1. Keep in mind that the migration rates from all grades must be taken into account when estimating default through the remaining life of the pool. Therefore, using year 2, the number of loans in grade 3 at the end of the year is 83,400, consisting of 75,000 that did not change from grade 3 (50% of the 150,000 loans at the beginning of year 2<sup>23</sup>), 4,500 of loans that had deteriorated from grade 2 (15% of the 30,000 grade 2 loans at the beginning of year 2), and 3,900 of loans that had been upgraded from grade 4 (8.67% of the 45,000 grade 4 loans at the beginning of year 2).

Following this process for each of the loan grades – repeating the transition rate assumptions through each succeeding year (by applying the rates to the resulting end of period balances) until the vast majority of loans have either defaulted or paid-off (at 15 years in this example) – the lifetime probability of default for Grade 3 loans in this portfolio is 36.3%. This same process would be applied to loans in the other grades to determine life of loan default rates for those grades.

In summary, the TMM analysis allows less data to be collected because mathematical assumptions are applied to periodic migration rates until the period of time in which all loans are assumed resolved. Cohorts are maintained, though the life of each pool is one period and, therefore, may be comparable to current practice in some banks. Calculating migration rate

<sup>23</sup> Beginning of year 2 equates to the end of year 1 in this table.

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averages can be complicated, however. Therefore, over the longer term, TMMs might not result in less work on an ongoing basis.

### *Comparison to Current Practice*

In current practice, open pools based on annualized charge-off data are typically maintained. This practice is adequate within today's environment because estimates based on migration rates today are primarily focused on criticized assets (substandard, probable loss, etc.) or seriously delinquent assets. Issues underlying these assets often resolve within a year. Charge-off practices within the U.S. banking industry tend to enforce quick resolution of problem assets. Therefore, open pool estimates on these assets (usually based on annual charge-off rates) are likely not significantly different from those supported by cohort estimates that span greater than one year. Having said that, auditing practices may require reconciliation to life of loan estimates in order to test the relevance of using annualized open pool data within CECL. While the current migration practice may be sufficient to analyze the impact of current performance of troubled assets, it is important to understand that the challenge of the CECL standard is to estimate the impact of current performance on loans that are not yet troubled over the expected lifetime. Therefore, under CECL, supporting and documenting the reasonableness of quantitative estimates (or adjustments to initial estimates) from the impact of current loan performance may result in significant difficulties if current practice with such open pools is retained.

### *Applying Forecasts of Future Conditions under CECL*

In CECL, adjustments from historical rates are necessary to reflect forecasts of future macroeconomic factors. While specific forecasts of unemployment or economic growth may be performed, it is foreseeable that, over time, estimates may be based on trends experienced during previous periods under similar economic environments that are forecast. This can alleviate much of the detailed analysis that would be needed to quantify such forecasts.

There may be instances in which, while its transition trends over the past year may relate to current performance, a bank may believe that future economic conditions will be similar to those experienced during a previous period in a past economic cycle. Such transition rates may be considered as a reasonable basis for loss expectation. For example, experience over the past three years indicates that ten percent of loans with a risk grade of 4 will transition to risk grade 5. However, a bank may believe the next year will be similar to what was experienced during the second year after the most recent recession. Such experience from that period suggests only a five percent transition rate to grade 5. A bank might, thus, consider assuming only a five percent transition rate in its estimate.

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### *Data and Process Implications*

As is evident from describing these processes, obtaining and managing the data supporting life of loan-based cohorts can be a complex process that often involves retaining data much longer than retained today and managing significantly more data than currently managed.

Today, community banks commonly retain individual loan activity data until approximately three years after final resolution, after which the data is purged.<sup>24</sup> Since a past due-based cohort will typically have loans of different ages included in the pool, to ensure the integrity of the audit trail, a bank would likely need to retain the loan performance data on all loans in the pool until all loans in the pool have been resolved. As previously discussed, due to the forecast of the future, a bank may want to compare rates to previous periods of time experienced under macroeconomic conditions similar to those forecast into the future (in other words, to a previous economic cycle). Retaining such data in some retrievable format that ensures an audit trail can mean many years of data retention. As already noted, in order to efficiently calculate loss rates of the cohort (and average loss rates based on similar cohorts over a period of time), indicators would be needed in order to identify which cohorts the loan would be included.

Within most core systems for community banks, historical internal risk ratings are commonly overwritten with each new risk rating and, therefore, not readily accessible. Programming tools may enable certain historical data to be extracted from archived (and, therefore, largely unformatted) maintenance logs, with the remaining built from hard-copy files. The same is likely for past due status, as past due status is normally a report that is generated each month with relatively little, if any, audit trail of the records that produced the reports.

Efforts to create an ongoing record of historical risk ratings, past due expectations, migration assumptions, and life of loan credit loss rates are considerable, though they likely can, after a large manual effort performed by bank personnel for initial implementation, potentially be generated by the core service provider. This will likely be an incremental ongoing cost, since it is difficult to foresee these processes being performed within a spreadsheet application in a controlled manner. Most bankers, however, will likely need to consider data warehousing and management services in order to maintain and manage this data, as it appears that certain major core providers are referring such inquiries to third party processing companies.

More importantly, loss, default, and transition rates will need to be analyzed in various ways on a quarterly basis. Reconciliation will likely be needed for, among other things, updating of risk ratings and cohorts – all prior to performing the analysis. Unless the processes are automated in a meaningful way, the incremental time for a small accounting department to perform and

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<sup>24</sup> While the data is purged from digital format, it is normally retained in hard-copy form thereafter.

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document such analyses in a thoughtful way will challenge many bankers during their closing processes.<sup>25</sup>

With this in mind, it is critical for community bankers to inquire of their core service providers or other vendors how to obtain and update such data that allows sufficient analysis. Bankers should then evaluate the timing of such analyses to be able to complete their quarterly closing procedures on a timely basis.

Bankers may also consider discussing with their auditors how, if at all, any lack of historical data to perform CECL-based analysis of current loan performance will affect internal control assessments and necessary audit documentation/procedures. Since it seems that current loan performance metrics will be relevant to the overall CECL expected loss, bankers may need to assess how far back into hard-copy archives to retrieve historical data.

## **Other Small Bank Considerations**

### *Consideration of Alternative Analyses*

Since the data storage and maintenance requirements under CECL are significant to merely analyze the life of loan impact of trends in credit metrics, many small banks will consider how relevant alternative analyses can be performed.

A change in the payment or credit quality status of a small number of loans at smaller institutions can have a relatively large quantitative impact on life of loan expected credit loss estimates. Unless other more detailed procedures are performed that support the original (or most recent) credit loss estimates (despite current loan performance), smaller banks can be subject to high volatility to credit loss estimates and (as a result) regulatory capital.

From a practical perspective, it seems that smaller banks will likely often be able identify and evaluate the specific loans that comprise the past due or deteriorated loans (based on risk rating), etc. These banks might be able to effectively analyze the collectability of individual applicable loans and how, collectively, those loans will affect the life of loan credit loss expectations of the pool. This process may be considered similar to one performed now related to impaired loans, whereby the impaired loan is evaluated individually, with the resulting impairment considered a factor in the allowance for unimpaired loans.<sup>26</sup> Of course, if the intent is to identify and evaluate these specific loans as exceptions – [those](#) that do not indicate a change in overall loss

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<sup>25</sup> Evaluating current loan performance data is only one aspect of the credit risk analysis appropriate under CECL.

<sup>26</sup> Loans that are individually evaluated today to be unimpaired are, nevertheless, placed back into the pool and applied a loss rate from the pool, as opposed to being assigned an allowance of zero.

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expectations of the pool<sup>27</sup>, bankers will likely need other documentation as to why those specific borrowers were initially included in the respective pool of loans, since the pools are intended to be based on common credit risk characteristics.

In some instances, certain bankers may consider an analysis of other metrics to provide the persuasive evidence that past due and credit rating analysis will have little impact. An analysis of historical and forecasted loan to value ratios, for example, may prove to more efficiently estimate and communicate changing expectations of significant credit loss. The detail of a past due analysis may not necessarily need to be significant if the loss given default analysis of loan to values indicates little, if any, loss.

ABA encourages other creative ideas that may mitigate the costs related to collecting historical loan performance data. That said, the disclosure requirements of past due loans, risk ratings, and nonaccrual loans seems to prevent a bank from considering such metrics as irrelevant. With the diminished, or even new lack of, directional consistency of the metrics to ALLL and loss provisions, many bankers may need to be ready to explain those metrics and their relationship to currently recorded allowances and credit loss provisions, whether or not they are explicitly considered in the estimate of expected credit losses. Further, depending on how loan valuation practice evolves, lack of this data may hinder the process to value assets or the acquired bank during business combinations. These factors, for practical purposes, may indicate a need to perform such analysis (and collect such data), no matter the size of the bank.

### ***Data Holes in the Short Run***

Some banks may consider the cost of retrieving certain internal historical credit performance data to exceed the perceived benefit. There will, therefore, likely be a significant number of “data holes”, resulting in the need for additional CECL assumptions related to expected credit loss. This was generally understood by FASB members, auditors, banking regulators, and bankers prior to the issuance of the CECL standard, and “Q Factor” (qualitative) adjustments were expected to be applied until sufficient data is collected.<sup>28</sup>

Quantifying a qualitative adjustment relating to such data holes may be difficult, as the adjustment normally assumes a sound expectation of migration (which has not yet been established). Further, expected levels of past due, nonaccrual, and classified loans can also change based on the specific point in the economic cycle. Bankers may be able to refer to

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<sup>27</sup> In addition to the internal controls that would normally be expected over the process over the expected credit loss estimates, paragraph 326-20-50-11d requires discussion of changes (presumably from the prior period) in the factors that influenced the current estimate of expected credit losses.

<sup>28</sup> Data holes were expected to be an issue with many aspects of the CECL estimate at the effective date, though holes were understood to be most significant when addressing historic loan performance.

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vintage-based historical market data or make certain assumptions of loss curves from internal data. If historical charge-offs can be traced back by vintage, assumed migration patterns may provide a basis for vintage-based expectations.

Assuming that analysis of current loan performance will be a relevant and important step in the credit loss estimation process, the existence of data holes will need to be considered from an internal control perspective. Bankers and their auditors will need to discuss the extent of historical data to be retained and the assumptions and market sources to be used in order to address the accuracy and completeness of data underlying the credit loss estimates (or adjustments) based on current loan performance.

### *Ongoing Data Sufficiency for Small Banks May be Questionable*

Due to their lack of critical mass, spotting reliable trends in current loan performance will likely be challenging for smaller banks, no matter how long they have been collecting data.<sup>29</sup> Assuming that the life of loan credit loss objective of CECL can cause a wider range of results than what occurs today, without significant further analysis, changes in loan performance based on a limited number of borrowers can bring large volatility to expected credit loss estimates and to regulatory capital.

It may be valuable, therefore, for banks to consider referring to available market or peer data when evaluating current loan performance and long-term expectations of credit loss. It should be noted that the relevance of peer annual charge-off and past due amounts retrievable from bank Call Reports or FY-9 reports is significantly diminished because they lack granularity that reflects timing and other product-specific expectations. This presents a significant challenge to both small and large banks that currently use ratios derived from such available data as benchmarks for their allowance levels. Examiners and auditors that utilize call report peer averages as a part of their auditing procedures will also be challenged and may need to resort to other market data to assist these efforts.

Consideration should be given to obtaining market and peer data that distinguishes loan age (vintage, for example), certain loan terms, and credit quality and other indicators that enable CECL-relevant peer analysis. Available market data is often attainable, based on loan level detail of securitized loans. However, due to the unique characteristics of many lending arrangements at community banks, data collected from many securitized loans may not

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<sup>29</sup> A similar point can be made about any kind of credit loss data for many smaller banks. Some have suggested aggregating loans in a portfolio to ensure a critical mass of historical data. While this can be done in certain cases, aggregating loans of different credit quality into one pool (as performed with certain mortgage securities prior to the financial crisis) can result in pools with vastly different credit risk drivers and loss expectations. The resulting “Q factor” analysis performed to analyze the impact of changing risk in the portfolio may be more complex than disaggregating the pool in the first place.

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necessarily be fully relevant. Whenever a bank refers to market data, banks will likely be expected to reconcile any rates indicated by the data obtained to specific bank-based credit loss expectations. For example, any national-based rates should be adjusted to reflect local conditions if they are different.<sup>30</sup> Different lending terms may also require adjustments to reflect the specific bank portfolio. When banks specialize in unique industries, borrowers, or lending terms, participating in a data consortium that collects and confidentially shares relevant performance data of consortium participants may prove to be effective.

### ***Regulatory Capital Buffers May be Needed***

Relevant peer data will enable the smaller institution to estimate reasonable ALLL balances. However, from an overall capital management perspective, actual results from the community bank's smaller population will likely often be significantly better or worse than any peer average.<sup>31</sup> The Basel Committee has recommended up to a five-year amortization of CECL allowance differences into regulatory capital, and it has published a discussion paper on the ongoing treatment of expected credit loss provisions. The U.S. banking regulators have been considering various options going forward on regulatory capital. However, as of yet there has been no final decision on regulatory capital adequacy levels. Such levels should be understood in light of both the additional allowance levels and volatility expected under CECL. With all this in mind, until regulatory guidance is provided, bankers may want to consider whether additional capital buffers are needed within their capital management processes related to CECL.

### ***Considerations of Incremental Costs and Time***

Banks that are contemplating collecting historical loan performance data will likely consider the need to procure and implement a data warehouse that maintains this data and allows analyses based on various potential pools. A bank would normally need to track, on a loan-by-loan basis, various credit metric statuses over many years. It is difficult to see how such analyses can be updated in a controlled manner within a spreadsheet environment, as new pools are continuously formed and ended and historical data accumulation periods and outlying results are evaluated for relevance. Of course, these amounts will require reconciliation to the core system each period.

There are service options that include only the data warehouse management. However, firms that service community banks generally do not provide a "current loan performance" option. Some companies provide comprehensive CECL solutions that include data warehousing, specific

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<sup>30</sup> Referring to market data may require a bank to segment its portfolios in ways that conform to the market data source. While this paper does not address segmentation, it appears that this could require segmentation detail beyond those segments currently maintained.

<sup>31</sup> This situation occurs today. However, under CECL's life of loan credit loss objective, allowances are expected to have a wider range of possible balances, due to the forecast of the future.

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modeling, and additional analytical tools that may include forecasting and certain stress testing, among other things. At this point, each firm appears to emphasize certain aspects of its products and services. For example, one firm may emphasize a lower cost solution, while another will emphasize flexibility that allows a company to more easily adapt to changing circumstances and growth. Consistent with other comprehensive software solutions, costs that banks can expect when implementing such a solution include costs of the software and/or license fees, training, and implementation (which includes creation of certain interfaces with core systems). Modules providing capabilities beyond the basic component normally have incremental cost.

After a certain base price, costs of third party administration of the CECL process will depend on the size of the institution and the complexity of its portfolio of products. Currently, starting quotes provided by certain leading firms approximate \$20,000 to \$30,000 per year (including base costs, plus ongoing administration) for institutions with approximately \$250 million to \$500 million in assets, and the costs increase somewhat proportionately according to asset size. The vendors appear to be pricing their services based on a long-term relationship expectation, which indicates that rates may increase after the contractual period. Many factors will influence the final costs, however. In fact, since smaller banks may not have the internal resources to perform the needed processes for implementation, it is reasonable that per-asset costs will be higher than larger banks because of the external assistance needed.

For banks that have not started implementation planning, these estimates can change quickly – both lower and higher. As there currently are a relatively limited number of vendors that perform such services, there appears to be increasing interest by companies in entering the market. As more demand of a limited number of companies will drive up costs, a bigger supply of companies may decrease them.

A key aspect of the ultimate cost of a CECL system is the quality of bank's data prior to transition: poor data quality will delay implementation and incur high costs. Another key factor to consider is the effort needed by bank personnel to manage the new processes, data, and relationship with the vendor on an on-going basis. In many situations, the "soft cost" salaries of any incremental staff (accountants, personnel within the loan origination, loan servicing or information technology areas) can exceed the costs paid to the vendor.

**Qualification:** ABA does not give financial reporting, legal, or accounting advice and our views on these issues are not authoritative. The ideas conveyed in this paper are meant to provoke thoughtful discussion between bankers, auditors, and regulators related to implementation of the CECL accounting standard. Unless otherwise noted, the ideas are not meant to reflect minimum requirements or best practices, but implementation processes that will address the practical and ongoing issues that can be expected in recording and managing expected credit losses.