

CECL model validation and internal audit

Understanding key differences



Financial institutions have devoted significant time and resources to implementing the current expected credit losses, or CECL, methodology. Now that CECL has become part of the recurring financial reporting process, attention has increasingly shifted from implementation to ongoing governance, monitoring, and independent review.

Two important components of that oversight are CECL model validation and CECL internal audit. Although the terms are sometimes used interchangeably, these reviews serve different purposes. A model validation primarily evaluates whether an institution's CECL methodology is conceptually sound, properly implemented, and producing reasonable results. An internal audit primarily evaluates whether the governance, processes, and internal controls surrounding the CECL estimate are appropriately designed and operating effectively.

Institutions should understand these distinctions when developing their model risk management, internal audit, and allowance governance programs. In many cases, a sound oversight framework will include both reviews. In this guide, we address the following:



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What is a CECL model validation?

A CECL model validation is an independent assessment of the methodology and model used to estimate expected credit losses. Its principal objective is to determine whether the model is appropriate for its intended use, supported by sound reasoning, implemented correctly, and producing reasonable and reliable results.

Under the federal banking agencies' model risk management guidance, model risk can arise when a model contains fundamental errors or is used incorrectly or inappropriately. An effective model risk management framework therefore includes sound model development and implementation, appropriate validation, and governance and controls proportionate to the institution's risk profile, size, complexity, and use of models.

For a CECL estimate, validation may address three broad areas.

1 Conceptual soundness

A validator evaluates whether the institution's methodology is appropriate for the portfolio and consistent with the underlying principles of CECL. This may include reviewing:

- The methodology selected for each portfolio segment
- The institution's segmentation framework
- Historical loss periods and look-back periods
- The use of internal, peer, or external data
- Prepayment, curtailment, and recovery assumptions
- Remaining contractual term assumptions
- Reasonable and supportable forecasts
- Reversion periods and methods
- Qualitative factor frameworks
- Methods and assumptions for individually evaluated loans
- Expected funding assumptions for unfunded commitments

The validator is not merely determining whether these items are documented. They are independently challenging whether the institution's decisions and assumptions are reasonable, supportable, and appropriate for the model's intended purpose.

For example, management may use changes in unemployment, collateral values, and portfolio credit quality to determine qualitative adjustments. A validator may assess whether those factors have a logical relationship to expected credit losses, whether the factors overlap with information already captured by the quantitative model, and whether the magnitude and direction of the adjustments are supportable.





2 Model implementation and technical accuracy

A well-designed methodology can produce unreliable results if it is implemented incorrectly. Accordingly, model validation generally includes testing the mathematical and technical operation of the model.

Procedures may include:

- Recalculating historical loss rates
- Testing the assignment of loans to portfolio segments
- Tracing model inputs to source systems
- Evaluating data completeness and accuracy
- Reperforming selected calculations
- Reviewing manual adjustments and overrides
- Testing forecast and reversion calculations
- Reviewing the calculation of individually evaluated loans
- Assessing the calculation of expected losses on unfunded commitments
- Reconciling model outputs to the general ledger or supporting records

The nature and extent of this work will depend on the model's complexity. A financial institution using a straightforward loss-rate or weighted-average remaining maturity methodology may require a different validation approach from an institution using a probability-of-default and loss-given-default model, as the critical data, underlying assumptions, and modeling techniques used in each method vary.

The underlying principle is proportionality. The institution should design its validation activities in a manner appropriate to the nature and significance of its model risk, rather than assuming that every CECL methodology requires the same procedures. The federal banking agencies' revised model risk management guidance emphasizes a risk-based approach tailored to an organization's model risk profile and operational complexity.

3 Ongoing model performance

Validation should also consider whether the model continues to perform as intended. This can include reviewing:

- Back-testing or outcomes analysis
- Comparison of prior estimates with subsequent charge-offs
- Benchmarking against alternative methods or peer information
- Sensitivity analysis
- Model limitations
- Changes in portfolio composition
- Changes in economic conditions
- The effect of significant model changes

Let's pause a moment to talk about back-testing, a rather hot topic when it comes to CECL. Back-testing does not mean that the allowance should exactly predict future charge-offs. The CECL estimate reflects information available at a particular reporting date, including management's reasonable and supportable forecasts. Conditions may subsequently change.

Instead, back-testing helps management understand differences between previous expectations and actual outcomes. Those differences may highlight areas in which the model is working less effectively, revealing opportunities to refine assumptions, data, segmentation, forecasts, qualitative adjustments, or other components of the methodology.

What is a CECL internal audit?

A CECL internal audit evaluates the broader governance, risk management, compliance, and control framework surrounding the allowance estimate. Whereas model validation asks whether the model is sound, internal audit generally asks whether the institution has established an effective process for operating, reviewing, approving, and reporting the estimate.

The Interagency Policy Statement on Allowances for Credit Losses addresses the design, documentation, and validation of expected credit loss estimation processes, including internal controls, as well as the responsibilities of management and the board of directors.

With a risk and control focus, an internal audit may examine the CECL process, from the extraction of source data through the recording and financial reporting of the allowance, to ensure that risks are understood and addressed by sound controls.

Typical areas of review include:

- Board and committee oversight
- Management roles and responsibilities
- CECL policies and procedures
- Compliance with approved policies
- Data governance and reconciliation controls
- Access rights and segregation of duties
- Spreadsheet and end-user computing controls
- Management review controls
- Approval of assumptions and qualitative adjustments
- Model change management
- Review of third-party service providers
- General ledger reconciliation and journal-entry controls
- Financial statement and regulatory reporting
- Issue tracking and remediation
- Record retention and supporting documentation



Internal audit may determine, for example, whether the individuals responsible for preparing the CECL calculation have appropriate access rights, whether someone with suitable authority reviews the calculation, and whether evidence of that review is retained.

Internal audit may also evaluate whether management provides the board or the appropriate board committee with sufficient information to oversee the allowance. That information may include trends in the allowance, changes in key assumptions, the effect of economic forecasts, significant qualitative adjustments, model limitations, validation findings, and the status of corrective actions.

The most important difference: The question being answered

The clearest way to distinguish model validation from internal audit is to consider the primary question posed by each function.

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A CECL model validation asks:

Are the methodology and model technically and conceptually sound, appropriately implemented and monitored, producing reasonable results, and supported?

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A CECL internal audit asks:

Has the institution established effective governance and controls over the preparation, review, approval, recording, and reporting of the CECL estimate?

These questions are related, but they are not the same.

Consider an institution that uses an unemployment forecast to support its qualitative adjustments.

A model validator might ask:

- Is unemployment relevant to credit losses in the institution's portfolio?
- Is the selected forecast source reliable?
- Does management apply the forecast consistently?
- Is the magnitude of the qualitative adjustment reasonable?
- Does the adjustment duplicate risk already captured by the quantitative model?

An internal auditor might instead ask:

- Did management use the forecast source specified in its procedures?
- Was the forecast reviewed and approved?
- Is the approval documented?
- Did management appropriately restrict access to the calculation?
- Was the final adjustment accurately incorporated into the recorded allowance?

The model validator evaluates the substance of the estimate. The internal auditor evaluates the process and controls by which the estimate is developed and reported.

Comparing the two reviews

	CECL model validation	CECL internal audit
Primary objective	Determine whether the methodology and model(s) are sound, properly implemented, and performing as intended	Determine whether governance and controls are appropriately designed and operating effectively
Primary focus	Model risk and estimate reliability	Compliance risks and controls
Key questions	Is the methodology reasonable? Are assumptions supportable? Are calculations accurate?	Are policies followed? Are controls performed? Is oversight effective?
Typical procedures	Conceptual review, input/output verification, benchmarking, and outcomes analysis	Walkthroughs, control testing, inspection, and policy compliance testing
Typical expertise	Credit risk, accounting, economics, quantitative analysis, and model risk management	Internal audit, governance, risk, controls, accounting, and regulatory compliance
Typical report	Validation conclusions, model limitations, findings, and recommendations	Audit rating or opinion, control findings, observations, and corrective actions
Typical audience	Management, model risk personnel, allowance committee, and board or audit committee	Management and the audit committee or board
Timing	Risk-based and commonly performed prior to first use, periodically thereafter, and following significant changes	Established through the institution's risk-based internal audit plan

The precise terminology, scope, and frequency may vary by institution. A smaller or less complex institution may not maintain a formal model risk management department. Nevertheless, the institution should preserve the fundamental principles of independence, appropriate expertise, effective challenge, and risk-based oversight.

Areas of overlap

Model validation and internal audit are distinct, but they are not completely separate.

Both may review:

- Data quality and reconciliation
- Documentation
- Management and board oversight
- Model changes
- Third-party service providers
- Model monitoring
- Findings and corrective actions
- Policies and procedures

This overlap is not necessarily inefficient duplication. The two functions examine these areas through different lenses.

For instance, both reviews may consider a management review control over qualitative factors. The validator may evaluate whether the reviewer possessed sufficient technical knowledge and information to challenge the supportability of the adjustments. The internal auditor may test whether the review occurred at the required frequency, covered the required elements, and was documented in accordance with policy.

Similarly, a validator may test model input data to determine whether data errors occurred that had an impact on model results. Internal audit may test controls over the extraction, reconciliation, approval, and retention of that data.

Clear scoping and coordination can reduce unnecessary duplication while preserving the distinct objectives of each review.



Why one review does not automatically replace the other

An institution may be tempted to obtain a model validation and conclude that a separate internal audit is unnecessary. Alternatively, an institution may include CECL in its internal audit plan and assume that the resulting audit provides sufficient model validation.

Either approach can leave important risks unaddressed.



Risks of relying only on model validation

A model may be conceptually sound and mathematically accurate, but the surrounding controls may be ineffective. For example:

- Unauthorized individuals may be able to modify assumptions.
- Model changes may not be approved.
- Management reviews may not be performed consistently.
- Journal entries may not be reconciled to approved model results.
- Board reporting may be incomplete.
- Validation findings may not be remediated in a timely manner.

A validation focused principally on model methodology may not include sufficient control testing to identify these issues.



Risks of relying only on internal audit

Conversely, controls can operate as designed around a flawed methodology. Management may complete every required review and approval, while the model contains an inappropriate segmentation structure, an unsupported forecast period, inaccurate loss-rate calculations, or duplicative qualitative adjustments.

Internal auditors may not possess the quantitative, credit risk, or modeling expertise necessary to independently challenge those matters unless the audit team includes appropriate subject matter specialists.

A practical illustration

Assume a community bank applies a qualitative adjustment for worsening economic conditions. The allowance committee reviews and approves the adjustment each quarter, and the supporting documentation contains the required signatures.

A model validation determines that the adjustment is based on an economic indicator with little demonstrated relationship to the bank's historical credit losses. The validator also notes that the quantitative model already incorporates a related economic forecast, creating a risk of double-counting. This is a model validation issue because it concerns the conceptual reasonableness and operation of the methodology.

Now assume that management replaces the indicator with a more relevant measure and establishes a well-supported adjustment framework. However, during the next quarter, the allowance committee does not review the adjustment until after the financial statements have been issued. This is an internal audit issue because the methodology may be reasonable, but the review and approval control did not operate as required.

The example illustrates why an institution can have a technically sound model but a deficient process, or a well-controlled process built around an unsound model.





Independence and qualifications matter

Both functions should provide an objective challenge to the CECL process. That does not necessarily mean that every institution needs two unrelated external firms. It does mean that the individuals performing the work should be sufficiently independent from developing, operating, and approving the model.

The individuals conducting a validation should collectively possess a working knowledge of:

- CECL accounting requirements
- Credit risk
- The institution's portfolios
- The selected estimation methods
- Relevant economic information
- Quantitative analysis
- Data and model implementation
- Model risk management

Internal auditors should understand:

- Internal control principles
- The institution's CECL process
- Relevant accounting and regulatory requirements
- Financial reporting risks
- Data governance
- Information technology controls
- Governance and oversight expectations

Institutions may use outside specialists when the necessary expertise or independence is unavailable internally. However, outsourcing the work does not transfer management's responsibility for understanding the scope, reviewing the results, and addressing identified issues.

How frequently should each review occur?

There is no single frequency that is appropriate for every institution. The nature, timing, and extent of independent review should be risk-based and commensurate with the institution's size, complexity, portfolio composition, methodology, model risk, and prior findings. Current interagency model risk management guidance emphasizes practices tailored to the banking organization's model risk profile rather than a uniform approach.

Some of the factors that may support more frequent or extensive validation include:

- Complexity of the model(s) and significance of outcomes
- Expertise of those operating and internally challenging the model
- Introduction of a new CECL methodology or vendor
- Updates to underlying and feeder models
- Significant changes to model assumptions or logic
- Material changes in portfolio composition
- Acquisition of another institution or loan portfolio
- Deterioration in model performance
- Significant data-quality problems
- Changes in available economic information
- Recurring validation or examination findings
- Increased use of management judgment or overrides

Internal audit frequency should similarly reflect risk. CECL may warrant more frequent coverage when the allowance is highly material, the process is changing, prior control findings remain unresolved, staff turnover has occurred, or the institution relies heavily on spreadsheets and manual controls.

The validation cycle and internal audit plan should also be coordinated. Coordination can help the institution avoid testing the same population twice while ensuring that neither model risk nor control risk is overlooked.



Questions management and directors should ask

Management, directors, and audit committee members can use the following questions to evaluate the institution's CECL oversight framework.

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Questions about model validation

- When was the most recent independent validation performed?
- What components of the methodology were included?
- Did the validation evaluate conceptual soundness, technical implementation, and ongoing performance?
- Were model inputs and calculations tested?
- Were qualitative adjustments evaluated for relevance, supportability, and potential double-counting?
- What errors, weaknesses, or limitations were identified?
- Have findings been prioritized and remediated?
- Have significant changes occurred since the last validation?

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Questions about internal audit

- Is CECL included in the risk-based internal audit plan?
- Which key controls were identified and tested?
- Were both control design and operating effectiveness considered?
- Did internal audit evaluate governance and board reporting?
- Were data, access, change management, and spreadsheet controls included?
- Were journal entries and financial reporting controls tested?
- Does internal audit have sufficient CECL expertise?
- How are findings reported, tracked, and closed?

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Questions about coordination

- Are the scopes of model validation and internal audit clearly defined?
- Are there material risks that neither review addresses?
- Is unnecessary duplication minimized?
- Are findings from both functions reported to the appropriate committee?
- Does management evaluate findings collectively rather than in isolation?

Achieving comprehensive CECL oversight

CECL model validation and CECL internal audit are complementary components of a sound allowance governance framework, but they are not typically interchangeable. When the two reviews are properly scoped, independently performed, and effectively coordinated, they provide management and the board with a more complete view of CECL risk. Together, they strengthen the reliability of the allowance estimate, support effective governance, and help the institution identify issues before they result in financial reporting errors or regulatory concerns.

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Helpful resources

- Supervisory Guidance on Model Risk Management
- SR 26-2
- Interagency Policy Statement on Allowances for Credit Losses (Revised April 2023) | FDIC.gov
- Interagency Policy Statement on Allowances for Credit Losses
- Current Expected Credit Losses (CECL) | FDIC.gov

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