

A PURPOSE-DRIVEN APPROACH TO MODEL VALIDATION

A client framework for understanding model validation, governance,
and ongoing monitoring

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Model Validation Should Begin with How a Model Is Used

Financial institutions rely on models for a wide range of purposes, including valuation, forecasting, risk management, capital planning, accounting, trading, and reporting. The same model may be used differently by different organizations, and sometimes differently within the same organization. For that reason, model validation should not begin with the question, “Is the model correct?” Instead, the more useful question is: “Is the model appropriate for the purpose for which it is being used?”

That distinction is particularly important under the revised interagency model risk management guidance issued in April 2026. SR 26-2 replaces SR 11-7 and expressly adopts a more risk-based, tailored approach to model risk management. The guidance recognizes that “not all models present the same level of risk” and that even a similar model used by two institutions may present different risks depending on how it is used. More broadly, it states that the relevance of model risk depends on “the nature, scale, and use of the models in relation to the associated business risks.”

SR 26-2 carries that principle directly into validation. It states that “the nature and rigor of validation generally align with the model’s approach, use, and materiality,” and that the timing, nature, and frequency of validation may vary based on model purpose, methodology, changes, data limitations, and other practical constraints. In other words, effective validation is not defined by applying an identical set of procedures to every model. The work should be designed around the risks presented by the model and the way the institution relies on it.

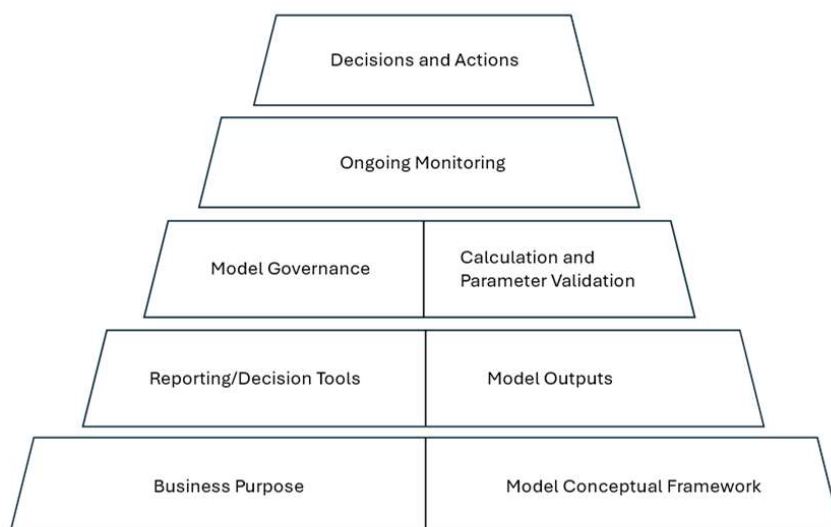
Our role as a model provider gives us deep knowledge of the design, methodology, assumptions, strengths, and limitations of our models. At the same time, each client is responsible for understanding how those models are implemented and used within its own business processes. This distinction is also reflected in SR 26-2’s treatment of vendor models, which calls for institutions to understand the vendor model and to conduct ongoing monitoring and outcome analysis to assess whether it remains appropriate for its intended use and reliable. Effective validation therefore brings the model developer’s knowledge together with the client’s understanding of its own implementation, business purpose, and risk exposure.

This is closely aligned with Andrew Davidson & Co.’s approach to model validation, which starts with a model’s business purpose. A model that is appropriate for one purpose may not be appropriate for another. A model used to support long-term portfolio forecasting, for example, may require a different evaluation than the same model used to support market valuation, hedging, or regulatory reporting. SR 26-2 similarly cautions that “using a model beyond its intended purpose introduces additional uncertainty and risk.”

A Framework for Thinking About Model Validation

We view successful model use as a series of connected layers. Each layer builds on the one below it. Figure 1 shows the structure of the process for using models to assist in decision making. The foundation of the structure is determining the business purpose and carefully choosing or developing a model that is consistent with that purpose and then rises through successive layers to support decisions and actions. Each step is crucial to successful implementation.

Figure 1. AD&Co's Model Validation Pyramid



1. Business Purpose and Model Conceptual Framework

The foundation is a clear understanding of the business purpose. A model produces outputs, but those outputs are not themselves the purpose of the model. The purpose is how the information will be used to support decisions, actions, or reporting.

Defining that purpose clearly helps answer important questions:

- What decisions rely on the model?
- What reports or analyses use model output?
- What time horizon is relevant?
- What level of accuracy is required?
- Which assets, products, or portfolios are in scope?
- What limitations are acceptable for the intended use?

These questions help establish whether a model's conceptual framework is appropriate for the problem being addressed. They also help identify purpose creep, a situation where a model originally validated for one use gradually begins to support additional decisions or applications without a corresponding assessment of whether it remains fit for those new purposes. For example, a model used for income forecasting for a portfolio may not be appropriate for market value hedging of the same portfolio. Extending use of a model for a new purpose at a minimum requires re-validation of the conceptual framework of the model with respect to the new purpose.

2. Reports and Model Outputs

The next step is determining whether the model produces information that is useful for the stated business purpose. Modeling systems can generate an enormous amount of information. The challenge is not simply determining what the model can produce, but identifying what information decision makers need. A useful approach is to begin with the desired decision or report and work backward to determine what model outputs, assumptions, and supporting information are required. This process can also make model limitations more

visible. In some cases, model output may need to be supplemented with other information, alternative data sources, expert judgment, or additional analysis.

3. Governance and Validation

Once the business purpose and reporting framework are established, governance and validation help ensure that the model is being used as intended.

Governance addresses questions such as whether:

- the correct model version is being used;
- inputs and assumptions are appropriate;
- model parameters are controlled and documented;
- outputs are being incorporated into reports and applications as intended; and
- changes to the model, its implementation, or its use are appropriately identified and managed.

Validation then evaluates the aspects of model performance and conceptual soundness that are most relevant to the intended use. This does not mean that every validation should look the same. Different models and uses present different sources and levels of risk. The most useful validation program is therefore one that identifies the risks associated with a particular model and its use and performs testing designed to address those risks. The objective is not to complete a universal checklist. The objective is to perform validation work that provides meaningful evidence regarding whether the model is fit for its intended purpose.

Recent regulatory guidance has reinforced the importance of tailoring model risk management activities to the nature, purpose, and materiality of individual models. Federal Reserve SR 26-2, which replaced the long-standing SR 11-7 guidance, emphasizes a principles-based approach in which the nature and rigor of validation can vary based on factors such as the model's purpose, methodology, use, changes, data limitations, and overall risk.

For clients, this provides an opportunity to move beyond a one-size-fits-all approach to validation. A well-designed validation should clearly establish:

- What is being validated
- How the model is being used
- What risks are most relevant to that use
- Why particular validation tests were selected
- What limitations or assumptions should be considered
- Why certain types of testing may not be necessary or informative

Making these decisions explicit helps create a clearer connection between validation work and the risks that matter to the organization.

For vendor models, it is also important to distinguish between the model itself and the way the model is implemented and used. As the developer of a model, Andrew Davidson & Co. can provide information regarding:

- model methodology and conceptual design;
- development and calibration;
- assumptions and limitations;
- historical performance and testing;
- appropriate model inputs and outputs; and
- known strengths and weaknesses.

However, the model's ultimate risk profile also depends on how it is implemented within a client's environment. A client may combine an AD&Co. model with internally developed components, other vendor models, additional calculations, assumptions, reporting systems, or decision processes. These implementation choices may create risks that cannot be evaluated by looking at the AD&Co. model in isolation. Effective model validation therefore requires both an understanding of the underlying model and an assessment of the client's specific implementation and use.

4. Ongoing Monitoring: Validation Is Not a One-Time Event

A model that performed well when it was developed or initially validated may not continue to perform in the same way. Markets change, products evolve, data changes, and business uses expand. New information may expose limitations that were not previously apparent. For that reason, validation should be supported by ongoing monitoring.

Monitoring can include comparisons with realized outcomes, alternative models, external data sources, benchmarks, or other indicators that help determine whether the model continues to function as expected for its intended use. The purpose of monitoring is not necessarily to demonstrate that a model is perfect. Financial models are simplified representations of complex and changing environments.

Instead, monitoring should help identify meaningful changes and provide triggers for further investigation, review, recalibration, redevelopment, or revalidation when appropriate. A risk-based monitoring framework can help organizations focus attention on the changes that are most likely to affect the reliability of model-supported decisions.

Model risk does not always reside within a single model. Many business processes rely on combinations of models, data sources, assumptions, calculations, and applications. The output of one model may become the input to another. Multiple models may rely on common data or assumptions. Changes in one component may have consequences elsewhere in the process. Understanding these dependencies is an important part of effective model risk management.

This does not necessarily require every model validation to become an enterprise-wide review. However, organizations should understand where a model fits within the broader process:

- What information and assumptions feed into the model?
- Where do model outputs go?
- What other models or calculations depend on those outputs?
- Are there shared assumptions or data sources?
- Could changes in one component create risk elsewhere?

Documenting these relationships can help identify risks that may not be visible when an individual model is evaluated in isolation.

5. Supporting Better Decisions

Ultimately, models are tools for supporting decisions and actions. A strong model risk management framework begins with the business purpose, evaluates whether the model and its implementation are appropriate for that purpose, establishes appropriate governance and validation, and continues to monitor the model as conditions and uses change. The goal is not to eliminate judgment from the decision-making process. Rather, the goal is to ensure that model results are understood, appropriately controlled, and used with a clear understanding of their strengths and limitations.

Andrew Davidson & Co. supports this process by providing clients with the information, analysis, and expertise needed to understand our models and evaluate their use within our clients' own business environments. By focusing validation on purpose, use, risk, and ongoing performance, organizations can develop a model risk management approach that is rigorous, practical, and recognizes that the most useful question is not whether a model is universally correct, but whether it is appropriate for the decisions it is intended to support.

Sources

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<https://www.federalreserve.gov/supervisionreg/srletters/SR2602.html>

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