The Unified Balance Sheet:

Transcending Siloed Risk Frameworks

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Executive Summary

Modern financial institutions are managing highly complex, dynamic balance sheets using an architecture built for a previous era. Historically, risk disciplines evolved in response to specific regulatory mandates, resulting in a fractured quantitative environment. Asset Liability Management (ALM) was institutionalized to protect against interest rate shocks and liquidity shortfalls. Years later, the Current Expected Credit Losses (CECL) standard was introduced to establish a forward-looking paradigm for credit degradation.

Because these frameworks were adopted at different times, to answer different regulatory questions, and are managed by different departments, they have created a phenomenon of "dual realities" within the bank. Today, executive leadership often faces cognitive dissonance: receiving NII forecasts from the Treasury that rely on one vision of the future, while reviewing allowance provisions from the Credit team that rely on a completely different set of macroeconomic truths.

This whitepaper explores the foundational flaws of maintaining isolated quantitative risk models and presents a framework for "Architectural Convergence." By moving beyond disjointed compliance exercises and integrating the mathematical foundations of ALM and credit risk, institutions can unlock unparalleled strategic agility, optimize capital allocation, and achieve a true, holistic view of enterprise risk.

In May of 2026, the FFIEC issued new requirements for model risk management: Uniform Financial Institutions Rating System - Federal Register. This new guideline integrates ALM and the CECL framework which marks a critical shift from isolated regulatory compliance toward a unified, forward-looking enterprise risk management strategy. By establishing the credit loss and cash flow projections generated in the CECL model as the primary driver for the asset baseline of the ALM model, institutions can eliminate modeling redundancies and maintain cross-functional consistency in their balance sheet assumptions. Although CECL prepayment assumptions focus primarily on estimating exposure timing to default risk under stable conditions, a robust integration with ALM expands these models to capture how borrower prepayment behavior and credit default risk dynamically react to changing interest rates and macroeconomic scenarios. Ultimately, aligning CECL methodologies with ALM frameworks—including Economic Value of Equity (EVE) and capital adequacy stress testing—delivers a single, cohesive source of truth that empowers executive management and boards to make highly informed decisions regarding

pricing, capital planning, and portfolio composition.

1. The Anatomy of Fragmented Risk

To understand how to integrate these frameworks, it is essential to understand why they diverged. The siloing of risk functions is not a failure of management, but an artifact of historical regulatory design.

- **The Duration Perspective (ALM):** Treasury models were engineered to measure the elasticity of the balance sheet against the yield curve. The mathematical focus is on cash flow timing, repricing intervals, and behavioral optionality (e.g., how fast will depositors withdraw funds if rates rise?). The horizon is typically short-to-medium term, and the primary objective is defending Net Interest Margin (NIM) and the Economic Value of Equity (EVE).
- **The Degradation Perspective (CECL):** Credit loss models were engineered to prevent the delayed recognition of losses that exacerbated the 2008 financial crisis. The mathematics focus on borrower viability, collateral valuation, and default probability over the entire contractual life of a loan.

When these two perspectives are kept separate, the institution fails to capture the inherent correlation between the cost of money (rates) and the ability to repay money (credit).

2. The Danger of "Schrödinger's Balance Sheet"

Operating disconnected risk models leads to a dangerous institutional blind spot. When Treasury and Credit functions operate in a vacuum, the bank effectively exists in two contradictory states at once—a "Schrödinger's Balance Sheet."

This creates severe operational and strategic friction:

The Divergence of Macro-Financial Logic

The most glaring vulnerability of a siloed framework is the potential for conflicting economic baselines. A Treasury department might stress-test the balance sheet against an aggressive, prolonged inflationary environment featuring rapid central bank rate hikes. Concurrently, the Credit modeling team might run their baseline allowance calculations assuming a "soft landing" with stable employment and localized deflation. Consequently, the Board of Directors makes capital decisions based on a blended financial picture that could never actually exist in reality.

Behavioral Inconsistencies

Assumptions about human behavior are central to both frameworks, yet they are rarely

correlated. For example, prepayment speeds. In a falling rate environment, ALM models accurately predict a surge in prepayments as borrowers refinance. If the CECL model uses static, historical prepayment speeds that fail to account for this rate-driven refinancing boom, the institution will artificially inflate the expected life of its loans—thereby over-provisioning for lifetime credit losses and needlessly trapping valuable capital.

The Illusion of Diversified Risk

When models do not communicate, management cannot see compounding risks. A modest rise in interest rates might look manageable in an ALM report, and a slight uptick in unemployment might look acceptable in a CECL report. However, if those two events occur simultaneously, the combined effect of higher debt-servicing costs and lower borrower income could trigger a non-linear spike in defaults that neither model predicted in isolation.

3. Achieving Architectural Convergence

Transitioning from a fragmented state to an integrated balance sheet requires more than just shared meetings; it requires structural and quantitative alignment.

Correlated Scenario Generation

Institutions must abandon the practice of localized scenario selection. Best-in-class organizations establish a centralized macroeconomic governance committee. This committee dictates a universal set of economic pathways (e.g., Expansion, Stagflation, Severe Recession). Every downstream model—whether predicting deposit betas, loan growth, or default probabilities—must calibrate its outputs to these exact, synchronized variables.

Unified Granularity and Data Taxonomies

Historically, ALM engines consumed highly aggregated cohort data for computational speed, while credit models demanded deep, loan-level data. Technological advancements have rendered this compromise obsolete. Convergence requires a universal data foundation where every asset and liability is evaluated at the instrument level. A single data dictionary must dictate terms so that "maturity," "segmentation," and "balance" mean the exact same thing to a Treasury analyst as they do to a Credit officer.

Interdependency Modeling

Risk must be modeled as an ecosystem. If a severe economic downturn scenario is applied, the CECL model will predict a rise in non-performing assets. The integrated architecture must automatically feed this degradation into the ALM model, mathematically reducing the expected

cash flows and dampening the projected Net Interest Income. This closed-loop modeling ensures that risk is measured as a cascading event rather than an isolated metric.

4. Elevating Model Risk Management (MRM)

In a converged architecture, the role of Model Risk Management transforms. Traditional MRM operates defensively—auditing individual models to ensure they adhere to validation standards and regulatory guidelines.

Next-generation MRM must operate holistically. Validators must shift their focus from the internal mechanics of a single model to the "connective tissue" between models. The new mandate for MRM includes:

- **Cross-System Sensitivity Testing:** Evaluating how an assumption change in the liquidity model propagates through the credit model.
- **Conceptual Soundness of Linkages:** Ensuring that the mathematical relationships between rate movements and default probabilities are empirically justified.
- **Unified Change Control:** Implementing protocols where any adjustment to a foundational assumption (e.g., forward curves, attrition rates) requires multi-disciplinary sign-off.
- **Forecasting:** Evaluating the differences between economic covariates and economic forecast between models.
- **Prepayments:** Evaluating the differences between prepayment speeds at baseline for all models using discounted cash flow calculations.

5. The Strategic Alpha of Integration

The ultimate objective of architectural convergence is not regulatory appeasement; it is the generation of strategic alpha. Institutions that successfully integrate their quantitative frameworks gain profound competitive advantages.

- **Optimized Risk-Adjusted Return on Capital (RAROC):** With a synchronized view of both yield and expected loss, institutions can price loans with surgical precision. Instead of applying generalized margin targets, pricing can dynamically adjust to reflect the specific, modeled interplay of interest rate risk and credit risk for any given asset class.
- **Dynamic Capital Agility:** Siloed institutions hold excess capital to insulate themselves against the unknown gaps between their models. Integrated institutions have high confidence in their holistic risk profile. This clarity prevents over-provisioning and allows the bank to confidently deploy excess capital into organic growth initiatives, technological investments, or shareholder distributions.

Conclusion

The era of managing a financial institution through disconnected, siloed risk models is ending. The complexity of the modern macroeconomic environment demands a unified, synchronized approach to balance sheet management. By dismantling the walls between ALM and CECL, aligning underlying mathematical assumptions, and adopting a holistic view of enterprise risk, forward-thinking institutions can elevate their modeling frameworks from defensive compliance requirements into powerful, proactive drivers of long-term profitability.