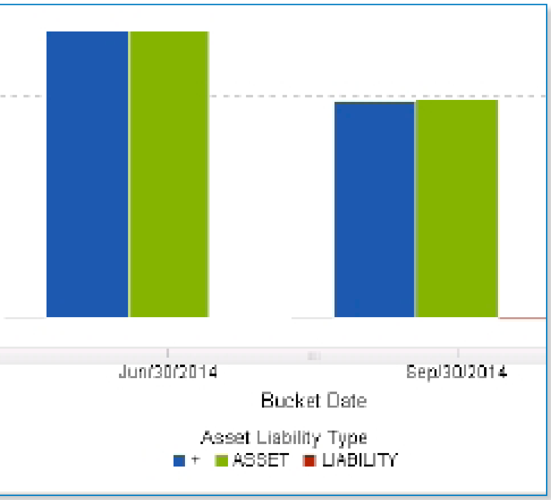
SAS® Asset and Liability Management

Take an integrated, high-performance approach to liquidity risk and risk-adjusted performance management



Why SAS® Asset and Liability Management?

- **Access to consistent, high-quality data** – on a daily basis. Get a complete, accurate picture of your firm's business and operations.
- **Powerful, yet flexible, analytics**. Model cash flow accurately, calculate appropriate liquidity buffers, determine how primary risks affect liquidity, define measures and indicators specific to your firm, and easily create stress scenarios.
- **Flexible, ad hoc reporting capabilities**. Accurately monitor the measures and indicators your firm defines, including the liquidity impact of collateral.
- **A robust IT infrastructure and proven processe**s. Perform critical calculations and report liquidity positions on a multicore processing platform.

Overview

Prior to the global financial crisis, interest rate risk and liquidity risk didn't garner much attention. But when the crisis hit, many banks, investment firms and other financial institutions experienced sharp declines in the value of their assets and found themselves in dire need of additional liquidity.

For many institutions, the result of low liquidity was insolvency, acquisition or governmental interference. As a result, liquidity risk was caught in the spotlight.

In an effort to prevent history from repeating itself, regulators – such as the Basel Committee on Banking Supervision (BCBS) – developed more stringent regulatory requirements governing liquidity risk. And looming Basel III deadlines have only added to the asset and liability management challenges firms already face.

The revised liquidity coverage ratio (LCR) requirements (a key component of Basel III) was released in January 2013. In early 2014, BCBS released the final requirements for liquidity coverage ratio-related disclosures, designed to improve the transparency of regulatory liquidity requirements and enhance market discipline. Compliance with the new LCR requirements began in January 2015 with transition periods, including reporting frequency, phasing in through 2017 and thereafter.

SAS Asset and Liability Management provides a high-quality, integrated risk data infrastructure that measures exposure and risk across all risk types and books of business. The solution includes:

- Cash-flow and pricing functions for traditional banking book products and a wide variety of financial instruments and structures.
- A flexible modeling system that allows for endless extension and customization of the analytics.
- A large risk analysis toolkit suitable for fixed income risk modeling, as well as an economic capital modeling tool, simulation, principal rate analysis, sensitivity calculations and cash flow forecast.
- A user-friendly reporting framework that lets business users create their own reports or customize existing reports directly using SAS Visual Analytics.
- Out-of-the-box reports for ALM, liquidity risk and funds transfer pricing.
- Integration with third-party pricing libraries, such as FINCAD and FEA.

Benefits

- **Accurately measure and manage the entire spectrum of risk types** related to asset and liability management, liquidity risk and funds transfer pricing.
- **Adapt to changing business needs** by customizing models, analyses and reports as needed.
- **Support innovation** by introducing new risk measures and models in a fully transparent and auditable environment.
- **Manage performance by** taking into account risk-adjusted spreads.

Solution Overview

SAS Asset and Liability Management provides capabilities for managing interest rate risk and funding liquidity risk, including:

- Interest rate stress testing, taking into account repricing risk, optionality, yield curve and basis risk.
- Interest income simulation using Monte Carlo, historical and variance-covariance (VC) approaches.
- Liquidity risk stress testing under adverse credit and market risk and changed behavioral assumptions.
- Liquidity risk hedge analysis, taking into account user-defined liquidation strategies mapped with stress scenarios.
- Risk-adjusted performance or economic profitability calculations.
- Regulatory reporting for Basel III liquidity risk ratios (LCR and NSFR).
- Cash flow optimization by legal entity.

Capabilities

Liquidity Risk Management

SAS Asset and Liability Management provides prepackaged content for Basel III liquidity risk requirements, including logics for classifying positions into liquid assets, unencumbrance calculations, haircut assignment and regulatory reporting.

The solution gives you the flexibility to define liquidity classifications, categorize portfolios based on LCR groupings required under Basel III, and assign regulatory parameters for haircuts and runoffs. In addition, you can:

- Explore LCR and NSFR ratios with different run-off factors and portfolio regroupings (finer classifications compared with out-of-the-box Basel III requirements).
- Easily drill down into portfolios to examine contents in detail – product level, rates, counterparty level, etc.
- Use data on the collateral held within the bank or provided to other (e.g., clearing houses) counterparties and the underlying margin agreements for performing the analysis.

With the solution, you can examine liquidity risk and then explore different hedging strategies under a variety of different internal (or regulatory) scenarios that may be linked to credit risk, market risk or any other optionalities in the banking book, such as prepayment, early withdrawal, drawdown, amortization scenarios, etc.

Interest Rate Risk Management

SAS Asset and Liability Management enables you to measure interest rate risk, from both an earnings and an economic value perspective. Outcomes are bucketed cash flows based on aggregate balances for assets and liabilities, which are rate sensitive and repriced in the specified cash flow buckets.

The solution includes a system for incorporating policy rates or administered rates that are subject to change based on different rules, and not directly associated with market rate changes.

You can create different cash-flow buckets on the fly and reanalyze the repricing exposure.

In addition, you can calculate standard interest rate metrics, such as delta, gamma and cross-rate sensitivities, that are useful for examining fixed income portfolios.

The SAS® Difference

- Meet regulatory requirements for interest rate and liquidity risk.
- Analyze the risk exposure of user-defined portfolios or position sets segmented by product, business line or risk factor.
- Create stress test scenario sets comprising many different scenarios, and simultaneously compare risk exposures.
- Assess the effect of interest rate and funding liquidity risk changes on business portfolios going forward.
- Make a variety of assumptions regarding repayments and payments from assets and liabilities.
- Create a balance sheet grouping structure for analysis, reconciliation and reporting.
- Gain insights for determining the best price for products.

Risk-Adjusted Performance

The solution calculates a base FTP rate at an account level, based on the supplied economic benchmark funding curve, and then adds risk-adjusted spreads as needed – e.g., fixed, credit risk, capital, option-adjusted and liquidity.

These spreads are computed and used in economic value calculations. Using these rates, you can judge instant economic profitability at a transaction level, which helps ensure that your products are priced right.

SAS Asset and Liability Management is powered by SAS High-Performance Risk technology, which gives you much-needed scalability and performance when dealing with large volumes of data.

To contact your local SAS office, please visit: sas.com/offices

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