Valuation and Risk under Solvency II

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Using F3 technology for valuation and risk analytics, insurers are deploying best-in-class business processes and complying with Solvency II requirements.

Impact

Solvency II represents a significant shift in how risk is measured and capital is deployed—impacting data management, product offerings, risk, and investment strategies of insurers in significant ways.

Risk-focused Approach

One result has been the clear emphasis on creating a more risk-focused approach, enabling insurers to meet ongoing liabilities and remain solvent. This means defining a comprehensive risk management framework that defines required capital levels and operational procedures to ensure institutional solvency. The aim is to help institutions to identify, measure, and manage risk and capital levels more effectively as a way to optimize balance sheet usage.

Balance Sheet Optimization

Asset managers and insurers are paying close attention to balance sheet utilization, to ensure that capital is being deployed in the most productive manner possible. When done in a comprehensive manner, this can allow organizations to derisk and re-deploy capital in the highest return activities.

The implications of Solvency II on the balance sheet are complex. For example, definitions of capital requirements and capital which qualifies for reserves vary by asset class.

Granular View of Regulatory Capital Risk

F3 gives teams the ability to quantify different capital charges for different asset types in fine-grained detail. This enables firms to evaluate all underlying assets and liabilities, understand the impact on regulatory capital, and make informed investment, hedging and risk management decisions.

Teams are able to optimize asset selection based on riskiness and contribution to regulatory capital ratios. Insurers balancing and optimizing the impact of asset classes and instrument types now have the ability to evaluate capital charges with different user-defined inputs and modeling assumptions.

Investment Risk Scenarios

An important component of Solvency II is the ongoing need to measure and manage the impact of market changes on both assets and liabilities. This is especially important with long-dated liability obligations that are hedged by different fixed-income and derivative strategies.

F3 can run scenarios on both assets and liabilities, under different market and credit conditions, in a single scenario. For instance, the impact of changes in interest rates, credit quality and events, and inflation levels can be assessed in a single scenario. Also, regulatory capital required to meet liabilities under worst-case scenarios can be assessed, based on user-defined input. This analysis can also be extended for users calculating risk metrics and greeks for position valuation under different scenarios.

Flexible Analytics

One of the ongoing challenges for institutions is how to perform fine-grained duration analysis. For example, Asset Liability Management (ALM) strategies are becoming more complex as regulations evolve and market conditions become more volatile.

Analytical Sensitivities

F3's unique ability to compute analytical risk sensitivity calculations for all market data points allows users to understand the fine-grained impact to duration of adding or removing assets and liabilities within portfolios. This complexity demands an emphasis on the ability to best match assets and liabilities under rapidly evolving market environments.

Accuracy

On-demand computation of accurate valuations per the IFRS fair value definition is important for compliance with Solvency II's Pillar 1 requirements.

In addition to multi-asset and multi-currency valuation, F3 can compute valuations on both assets and liabilities in a single, multi-asset class, multi-currency framework.

This allows teams to utilize both zero and par rates as desired for virtually all instrument and portfolio types. As a result, organizations can value virtually all financial instruments in one integrated system without any other tools or optimization methods.

Robust Hybrid Modeling

Insurers evaluating hybrid assets and liabilities impacted by cross-asset and non-linear risk factors require robust hybrid modeling.

Generic Trade Representation

F3's unique generic hybrid modeling framework allows any model for any asset to be combined with any others to form a full hybrid model, on the fly, without research or software development.

This high-performance hybrid simulation framework results from eliminating unnecessary discretization found in traditional hybrid frameworks. Insurance organizations are able to compute asset and liability valuation and risk analytics on hybrids, to best ascertain the firm's ability to meet Solvency II capital requirements.

Regulatory Capital Computation

Compliance with the Solvency Capital Ratio (SCR) and Minimum Capital Ratio (MCR) requires an understanding of the capital needed to ensure solvency over different user-defined time horizons, thresholds, and probabilities. F3's flexibility enables users to efficiently allocate regulatory capital in an informed manner to make strategic risk management decisions.

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