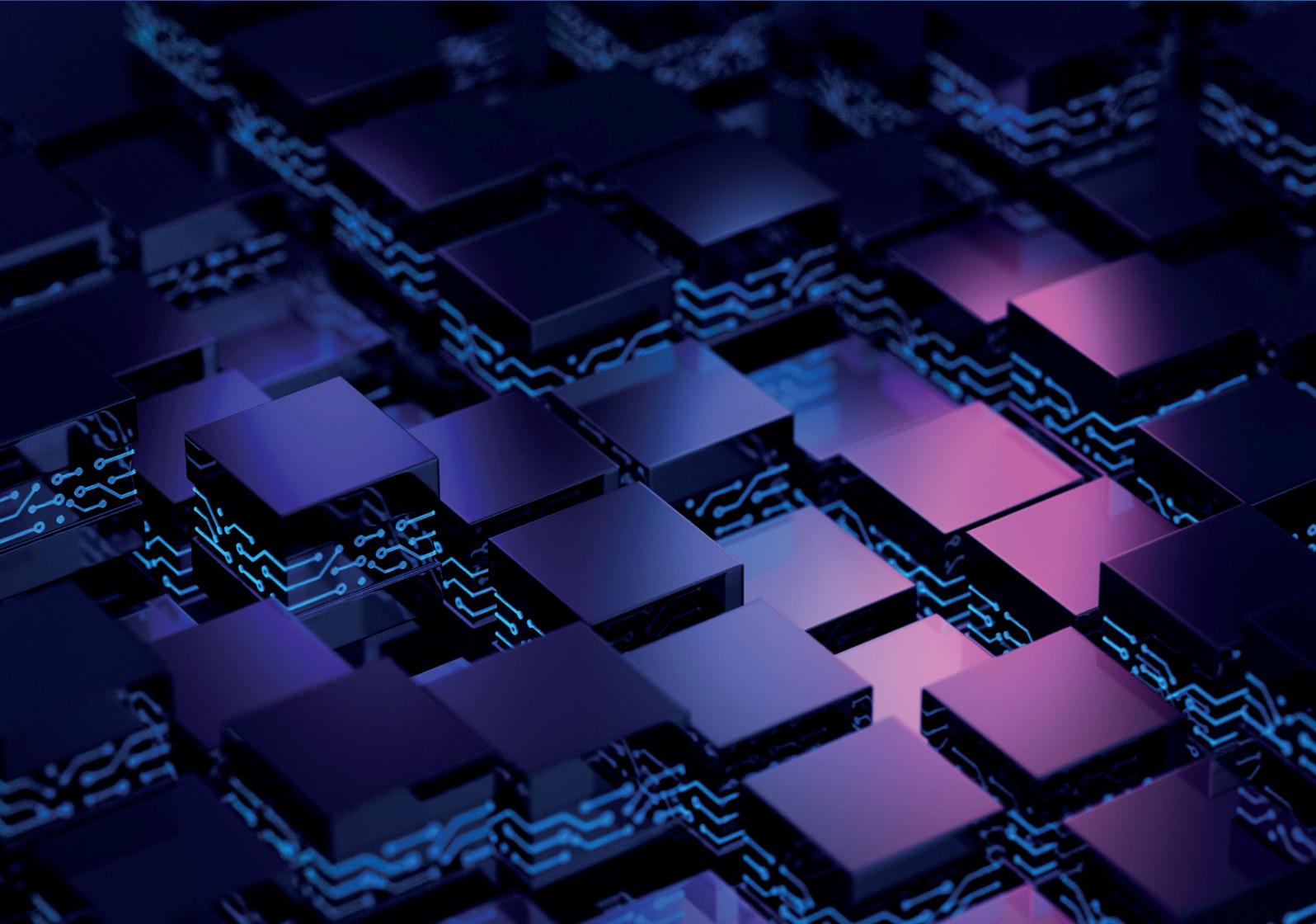




WHITE PAPER

CHALLENGES IN HOLISTIC BALANCE SHEET MANAGEMENT AND CAPITAL PLANNING (ICAAP) FOR FINANCIAL INSTITUTIONS



Holistic and coherent balance sheet and capital management has remained high on the agenda of banks for over a decade now. Reasons for this include increasing frequency of new regulatory requirements, changing accounting standards and increased demands to reduce the internal cost of managing risk. Since the financial crisis, revenues in the banking sector declined, driven by fiscal policy with historically low interest rates leading to reduced returns on capital deployed. Global regulatory bodies as well as accounting boards' scrutiny and risk transparency needs increased significantly across the globe to stabilize the global financial system after some financial institutions needed to be bailed out by governments.

The speed of required implementation for regulatory compliance in combination of fragmented and siloed IT landscapes led banks to implement tactical solutions which have become embedded in the business as usual (BAU) processes. However, this increases both operational risk and the risk of material misstatement of disclosures or regulatory submissions. Reconciliation exercises between treasury, finance and risk departments are not always joined up, can carry a high maintenance burden and embed proneness to error and omission. Banks of all sizes are now subject to far closer scrutiny by regulatory bodies on an end-to-end basis, which has resulted in fines, reputational damage, increased core capital and buffer requirements and undertaking complex remediation activities.

In the current unprecedented environment of geopolitical tensions, inflationary pressure, swiftly rising interest rates and widening credit spreads, and an increasing cost of risk, understanding the weaknesses of a financial institution's business model by modelling and stress testing the balance sheet across various treasury themes – from ALM to liquidity to capital management in a consistent, accurate, transparent and repeatable way, and working smarter at speed – becomes key.

With Basel IV coming into effect, capital management and capital stress testing will become even more crucial as complexity, consistency and capital requirements increase, and as capital becomes a scarcer resource to be effectively allocated. Furthermore, the **EBA has signalled that it will scrutinize banks' modelling practices and internal processes more deeply after macroeconomic stresses have challenged the overall accuracy and validity of internal models** and will require remediation.

“The current macroeconomic environment challenges banks' ability for ICAAP scenario analysis; sound planning, modelling, stress testing and simulation is key for managing banks in these days.”

Dr. David Nicolaus, KPMG ECB office Frankfurt, Oct 2022

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Challenges of holistic balance sheet management and stress testing

Many financial firms still struggle to bring together control and evaluate downside risks in a coherent, integrated and swiftly repeatable way across key risk dimensions and disciplines, forming part of a classic enterprise risk management function.

The root cause for this is typically neither the design of stress tests nor scenario definition or management commitment to stress testing. Contrary, senior management is usually keen to run stress testing for various scenarios, especially in rapidly changing macro environments and volatile markets.

However, the **process execution is hamstrung by legacy approaches and a landscape of tactical model solutions and informal workarounds using Excel and “end user developed applications” which are not fully supported, documented or built to a corporate standard**, with poor or no change control, and are prone to error over time. Typically, they are not aligned to a centralized “one golden source” risk IT architecture and cannot always work at the granularity and accuracy required.

This model risk impacts both senior management and regulators’ quality expectations and extends turnaround times for stress test results, which can vary between four to eight (plus) weeks, including the creation of adequate supporting MI and second line review.

The fundamental challenge to be addressed is controlling and orchestrating historically siloed department setups, often with a non-harmonized legacy technology landscape, which is not always capable of embedding more complex models and requires “over-the-top adjustments” for model weaknesses.

The burden to overcome is how to strategically resolve the challenge of maintaining both consistency in articulation of multiple models simultaneously and viewing different risk dimensions (credit, market, liquidity, and its impact on capital) across departments as it’s generally time consuming, costly and a process prone to error.

Furthermore, your legacy system limitations hamper adequate and accurate stress testing, where the process is similar, but some tests may be based on a run-off balance sheet over short time buckets. Others call for a more static or dynamic balance sheet over longer time buckets to model a balance sheet over a three- to five-year period and accurately capture the complexities of financial instruments in portfolios, both on contractual and behaviourally sensitive cashflows in a granular way, under multiple economic and business scenarios.

Underpinning the above modelling issues is the ongoing risk data management and assumption management challenge – another area of significant regulatory focus in raising standards.



Start your integrated balance sheet management journey with FIS

Whether for ICAAP, ILAAP or recovery and resolution planning, holistic balance sheet and capital management is central to enabling effective risk management framework and has become one of the most important functions over the past decade, especially to manage resources in an integrated and agile way. Excel spreadsheets and workarounds are not only failing to meet supervisory expectations but are also starting to be actively discouraged and hamper the decision-making speed of senior management.

With over 25 years of experience in scenario analysis, stress testing and simulation across various risk factors and our diverse client base (ca. 600 clients globally), **FIS® Balance Sheet Manager** is very well placed to cover a broad range of balance sheet simulation and scenario analysis topics in the treasury balance sheet management and risk space. The solution performs all tasks in one platform using one golden source of data, ensuring integrity, consistency and transparency of the data flow through to aggregated risk and exposure reports that can be drilled into.

The genesis of a pure ALM and interest rate simulation system dates back to the beginning of the 2000s. Subsequently, it has been completely redeveloped, bringing together classic ALM, balance sheet and risk management disciplines into a modular and consistent scalable architecture. Our development has been based on the needs of our core client base across Europe to meet domestic, regional and global standards. With strong roots in Switzerland and Germany, we are operating as one of the market leaders serving financial institutions globally.

Balance Sheet Manager continues to be enhanced and improved especially in the capital planning and ICAAP space. To address banks' long-standing issues around internal risk governance and fragmented risk management frameworks in a holistic and scalable way, we remove barriers that hamper achieving best-in-class risk analytics, risk aggregation and its related reporting.

Global events have shown again how fragmented analytical frameworks restrict a bank's ability to re-plan during crises. The ongoing cost, risk of inaccuracy, and passive and slow speed of execution under those legacy approaches do not meet supervisory expectations without significant remediation investment, as siloed legacy approaches do not fit a rapid and volatile world.

“2.5 [...] The PRA also expects firms to develop a framework for stress testing, scenario analysis and capital management that captures the full range of risks to which they are exposed and enables these risks to be assessed against a range of plausible yet severe scenarios. The ICAAP document should outline how stress testing supports capital planning for the firm”

PRA Supervisory Statement, SS31/15

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Balance Sheet Manager addresses these issues by being a rich, modular, enterprise scalable, fully integrated platform that provides transparent, analytical and rapidly repeatable processes with integrated data management and modelling, with reporting delivered in a unified way.

Our ecosystem of analytics sweeps away siloed legacy applications, removes broken processes, and ensures close coupling of related finance, risk and treasury risk management activities developed and embedded into our platform, enabling clients to build out a framework that remains fit for the future.

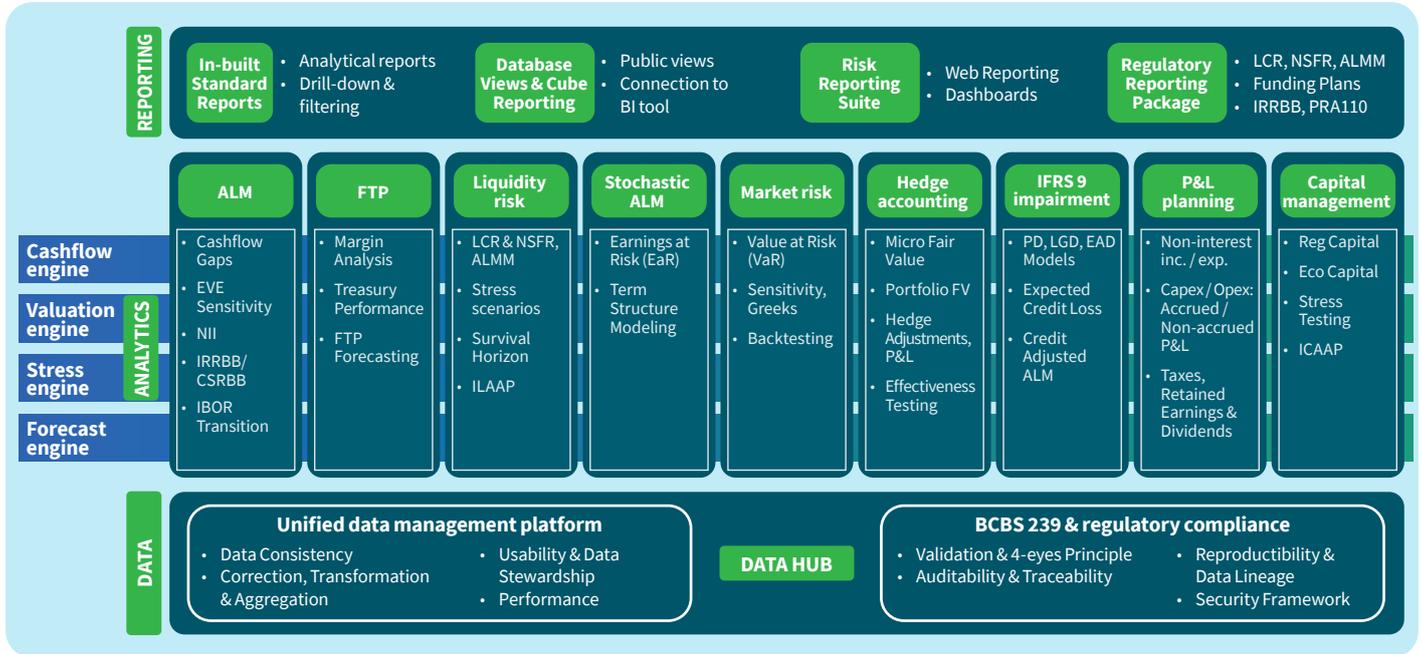
We believe ALM is a holistic process, which needs to ensure the integration of multiple departments and roles and responsibilities. It should provide an integrated view featuring analytics and insights while covering both regulatory requirements and internal risk management frameworks.

Our single, multiuser platform fulfills these requirements using **common cash flow, valuation and simulation engines**, including both standard and customizable setups. These can be quickly tailored to banks' business models, remaining adaptable for rapid change using built-in reports or bank-specific dashboards.

This approach allows complete, fast, flexible and granular simulations with firm level articulation of the future balance sheet and income statement cutting across various risk disciplines.



Figure 1: FIS Balance Sheet Manager - overview



Simulations across all these disciplines for stress testing, planning and forecasting are performed using a single “golden source” data layer, ensuring consistency of results and avoiding costly data reconciliations. The data layer is BCBS 239-compliant with complete audit trail and 4-eyes principle, facilitating preparation of risk data for the modelling of interdependencies and offering a global enterprise-wide risk management framework.

The reporting layer provides a clear and consistent monitoring lens across entities and businesses, both for BAU and stress forecasting, and the output allows for early warning indicators on portfolio and firm level. The results can also be used for supporting recovery and resolution planning (RRP), monitoring and updating recovery plans, as well as validating risk policy development across all key risk classifications. This is integral to supporting the risk appetite setting process, through evidenced analysis including sensitivity and shock analysis.

Our analytics and models by design are run in a regulatory compliant way, meeting internal risk management standards. It ensures consistency, accuracy and transparency of process, including assumptions in an auditable way. Model management and user security is embedded in the product architecture, controlling and reducing model change risk to strengthen your model risk governance framework.



“Flexible scenario analyses, allowing for ad hoc adjustments of scenario narratives, parameters and granularity in response to the changing macroeconomic environment is key for banks' ICAAP and for navigating through current deep waters.”

Dr. David Nicolaus, KPMG ECB office Frankfurt, Aug. 2021

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Balance Sheet Manager, capital planning and stress testing

Over the past several years, capital planning and stress testing, as well as recovery and resolution planning (RRP), have become a cornerstone on financial institutions' enterprise risk management agendas. Not only the regulatory need to perform accurate stress tests, define countermeasures and challenge the assumptions of the corporate plan, but also the heightened expectation of regulators to see increased speed of turnaround times for stress tests have put additional pressure on banks. Developing aligned recovery plans and ongoing monitoring of early warning indicators to support the invocation of the recovery committee on an ongoing basis in non-stress times has become a standard expectation of regulators worldwide.

Different stress testing dimensions and scope

The challenge intensifies with the requirement to run stress tests with different scope. As part of IRRBB/CSRBB, all interest rate and credit spread sensitive positions as well as off balance sheet positions are in scope and hence focusing on the economic view from a risk management perspective. This is a different approach to firm wide stress tests which do include accounting categories, while only fair valued positions (through PnL and OCI) are included to market risk and non-traded market risk positions for on balance sheet items only (amortized cost positions are not being stressed). This in contrast to the IRRBB/CSRBB view- represents the regulatory capital (capital supply perspective) assessing capital depletion under stress and reverse stress testing.

Balance Sheet Manager can calculate internal scenarios (e.g., risk appetite, reverse stress tests, etc.) as well as regulatory-defined scenarios like EBA stress test to derive capital under stress. The highly configurable time band structure functionality allows banks to flexibly slice and dice the sensitivities and results into time buckets required by the regulator. The filter functionality allows to switch between different result views (e.g., economic view vs. accounting view).

STRESS TESTING CAPABILITIES

P&L AND OCI

- Combined NII and credit loss forecast
- Available capital simulation under stress for P&L and OCI revaluation effects (incl. impairment and hedge accounting)
- Modelling of retained earnings and dividend capacity
- Full revaluation of mark-to-market instruments (incl. complex instruments)
- Complete control over the dynamic modelling of balance sheet strategies with user-specified algorithms and rules
- Automatic generation of hedging positions based on repricing or duration gap profiles

LIQUIDITY

- LCR/NSFR forecasting
- Dynamic cash flow modelling reflecting prepayments, loan performance, delinquency and default
- Deterministic and stochastic scenario simulation with built-in decomposition of results into runoff and new business strategy components
- Counterbalancing capacity assessment and optimization
- Simulation considering different binding constraints, step-by-step balancing (e.g., based on funding plans)



Talk to us

Are you ready for the change to revamp your risk and balance sheet management infrastructure and strengthen a key part of your Risk Management framework, while significantly reducing your cost to operate? Execute regular and "ad hoc" stress testing without being limited by lengthy processes and your legacy constraints!

Talk to us and let's discuss how we can reduce your stress testing and plan cycle time significantly, while industrializing your risk framework.

Get in touch with FIS. 

APPENDIX – ICAAP SELF-ASSESSMENT

Category	Risk	Impact	Response/Remediation
Process - Models	Legacy risk-based models tend to be siloed across risk functions	Risk of divergence /incongruence of results. Impedes the ability to holistically pivot across risk dimensions	Models need to be closely coupled in an aligned environment
Process - Scenarios	Current scenario testing tends to be siloed rather than an enterprise coherent view	Inconsistent results due to inefficient orchestration that is prone to error	Harmonized technology
Process - Consistency	Lack of consistency in scenarios across functions (credit, market, liquidity)	Loss of traceability at an enterprise level, does it join up, can individual toolsets model the same way	Common scenario engine and toolset for enterprise modelling
Process - Flexibility	Legacy models are “hard coded” and built on different technologies (no unified architecture)	While it may be ok for feeder models, if they are siloed, reruns are time consuming	Single architecture that uses high-performance computing
Process - Repeatability	Limitations to run stress tests on ad hoc basis to react swiftly to changing economic environment	Potential for unexpected losses and worsening of key ratios, which could have been avoided by ad hoc stress testing capability	Stacking of scenarios by reusing existing scenario setups, while changing shocks/assumptions to rerun scenarios swiftly
Process - Coverage	Potential missing of risk factors (“risks not in”)	Non-completeness of risks leading to unexpected losses and deterioration of key metrics	Comprehensive view of risk (credit, market and liquidity)
Data Architecture and IT Infrastructure	Different data sets and granularity across systems	Multiple reconciliations required to ensure consistency of data and data granularity	Simulations across disciplines require one golden source of data
Data Architecture and IT Infrastructure	Non-synchronized data starting points between departments (granularity/ COB dates, etc.)	Inconsistency in results, risk of material misstatement of stress results to the regulator, resulting in fines	One golden source of data calculating results across key metrics (liquidity, market, ALM, etc.) using the same engine and transparent scenarios
Reporting	High costs creating recurring reports and time consumed if using tools like MS Excel	Miscalculation and misinterpretation of results increasing the risk of incorrect decisions taken	Clear and concise reporting suite with relevant intuitive dashboards and drill-down capability into specific drivers

About FIS

FIS is a leading provider of technology solutions for financial institutions and businesses of all sizes and across any industry globally. We enable the movement of commerce by unlocking the financial technology that powers the world’s economy. Our employees are dedicated to advancing the way the world pays, banks and invests through our trusted innovation, system performance and flexible architecture. We help our clients use technology in innovative ways to solve business-critical challenges and deliver superior experiences for their customers. Headquartered in Jacksonville, Florida, FIS is a member of the Fortune 500® and the Standard & Poor’s 500® Index.

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