FINANCIAL SERVICES

Rewriting the Book on Treasury Management

Enterprise Approach Simplifies Risk Management and Sets the Stage for Stronger Performance

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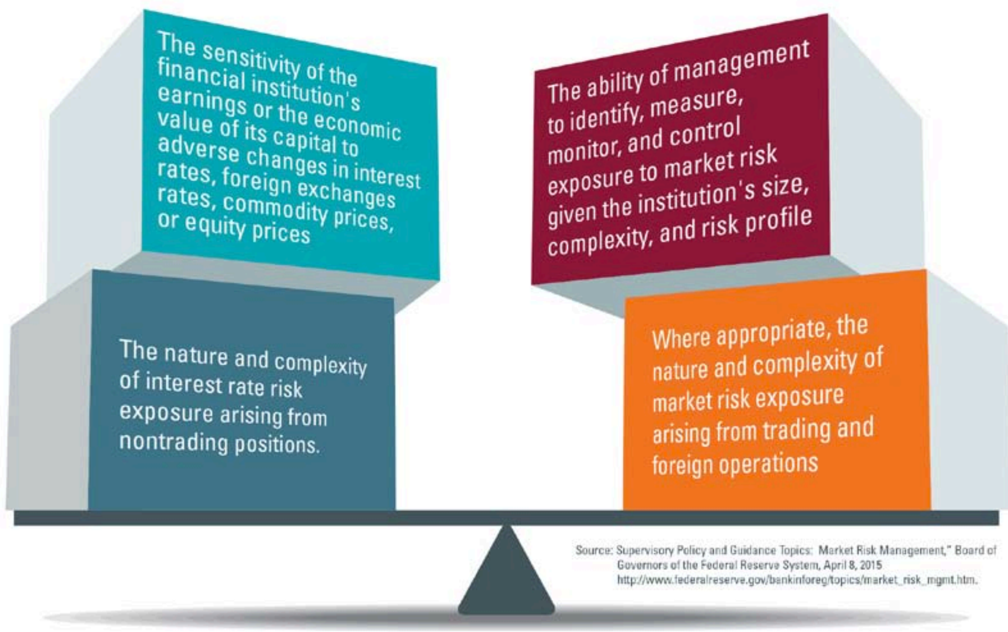
Introduction

Market risk remains a moving target for financial services institutions—with regulatory bodies around the world contemplating and enacting increasingly complex requirements. Traditionally, market risk is defined “as the risk of losses in on- and off-balance sheet positions arising from adverse movements in market prices. From a regulatory perspective, market risk stems from all the positions included in banks' trading books as well as from commodity and foreign exchange risk positions in the whole balance sheet.[1]”

Market risk is rated based on, but not limited to, an assessment of:



Source: Supervisory Policy and Guidance Topics: Market Risk Management," Board of Governors of the Federal Reserve System, April 8, 2015 http://www.federalreserve.gov/bankinforeg/topics/market_risk_mgmt.htm.

Over the years, value-at-risk (VAR) analysis became the de-facto standard for measuring market risk. However, as the variety and complexity of financial instruments in firms’ trading books has continued to grow with the introduction of exotic products as diverse as power-reverse dual currency swaps and correlation trading, market risk has become increasingly difficult to calculate and manage. As a result traditional market capital frameworks are being reevaluated. Today, for instance, “the number of risk factors required to price the trading book at a global institution has now grown to several thousand, and sometimes as many as 10,000.”[2]

In this context, regulatory bodies around the globe are reevaluating market capital frameworks—and the VAR standard—creating new challenges for financial institutions, as they work to agilely evolve

1 “Market Risk,” European Banking Authority, 2015. https://www.eba.europa.eu/regulation-and-policy/market-risk

2 Mehta, Amit, Max Neukirchen, Sonja Pfetsch, and Thomas Poppensieker. “Managing Market Risk: Today and Tomorrow,” McKinsey & Company, May 2012.

their models and market risk infrastructures to become a key component of capital planning. Increasingly, counterparty credit risk, capital adequacy, fair valuation requirement, as well as stress testing come into play.

As market capital requirements and associated regulatory reporting evolve and expand, financial institutions are working to keep pace. Compliance is a top priority. Increasingly, however, firms are looking to optimize the formidable investment in their risk management infrastructures to move beyond compliance to actually drive competitive advantage and profitable growth. Several factors are fundamental to this objective. Topping the list is an enterprise approach to assessing, monitoring, and managing risk and finance.

Shifting Sands

There is no single regulatory framework for market risk in the way that there are for capital adequacy and other liquidity standards. Regulatory authorities around the globe, loosely guided by the Bank for International Settlements (BIS) framework, have created their own technical standards and reporting timelines. This disparate approach complicates calculation and reporting for financial institutions.

The evolution of market risk calculation and reporting continues today. For example, the Basel Committee on Banking Supervision is in the midst of a Fundamental Review of the Trading Book (FRTB), an initiative designed to revise trading book capital rules, with the goal of replacing existing measures under Basel 2.5 with an improved market risk framework.

As proposed, these changes would include:

- New rules determining the scope of instruments eligible for inclusion in the trading book, and more stringent requirements governing internal risk transfers between the banking and trading book
- A revised standardized approach for market risk based on price sensitivities, which is intended to be more risk sensitive compared to the existing standard approach, and therefore reduce the gap between internal models and standard rules
- Substitution of VAR and stressed VAR with an expected shortfall risk measure to capitalize for loss events in the tail of the P&L distribution
- Back-testing requirements of internal models at trading desk level. Failure to meet the validation criteria would force a desk to revert to using the standardized approach
- The introduction of liquidity horizons in the expected shortfall calculation to reflect the period of time required to sell or hedge a given position during a period of stress
- Replacement of incremental risk charge with an incremental default risk model, which is designed to capture default risk in the market risk framework
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Source: Fundamental Review of the Trading Book, International Swaps and Derivatives Association, April 2015

The U.S. Federal Reserve (Fed) is expected to follow suit in terms of changes to market risk calculation requirements. Its most recent move to align with Basel requirements was in December 2013, when the Fed revised its market risk capital rule to conform to the Basel III revised capital framework. The rule applies to institutions with significant trading activities with regard to calculating regulatory capital requirements for market risk.

Compelling Questions

Financial institutions are facing more challenges than ever when it comes to managing market risk.

First, it's not just about the trading books anymore. To truly assess market risk, firms must take numerous factors into consideration, such as interest rates and the movement of equity, bond, and commodity prices. As important, they must be able to compute expected shortfalls—a much more complex process than calculating VAR. These factors must be assessed comprehensively across both trading **and** banking books.

Under Basel II, banks had complete discretion as to what exposures would go into what trading book versus what would go into the banking book. With the new framework, this discretion is largely eliminated. As such, firms must apply greater rigor in identifying which records belong to the banking book versus the trading book—which requires extended enterprise visibility and new levels of data governance.

Regulators are also looking beyond the numbers, expanding their purview to include assessing the processes and systems that financial institutions are using to calculate market risk. As such, metrics for and visibility into intraday liquidity and exposures against limits for the trading book portfolio are increasingly in play.

In this environment, firms face weighty questions related to calculating, assessing, and reporting market risk:

- Do I have enough funds to meet unexpected liquidity demand?
- Do we have a comprehensive assessment of market risk across banking and trading books?
- Are my market risk models accurate and appropriate given the complexity of our portfolio?
- Are we able to effectively and efficiently ensure compliance as regulatory requirements escalate?
- Is my balance sheet hedged effectively against extreme losses?

Today, many financial institutions are seriously challenged to answer these questions definitively and affirmatively—a reality that puts them at considerable, and growing, risk.

The market risk management challenges facing firms have deep roots. First, model accuracy often falls short. Calibration issues are a major factor. Traditionally, risk managers have calibrated their models based on historical data as opposed to forward-looking analysis. A firm can have five years of excellent growth in its equity markets, but if it were to calibrate its model on the past five years of data, it would appear to have a very low probability of a huge loss. Whereas, analysis indicates that if a market has had five years of continuous growth, there is a higher probability of it falling in the next 18 months.

In addition, in many financial institutions data remains siloed across various point solutions for capital, trading book, and balance sheet data, preventing the enterprise visibility required to meet evolving market risk requirements and drive improved performance.

Next-Generation Solutions

Financial institutions, facing new market risk realities, are carefully evaluating their analytical infrastructures to facilitate compliance and gain a competitive advantage.

Key requirements include:

- A comprehensive solution covering all aspects of market risk
- A single data foundation that enables consistent usage of data across all calculations
- Powerful analytics that deliver real-time, actionable information directly to business managers
- A single environment for creating and managing advanced predictive models for accurate calculations
- Capabilities that enable risk-adjusted performance for trading book
- Unified data governance environment that facilitates compliance with continually changing regulatory requirements

A comprehensive environment for assessing market risk in trading and banking books ensures consistency across data and calculations or results as a single cash flow engine and set of valuation liabilities can feed multiple uses cases—ranging from transfer pricing, asset liability management, and liquidity risk to IFRS and fair value calculations.

In addition to more accurate assessment, this approach also enables firms to eliminate effort duplication in terms of calculations, as an organization only needs to run the cash flow engine once for its entire portfolio rather than having to run it separately for transfer pricing, fair valuation, and liquidity risk.

As important, modern financial institutions increasingly seek risk management infrastructures that—in addition to enabling them to more accurately calculate market risk—actually empower them to **manage** it more effectively. Capabilities such as portfolio optimization and intra-day liquidity management are the next frontier. These solutions not only facilitate compliance but can give firms a competitive edge in managing risk and performance by providing real-time actionable information to front-line managers and traders that enable them to make optimal decisions about managing the trading and banking book.

Conclusion

The variety and complexity of modern financial instruments is driving regulators to rewrite the book on market risk. In turn, many financial institutions are finding that their legacy risk management infrastructures no longer measure up to the task. Today's firms need real-time and, more importantly, actionable intelligence that spans the complete realm of risk and finance at the enterprise level. The answer to these increasingly rigorous requirements as well as growing concerns about the cost of compliance is an integrated risk management environment that builds on a unified data foundation; includes powerful analytical applications; enables comprehensive data, model, and process governance; and automates reporting—all in a single extensible platform.

Oracle Corporation, World Headquarters
500 Oracle Parkway
Redwood Shores, CA 94065, USA

Worldwide Inquiries
Phone: +1.650.506.7000
Fax: +1.650.506.7200

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