

ORACLE REVELEUS MARKET RISK



KEY FEATURES

- User-defined portfolio
- Industry standard methods
- Variance-Covariance estimation
- Seasonality adjustments
- Bootstrapping for generation of zero coupon yield curves
- Risk-preserving cash flow allocation procedure
- Exhaustive instrument coverage
- Multi-currency risk assessment & reporting
- User-defined parameters
- Export reports in various formats such as Excel, PDF, text file & XML

KEY BENEFITS

- Compliance with the Internal Models Approach to Regulatory Capital estimation
- Internal Risk Management
- Risk assessment across multiple dimensions
- Assess risk for a portfolio across multiple parameters
- Multi jurisdiction regulatory reporting
- Improve capital management and strategic planning
- Accurately define risk appetite
- Provide risk metrics to stakeholders

Global financial services institutions need to accurately assess the relationship between their existing capital and their level of risk, enabling them to effectively develop their business strategy while offering operational value to their stakeholders. Oracle Reveleus Market Risk provides extensive and robust computations that enable institutions to effectively evaluate and manage risk across interest rate, commodity, equity & currency exposures through calculation of measures such as Value-at-Risk (VaR), Conditional Value-at-Risk (CVaR) and Component VaR and covers a wide range of instruments types including exotic derivatives.

Assess risk at any level of granularity

Oracle Reveleus Market Risk enables institutions to estimate the risk for multiple, user-defined portfolios. Portfolios are defined based on a combination of one or more dimensions such as Counterparty, Line of Business, Legal Entity, Asset Class and Instrument Type Etc. This enables assessment of risk at any required level of granularity in the organization.

Estimate portfolio risk across multiple models

Oracle Reveleus Market Risk offers the flexibility of estimating the risk of the portfolios based on user specified parameters such as time horizon, decay factor, confidence level and supports seasonality adjustments, which are critical in case of commodity exposures. The parameterization process is driven by a business user-friendly GUI and is configured in a manner that allows for estimation of risk of a portfolio across multiple models.

Comply with Basel II Market Risk requirements

Instrument valuation and risk measure estimation is based on industry standard methodologies and statistical techniques. Oracle Reveleus Market Risk provides for Analytic, Historical Simulation and Monte Carlo Simulation Methods for estimation of risk measures. These methodologies are compliant with the Internal Models Approach of capital calculation for Market Risk under Pillar I of the Basel Accord.

Robust Risk Calculations

Variance-Covariance Estimation: The Variance-Covariance Matrix of risk factors is estimated using the Exponentially Weighted Moving Averages (EWMA) method. Seasonal adjustments are factored in while estimating variance and covariance for risk factors, such as commodities, which exhibit seasonal behavior in the price movements.

Cash Flow Mapping: Cash flows of instruments are calculated and allocated to a

set of standard vertices in a manner such that the present value and risk is preserved.



Figure 1. Cash Flow Allocation

Instrument Pricing: Oracle Reveleus Market Risk has integrated pricing routines that enable valuation of a wide range of instruments, including exotic derivatives such as caps, quantos and basket structures. Instruments are priced based on their underlying risk factor. The pricing functions also estimate the Greeks such as Delta, Gamma, and Rho etc. of the option instruments.

Risk Factor Modeling & Simulation: Underlying risk factors for each instrument are modeled using stochastic processes such as Black, Ho-Lee & Hull-White, Garman-Kohlhagen, Etc. The parameters of each of these processes are estimated using standard statistical techniques. Standard statistical techniques based on Generalized Linear Models are used for calibration of the parameters of each of these processes

Risk Measure Estimation: Oracle Reveleus Market Risk enables institutions to estimate the risk measures such as VaR, CVaR, Undiversified VaR and Component VaR for multiple portfolios of market traded instruments based on user specified parameters. While VaR measures the worst expected loss due to the changes in the market risk factors at a user-specified confidence, CVaR is the average of losses exceeding the VaR value and is a coherent measure of risk. Undiversified VaR is the stand-alone risk of each position and thereby assumes no correlation in the risk factors. Component VaR is an estimate of the risk contribution of each Asset - Asset Class - Maturity vertex (under Analytic Method) or position (under Simulation Methods) to the portfolio. It decomposes the portfolio VaR into additive parts. These risk measures enable an institution to measure and monitor the risk profile of the portfolio and take decisions regarding its composition.

Validate market risk estimates

Oracle Reveleus Market Risk enables validation of an institution's market risk models by comparing the P&L with the estimated VaR values and calculating back testing measures based user defined look back period. In addition to reporting the number of exceptions, the application utilizes a Kupiec Test which verifies whether the frequency of exceptions is greater than the frequency of expected exceptions as determined by the VaR model. Other back test measures computed as part of validation of market risk model include loss exception deviation, average loss duration and loss duration deviation.

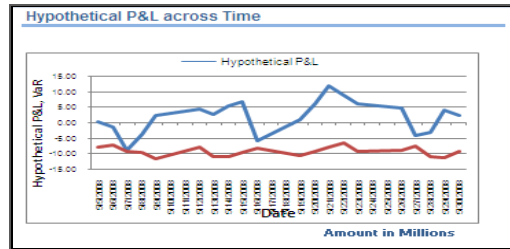


Figure 2: Hypothetical P&L v/s VaR Estimates

Estimate risk under extreme scenarios

Stress testing supplements VaR estimates and provides the bank with a robust estimate of Market Risk. Oracle Reveleus Market Risk enables banks to define scenarios and assess the impact of such scenarios on the profit or loss of the portfolio. These scenarios may be based on historical events such as Gulf War, Black Monday or may be defined based on user judgment. Scenarios comprise shocks, to risk factors, specified as an absolute, a percentage, standard deviation or log standard deviation shift in the values. It also allows curve shifts in the case of term structure risk factors based on shock models such as parallel shifts, twists and curvature.

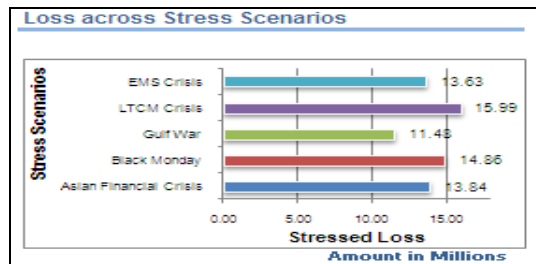


Figure 3: Portfolio Loss across Stress Scenarios

Comply with multi-jurisdictional reporting mandates

Oracle Reveleus Market Risk offers the flexibility of defining multiple Market Risk VaR Models, each catering to the requirements of a different regulator. A single portfolio is allowed to be mapped to multiple models and the VaR measures can be estimated under multiple sets of parameters thereby enabling multi-jurisdictional reporting of the Regulatory Capital as well as reporting for internal monitoring and management of market risk.

Advanced Market Risk Analytics

Oracle Reveleus Market Risk has strong dashboard capability which enables the delivery of advanced market analytics through reports, charts and graphs having drill-through capability. The risk metrics reported include VaR, CVaR, portfolio value, Greeks, loss under stress scenarios, number of exceptions. Etc. Reports are generated in a manner which enables comparison of the measures across portfolios, market risk models, and time. Alerts are also displayed based on pre-specified rules. The VaR metrics are reported at portfolio level as well as at individual dimension, vertex and position levels. Cash flows are reported at the individual vertex level, while the stressed loss and back test measures are reported at the portfolio level.

RELATED PRODUCTS AND SERVICES:

The following solutions are also available from Oracle Reveleus:

- Oracle Reveleus Economic Capital
- Oracle Reveleus Retail Credit Risk
- Oracle Reveleus Corporate Credit Risk
- Oracle Reveleus Operational Risk Economic Capital
- Oracle Reveleus Operational Risk
- Oracle Reveleus Basel II
- Oracle Reveleus Asset Liability Management

Stressed loss of a portfolio is displayed under multiple stress scenarios.

Analyze market trends

The market trends characterized by the movements in the values of key risk factors are captured and reported on a daily basis. These market movements can then be analyzed by institutions to understand the trends in the markets that they are operating in.



Figure 4: Market Analysis

Oracle Analytic Applications for Enterprise Risk Management

Oracle Reveleus Enterprise Risk Management suite enables financial institutions to establish a single measure of risk across the organization, thereby optimizing capital requirements.

The Oracle Reveleus Enterprise Risk Management suite includes best-of-breed applications for Credit Risk, Treasury Risk, Operational Risk, Regulatory and Economic Capital, all of which uniquely share a common analytical infrastructure comprising a unified financial services data model, shared analytical computations and finally, the industry-leading business intelligence platform.

Contact Us

For more information about Oracle Reveleus Market Risk, please visit oracle.com/financialservices or email us at financialservices_ww@oracle.com.

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