

ORACLE REVELEUS OPERATIONAL RISK ECONOMIC CAPITAL

ORACLE[®] FINANCIAL SERVICES

Oracle Reveleus Operational Risk Economic Capital is an integrated risk and capital management product with built-in statistical modeling features for risk assessment and capital estimation, empowering financial institutions to mitigate risk and identify operational risk hot spots.

KEY FEATURES

- Pre-configured operational risk economic capital estimation model
- Enables compliance with AMA approach to regulatory capital calculation
- Uses industry standard simulations, including Monte Carlo, to estimate risk and calculate capital.
- Compute capital with internal loss, external loss and scenario analysis data using the Loss Distribution Approach
- Compute capital impact due to Business Environment Internal Control Factors (BEICFs) as per Basel II accord.
- Multiple distributions for modeling frequency and severity
- Factors correlation effect during risk assessment
- Consider the effects of insurance, correlation and fat tail losses with an extensive parameterization facility.
- Compute capital accurately with pre-packaged frequency and severity distribution models
- Allocate capital to internal business units and event types to identify and manage

Fierce competition and stringent regulatory requirements in the current business environment have emphasized the need for effective capital planning and management. Financial institutions need to control operational risk and identify the sources of operational risk to optimize their capital requirements. Oracle Reveleus Operational Risk Economic Capital provides pre-configured models based on actuarial methods that enable financial institutions to calculate capital requirements for operational risk. This is achieved through the computation of risk measures, such as Operational Risk VaR and Conditional VaR.

Effective Risk and Capital Management

Oracle Reveleus Operational Risk Economic Capital allows financial institutions to implement an enterprise wide approach to manage and monitor operational risk, and assess capital requirements. It helps the banks to compute capital adequacy, improve capital planning and identify the risk hot spots across different lines of business.

With its robust modeling capabilities, organizations can select parameters to perform risk assessment and economic capital calculations

Advanced Modeling Capability

Oracle Reveleus Operational Risk Economic Capital adopts a Loss Distribution Approach for estimation of risk and capital. It provides *multiple distributions* for modeling both frequency and severity of loss events. The list of distributions includes Poisson, Binomial and Negative Binomial for modeling frequency of events and Log-Normal, Pareto for modeling severity of loss events. In addition to standard distributions, the application also supports using a combination of two distributions, one for the *body* and another for the *tail* while modeling severity of losses. This *Extreme Value Theory* approach allows for a thick distribution to be fitted to the tail, so as not to underestimate the probability of large loss events. Correlation in the occurrence of loss events across lines of business – event type cells is modeled using *copulas*. Copulas allow for the joint distribution of loss events to be modeled independent of the marginal frequency distributions. This provides the flexibility of using separate distributions for each of the cells. Oracle Reveleus Operational Risk Economic Capital allows for copulas to be calibrated using either rank correlation or linear correlation coefficients.

Oracle Reveleus Operational Risk Economic Capital utilizes Monte Carlo methods

operational risk 'hot spots'.

KEY BENEFITS

- Confidently compute capital under the Advanced Measurement Approach to comply with Basel II regulations
- Understand capital consumption and operational hot spots to mitigate operational risks under various business strategies.
- Save time and money with a pre-built application that is seamlessly integrated with a comprehensive suite of enterprise risk management solutions.

to simulate the institution level loss distribution and calculate Value-at-Risk and Conditional Value-at-Risk. Scenario data is merged with loss data during the simulation process using *credibility algorithms*.



Figure 1: Operational Risk Simulated Loss Distribution

Provides Enterprise Wide Operational Risk Management

In order to have a sound operational risk management system institutions need to be able to quantify risk, allocate capital, assess performance based on risk contribution and identify risk hot spots. Oracle Reveleus Operational Risk Economic Capital provides an enterprise-wide holistic assessment of operational risk capital and adopts a 'bottoms-up' approach for estimating risk followed by a 'top-down' approach of allocating it to lower levels of granularity along lines of business and event types. It allows institutions to incorporate *Risk & Control Self Assessment (RCSA)*, *Key Risk Indicators (KRI)* and *Insurance* data in the risk quantification and allocation process.

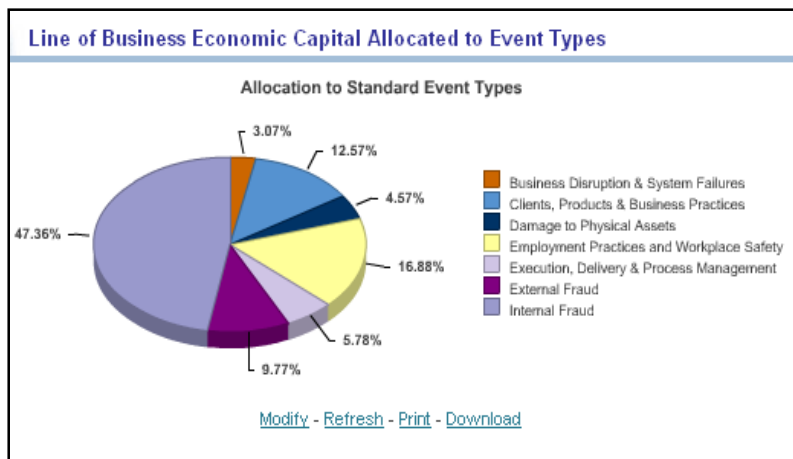


Figure 2: Economic Capital Allocation

Flexible and Parameterized Process

Oracle Reveleus Operational Risk Economic Capital allows for computation of risk and capital under multiple specifications of parameters. This flexibility allows comparison across multiple parameters and enables attribution of changes in capital to specific assumptions.

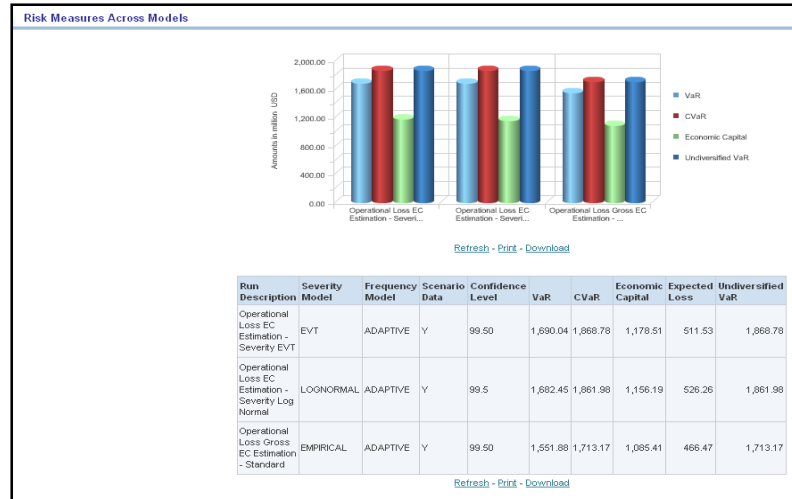


Figure 3: Comparison of Risk Numbers

Multiple Data Sources for Improved Risk Accuracy

Scarcity of relevant data is a key challenge in estimation of economic capital for operational risk. Oracle Reveleus Operational Risk Economic Capital allows use of external loss data and scenario data in addition to internal loss data for the purpose of risk modeling. It also provides the relevant statistical techniques to scale external loss data to reflect the size and scale of an institution’s operations.

Compliant with Basel II Regulatory Requirements

Basel II requires internationally active banks and banks with significant operational risk exposures to use a sophisticated approach that is appropriate for the risk profile of the institution. Oracle Reveleus Operational Risk Economic Capital computes the Expected and Unexpected Loss components of the loss distribution that enables institutions to assess capital under the Advanced Measurement Approach specified in Pillar I of Basel Accord and also to make provision for operational risk losses.

Advanced Business Intelligence and Reporting

Oracle Reveleus Operational Risk Economic Capital provides pre-configured reports and dashboards that enable institutions to analyze loss data and risk at various levels in the organization. These include reports covering risk measures, capital estimates, goodness-of-fit statistics and loss event statistics.

RELATED PRODUCTS AND SERVICES:

The following products are available from Oracle Reveleus:

- Oracle Reveleus Operational Risk
- Oracle Reveleus Basel II
- Oracle Reveleus ICAAP Analytics
- Oracle Reveleus ICAAP Assessments
- Oracle Reveleus Market Risk
- Oracle Reveleus Economic Capital Advanced

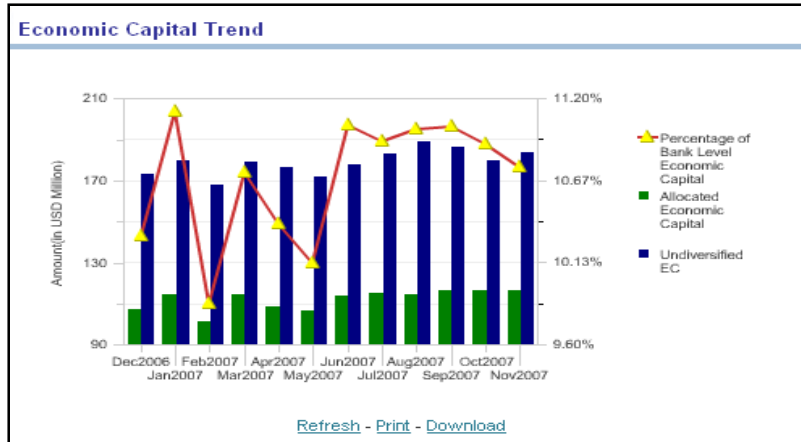


Figure 4: Economic Capital Trends

Oracle Financial Service Analytical Applications

Oracle Financial Services Analytical Applications is a complete and fully integrated portfolio of analytical solutions covering enterprise risk, performance management, regulatory compliance and customer insight. It is built upon a shared analytical infrastructure consisting of a unified financial services data model, shared analytical computations and the industry-leading Oracle Business Intelligence platform.

Contact Us

For more information about Oracle Reveleus Operational Risk Economic Capital please visit oracle.com/financialservices, call +1.800.ORACLE1 to speak to an Oracle representative or email us at financialservices_ww@oracle.com.

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