COMPLYING WITH BASEL II REGULATIONS AND GAINING A HOLISTIC VIEW OF RISK WITH STRESS TESTING BY ORACLE FINANCIAL SERVICES

The credit crisis and resulting financial meltdown has highlighted the need for stress testing to play a critical role in complementing traditional risk models for gaining an enterprise-wide view of risk. The unprecedented regulatory pressure on financial institutions to comply with Pillar I & Pillar II stress testing requirements and the weakness of the traditional “silo’d” approach to stress testing has seen formal, integrated and holistic stress testing emerge as a key requirement for financial institutions across the globe.

Recent Financial Crisis – The Wake-up Call

As the current financial crisis has unfolded, financial institutions and regulators have realized the need for stress testing to be an integral part of the enterprise risk management process. Analysis of the recent financial meltdown brought out the need to move away from carrying out stress testing at a local risk category level in a silo’d manner and instead move to an integrated stress testing approach that crosses multiple risk silos to assess the integrated impact of a scenario on the whole organization.

Similarly, during the current recessionary economy, it is becoming important to augment the point-in-time and instantaneous shocks used in today’s stress testing models with forward looking shocks to understand and prepare for the long term impact on an institution. For instance, the need to capture imminent and lagged effects of a recession scenario (involving a continuous fall in GDP over 3 quarters) is now paramount to an institution’s continued functioning.

The current economic environment is also convincing regulators and risk managers that stress testing should be used as an important and on-going risk management tool rather than a standalone function disconnected from the risk management systems of the institution. The need to compute and manage stresses at aggregate levels and alternate granularities of the portfolio, is becoming key to identifying risk “hot spots” in the portfolio. The stress testing process is also a necessary part of the capital adequacy assessment and planning process within a bank.

The volatile financial environment coupled with unprecedented regulatory pressures is resulting in the urgent need for an enterprise-wide solution to cater to a bank’s stress testing requirements.

Oracle Financial Services Stress Testing Solution

Oracle Financial Services Stress Testing is a comprehensive solution that caters to Basel II Pillar I, Pillar II and enterprise stress testing needs of an institution.

- Carry out stochastic as well as deterministic stress tests as well as a unique ability to combine both deterministic and stochastic stress in one definition.
- Create stress scenarios based on macro-economic, idiosyncratic and categorical variables as mandated by Basel II and internal risk management.
KEY BENEFITS

- Comply with Pillar I and Pillar II (ICAAP) stress testing requirements of Basel II
- Gain a holistic view of risk by assessing the impact of shocks over time on multiple risk areas across both banking and trading book.
- Accurately identify potential risk concentrations across trading and banking portfolios.
- Maintain definitional consistency of scenarios across the organization.
- Compare risk measures such as default rate, charge-off rates, trading loss across baseline and stressed conditions.
- Rapidly execute and build stress scenario by utilizing library of shocks, common data and common business definition through a graphical user interface.
- Transparent and auditable stress testing process that helps reviewers and regulators to understand organization specific risks and their mitigation plan.

- Define, maintain and manage stress scenarios independent of risk applications in a centralized library. This library is used to apply stress scenarios over time to multiple models and risk categories.
- Capture lagged effects of a risk event. with easy-to-use wizards that help you define accurate scenarios with multiple shocks defined that affect risk factors over a period of time, say 3 months or 6 months.
- Capture the different levels of severity of a risk event. Scenarios of mild and severe recession can be defined by specifying shocks of different severity to a single set of variables.

Figure 1: Stress Testing Solution Approach

Comply with Regulatory Stress Testing Requirements

Stress testing has become a mandated business requirement for financial institutions with regulatory bodies demanding it, as is the case with the US Fed and BII regulations under Pillar II. Financial institutions need a solution that allows them to quickly respond to these needs by not only these external audiences but internal as well. Oracle Financial Services Stress Testing addresses these critical needs.

The solution enables institutions to carry out comprehensive stress testing to capture the effects of adverse risk events and comply with the Pillar I and ICAAP stress testing requirements of the Basel II Accord. Oracle Financial Services Stress Testing supports model based and deterministic stress tests which enable banks to stress the regulatory capital computed as part of the standardized and advanced approaches to regulatory capital estimation.

Single Solution for all Current and Future Stress Testing Needs

Stress testing needs vary across banks depending on the purpose of, the guidelines prescribed by local regulators, the state of the local economy and the size of the bank. Oracle Financial Services Stress Testing is an integrated and comprehensive solution that has been designed to cater to current and future needs of financial institutions. The solution provides wizards to define or modify scenarios to suit individual stress testing requirements of an institution. The wizards allow easy definition of stress scenarios such as a ratings downgrade for Basel II standardized bank and worsening of PD for Advanced Internal Rating Based Approach banks.
Similarly, complex scenarios can be based on historical events including Black Monday, the Asian Financial Crisis and the Sub-prime Crisis, or can be based on expert judgment. These scenarios can then be easily replicated by using the wizards in the Financial Services Stress Testing solution.

Oracle Financial Services Stress Testing allows definitionally consistent scenarios to be defined and maintained through unified metadata management capabilities. This enables scenarios to be applied easily and efficiently across multiple risk categories (and functional silos) such as Credit Risk, Market Risk, etc.

![Allocated Economic Capital under Stress Scenario](image)

Figure 2: Allocated Economic Capital under Stress Scenario

**Gain an Holistic View of Risk**

Historically it has been observed that an extreme crisis in any individual risk category has had a spill-over effect on other areas as well. In such cases (and as demonstrated in the most recent financial crisis), carrying out stress testing within isolated risk silos is unable to capture the enterprise-wide effect of a scenario thereby rendering the traditional “silo’d” approach suspect, if not obsolete.

Oracle Financial Services Stress Testing recognizes the strong interdependency between risks and permits scenarios to be applied across multiple risks such as trading book risk, banking book risk and treasury risk. For instance, a Severe Recession scenario can be applied to both the credit portfolio as well as the trading book of a bank in order to assess the joint effect of a scenario on multiple measures such as P&L, default rate, charge-off rate, etc. This enables institutions to focus on developing strategies for managing those risks, or combinative risks, which potentially inflict the maximum damage on the enterprise.
Build Accurate Scenarios using Advanced Oracle Financial Services Capabilities

The key requirement for a successful stress testing process is to build accurate scenarios which encompass different types of shocks to multiple types of variables. Stress testing with Oracle Financial Services provides the ability to carry out both model-based and deterministic stress tests. It supports stress testing of multiple types of variables including macro-economic and idiosyncratic variables; numeric and categorical variables; single maturity and term structure variables. Shocks can be specified as absolute values, percentages, standard deviations or log standard deviations. In addition, curve shocks such as Parallel, Twist and Inversion changes can be applied to the term structure variables.

Oracle Financial Services Stress Testing also enables scenarios to be so that scenarios can exhibit different levels of severity for a risk event by allowing multiple shocks to be applied to the same set of variables. With this capability, a bank can define scenarios for Mild Recession, Standard Recession and Severe Recession on the same set of variables by applying shocks of varying severity.

Figure 3: Trading Book P&L under Stress Scenario

Figure 4: Comparison between Baseline and Stressed Loss Distribution
Ensure Transparency and Auditability

The recent global financial meltdown has resulted in greater regulatory scrutiny of the risk management practices of financial institutions. Regulators are increasingly demanding information at unprecedented levels of detail and are expecting institutions to develop and manage their stress testing program in a manner that ensures transparency and auditability. Oracle Financial Services Stress Testing helps with this challenge by providing a simple and transparent “White Box” solution that enables regulators and business managers at financial institutions to understand defined stress scenarios, the impact on underlying data, the calculation process and ultimate numbers. The transparent and auditable nature of the offering by Oracle Financial Services enables financial institutions to demonstrate to regulators the robustness of their stress testing and risk management program.

Manage Scenarios with Unprecedented Flexibility

Oracle Financial Services Stress Testing provides the ability to rapidly execute and build stress scenarios by utilizing an enterprise-wide library of shocks, common data and common business definitions through a graphical user interface.

Scenario management enables financial institutions to maintain a library of shocks and scenarios which can easily be applied across multiple portfolios and risk categories. Institutions can then assess the enterprise wide financial impact of any given stress condition to confirm that internal strategies are in step with their overall risk appetite.

About Oracle Financial Services Analytical Applications

Oracle Financial Services Stress Testing is part of the Oracle Financial Services Analytical Applications family of solutions for the global financial services industry.

Oracle Financial Services Analytical Applications are built upon a commonly available analytical infrastructure consisting of a unified financial services data model, analytical computations and the industry-leading Oracle Business Intelligence platform.

Oracle Financial Services Analytical Applications include award-winning solutions for Enterprise Risk Management; Governance, Risk, and Compliance (GRC); Enterprise Performance Management (EPM); and Customer Insight for financial services.

Contact Us

For more information about Oracle Financial Services Stress Testing, visit oracle.com or call +1.800.ORACLE1 to speak to an Oracle representative.