Scenario Analysis

Charles River
A State Street Company

The increasing complexity of investment portfolios requires sophisticated risk management capabilities and the technology to support those capabilities. Scenario analysis enables firms to anticipate and model portfolio impacts in both normally functioning and stressed markets.

Charles River's Scenario Analysis* capabilities are integrated directly in the Manager Workbench and provide real-time, interactive functionality. Scenarios can be defined to reflect current short-term economic forecasts, a spectrum of future conditions, or extreme adverse conditions for stress testing.

Economic Scenario Analysis

Scenario analysis based on economic models allows portfolio managers to gauge risk in broad strokes. Portfolios can be fully re-valued given shifts in market variables such as interest rates, credit spreads, inflation, FX rates, mortgage prepayments, volatility, and equity levels.

Horizon analysis is a variation of economic scenario analysis that applies shifts and then displays portfolio performance over a time horizon ranging from days to years. The analysis incorporates a reinvestment rate for any cash flows received, including coupon or dividend payments, prepayments, and evaluating whether calls and puts will be exercised by a bond's issuer within that term. Upon the horizon date, managers can examine scenario-based analytics (e.g. duration and option-adjusted spread) in addition to valuations and performance.

Charles River's Scenario Analysis provides real-time portfolio models of hypothetical, factor-based, or time-based risk, enabling efficient decision support from the Manager Workbench. For example, the workbench allows managers to analyze the incremental impact of proposed hedges and trades. Moreover, the data used derives from the same sources as Charles River portfolio management, performance, and risk solutions.

Charles River's open architecture supports multi-asset and asset class-specific factor models for scenario analysis as well as custom or third party models. Further, for economic scenario analysis, Charles River supports both industry-standard valuation methodologies and requirements mandated by regulators.

Factor-Based Scenario Analysis

Factor-based scenario analysis allows portfolio managers to construct and apply a plausible scenario based on their portfolio's risk exposures, reflecting the full impact of underlying instruments and taking into account all portfolio and cash events.

Through the Manager Workbench, managers can conduct factor-based scenario analysis by modeling the effects of one or more factor shifts on the portfolio, including oil prices, global interest rates, industry sector, holding size, or currency. Using investable factors allows for easy identification and remediation of existing biases. These analyses can be conducted in the initial portfolio construction process or as a part of intra-day portfolio trading activities.

Key Capabilities and Benefits

- Integration with Charles River's centralized portfolio manager workspace, Manager Workbench, provides interactive scenario construction and analysis
- Economic scenario returns and analytics based on full re-valuation
- Define market factor shifts such as yield curve, credit spreads, and inflation
- Create parallel or "steepening" yield curve scenarios, where interest rates increase by the same amount or at different rates, respectively
- Multiple price sources to help ensure consistent comparisons between portfolios and benchmarks
- Run scenarios on intra-day positions to understand current portfolio behavior
- Create and compare multiple scenarios
- Supports horizon analysis, including gradual shifts
- Supports third-party factor models
- Interactive, real-time data

*Scenario Analysis requires a separate license.

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ABOUT CHARLES RIVER

Charles River Development, a State Street Company, enables sound and efficient investing across all asset classes. Investment firms in more than 40 countries use Charles River IMS to manage more than US$25 Trillion in assets in the institutional investment, wealth management and hedge fund industries. Our Software as a Service-based solution (SaaS) is designed to automate and simplify investment management on a single platform – from portfolio management and risk analytics through trading and post-trade settlement, with integrated compliance and managed data throughout. Headquartered in Burlington, Massachusetts, we support clients globally with more than 750 employees in 11 regional offices.