

# Charles River Manager Workbench

## Construct, Analyze, and Optimize Portfolios

The Charles River Manager Workbench offers complete portfolio management lifecycle support for all asset classes, from idea generation to implementation to risk analysis. Integrated performance measurement and risk management provide real-time visibility into performance and risk exposure. Scenario analysis and advanced analytical capabilities\* help portfolio managers understand investment risks. Flexible data analysis can help streamline the investment process and increases portfolio manager and analyst productivity.

### Portfolio Construction and Modeling

Manager Workbench supports equity, fixed income, derivative, and foreign exchange (FX) portfolios. From a single workspace, portfolio managers can view analysis dashboards, equity and fixed income holdings by ticker, and fixed income benchmark comparisons. Managers have the ability to view heat map portfolios that require action based on active model/benchmark exposure, high/low cash levels, and pending compliance issues.

#### Portfolio Analysis

Manager Workbench allows managers to conduct scenario analysis, enabling the construction of a plausible scenario based on their portfolio's risk exposures and reflects the impact of underlying instruments. In addition, Manager Workbench allows for regulation-required stress testing as well as horizon analysis to assess risks from days to years ahead.

#### Modeling

Managers who employ active portfolio analysis can compare portfolios against a variety of models, benchmarks, indices, and asset allocation structures in order to properly position portfolios. Further, analytic comparison can be performed specific to asset classes in order to decompose interest rate, credit, inflation, currency, and other risk measures/sensitivities. As part of order modeling exercises, managers can efficiently allocate securities to the neediest portfolios by way of deviation to model/benchmark measures.

#### Order Generation

Manager Workbench supports order generation across equity, fixed income, derivative, and FX portfolios. Managers can create "what if" trade simulations to reposition portfolios in order to meet stated investment objectives or capitalize on market opportunities.

Context is an essential factor in order creation and asset class-specific needs must come into play. Manager Workbench provides out of the box workflows designed for equity, fixed income, derivatives, and FX portfolios and also enables customized workflows as determined by the manager.

#### Risk Management

The Manager Workbench's risk management capabilities encompass the entire investment lifecycle. Managers can view exposures across multiple dimensions and custom classifications, propose trades to shift those exposures, and see those shifts in real time.

Risk forecasts can be created with factor models, including projected volatility, tracking error, and beta. Managers can use Charles River's proprietary factor model based on Principal Component Analysis (PCA), or incorporate in-house or third party models.

Portfolio managers can also monitor historical risk through VaR and ex-post risk metrics over time and analyze the evolution of their portfolio using trend analysis.

### Key Capabilities and Benefits

- Real-time data
- Portfolio construction and analysis
- Ex-ante risk modeling and ex-post risk assessment
- Scenario and trend analysis
- Performance measurement and attribution
- Definable summary views with interactive drill-down to detailed information
- Integrated compliance\* data, including room to buy information based on account/position concentrations
- Evaluate risk with a single, enterprise-wide view of counterparty exposures and risk metrics
- Respond quickly to market opportunities and make more informed allocation, targeting, and hedging decisions
- Help increase manager and analyst productivity by providing a complete set of capabilities that streamline the investment process
- Analytics specific to asset class
- Factor model data

*\* Requires a separate license.*

## Performance and Attribution

Managers can view portfolio performance for any time frame and assess the portfolio construction and asset selection decisions responsible for that performance down to the security level. In addition, managers may:

- Measure performance using either time-weighted or money-weighted methodologies, configurable at the account level
- Calculate multiple return types, including capital, income, base, local, currency, gross, and net
- Roll up performance to any level, including multiple nested classifications, total portfolio/benchmark, account groups, and composites

Attribution capabilities allow multiple views of performance contributors and detractors:

- Daily attribution by asset style (including currency, fixed income roll, duration, and spread effects)
- Roll-up attributions to multiple classification levels for each security, including domicile and sector
- Automated rule-based workflows for composite construction and maintenance
- Audit trail helps reduce third party verification costs

The Manager Workbench supports risk-adjusted performance capabilities, including:

- Absolute and relative risk measures: alpha, beta, Sharpe ratio, Treynor ratio, and Sortino ratio
- Ex-post risk measures: beta, information ratio, tracking error, volatility, and variance

## Historical/As-Of Data

A key component of portfolio analysis is the ability to review how portfolios were positioned during past time periods. Such analysis may be detailed, where managers wish to see specifically which securities were held. Other analysis is more trend based, such as a portfolio manager reviewing their accounts' duration compared to a benchmark's duration over the last four quarters. Manager Workbench supports each of these workflows with its Historical/As-Of capabilities. Charles River Investment Management Solution (Charles River IMS) stores all of the necessary position and security reference data required for the comparison between dates.

## A Collaborative and Centralized Solution

The Charles River Manager Workbench promotes collaboration. Portfolio managers and analysts can work more closely to implement investment ideas, manage risk, and fully understand the factors driving performance.

Further, the Manager Workbench provides the analytics and asset class coverage required to manage global multi-asset portfolios. Institutional asset managers, insurers and pensions can support multiple investment mandates on one platform, including benchmark-, liability-, or return-driven, and active or passive funds. Charles River's single-solution approach to portfolio construction and analytics is designed to eliminate the shortcomings posed by disparate front office systems. By making risk and performance an integral part of the investment process, firms can make more informed and timelier decisions. More importantly, a shared and consistent portfolio view enables a collaborative approach to investment management across the front and middle office.



A State Street Company

### CHARLES RIVER DEVELOPMENT, A STATE STREET COMPANY

Investment firms, asset owners, wealth managers, hedge funds and insurers in more than 30 countries rely on Charles River's front and middle office investment management platform to manage more than US\$30 Trillion in assets. Together with State Street's middle and back office capabilities, Charles River's software technology forms the foundation of State Street Alpha<sup>SM</sup>. The Charles River Investment Management Solution (Charles River IMS) is designed to automate and simplify the institutional investment process across asset classes, from portfolio management and risk analytics through trading and post-trade settlement, with integrated compliance and managed data throughout. Charles River's growing partner ecosystem enables clients to seamlessly access external

**data and analytics, applications and liquidity venues that support the unique demands of their product and asset class mix. Headquartered in Burlington, Massachusetts, we serve clients globally with more than 975 employees in 11 regional offices. (Statistics as of October 2019) [WWW.CRD.COM](http://WWW.CRD.COM)**

Charles River Development - A State Street Company is a wholly owned business of State Street Corporation (incorporated in Massachusetts).

This document and information herein (together, the "Content") is subject to change without notice based on market and other conditions and may not reflect the views of State Street Corporation and its subsidiaries and affiliates ("State Street"). The Content is provided only for general informational, illustrative, and/or marketing purposes, or in connection with exploratory conversations; it does not take into account any client or prospect's particular investment or other financial objectives or strategies, nor any client's legal, regulatory, tax or accounting status, nor does it purport to be comprehensive or intended to replace the exercise of a client or prospect's own careful independent review regarding any corresponding investment or other financial decision. The Content does not constitute investment research or legal, regulatory, investment, tax or accounting advice and is not an offer or solicitation to buy or sell securities or any other product, nor is it intended to constitute any binding contractual arrangement or commitment by State Street of any kind. The Content provided was prepared and obtained from sources believed to be reliable at the time of preparation, however it is provided "as-is" and State Street makes no guarantee, representation, or warranty of any kind including, without limitation, as to its accuracy, suitability, timeliness, merchantability, fitness for a particular purpose, non-infringement of third-party rights, or otherwise. State Street disclaims all liability, whether arising in contract, tort or otherwise, for any claims, losses, liabilities, damages (including direct, indirect, special or consequential), expenses or costs arising from or connected with the Content. The Content is not intended for retail clients or for distribution to, and may not be relied upon by, any person or entity in any jurisdiction or country where such distribution or use would be contrary to applicable law or regulation. The Content provided may contain certain statements that could be deemed forward-looking statements; any such statements or forecasted information are not guarantees or reliable indicators for future performance and actual results or developments may differ materially from those depicted or projected. Past performance is no guarantee of future results. No permission is granted to reprint, sell, copy, distribute, or modify the Content in any form or by any means without the prior written consent of State Street.

The offer or sale of any of these products and services in your jurisdiction is subject to the receipt by State Street of such internal and external approvals as it deems necessary in its sole discretion. Please contact your sales representative for further information.

©2020 STATE STREET CORPORATION

2890956.1.1.GBL  
Information Classification: General