

# Charles River Manager Workbench

## Construct, Analyze, and Optimize Portfolios

The Charles River Manager Workbench offers extensive, multi-asset portfolio management lifecycle support, from idea generation to implementation to risk analysis. Decision support capabilities provide real-time actionable insights, from integrated performance measurement to risk management, including identification, hedging, and mitigation of unintended risk.

**Scenario analysis**, targeting, what-if modeling and transparency into concentration levels help portfolio managers understand investment risks. Flexible data analysis can help streamline the investment process and increases portfolio manager and analyst productivity. Charles River's **third-party provider ecosystem** enables seamless interoperability with leading third-party factor model & analytics providers from Manager Workbench.

### **Key Capabilities & Benefits:**

- Real-time pricing, reference and position 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

\* Requires a separate license

# Portfolio Construction and Modeling

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



## Scenario Analysis and Stress Testing

Manager Workbench facilitates scenario and trend 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 comparisons 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.



## Optimization

Managers can optimize a number of portfolio attributes, including the desired level of turnover and transactions and tracking error ranges. Portfolios can be tilted toward specific targets for any number of user-defined variables or security groupings. Hard constraints can be applied in absolute terms, relative to a benchmark, or relative to the initial position. Both market neutral and uneven long/short strategies can be optimized as a single problem, eliminating the need to perform separate optimizations. The optimizer can use factors derived from both Charles River's standard models and third-party models.



## 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. Asset class considerations are an important factor in order creation. Manager Workbench provides standard workflows for equity, fixed income, derivatives, and FX portfolios and also enables customized workflows as determined by the manager.



## 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. Charles River supports compliance with GIPS standards and integration with the Investment Book of Record (IBOR) helping ensure managers are operating from accurate returns data.



## 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.



## Risk Management

The Manager Workbench's comprehensive risk management capabilities allow managers to view and manage exposures across multiple dimensions including bespoke classifications. Additionally, before and after analysis can be performed to evaluate the efficacy of hedges/trades before taking action. Risk forecasts can be created with factor models, including projected volatility, tracking error, and beta. 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.

## 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

## 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

## 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

## A Collaborative and Centralized Solution

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

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 better informed and timelier decisions. More importantly, a shared and consistent portfolio view enables a collaborative approach to investment management across the enterprise.

# Charles River Development, A State Street Company

Investment, wealth and alternative managers, asset owners and insurers in 30 countries rely on Charles River IMS to manage USD \$46 Trillion in assets. Together with State Street's middle and back office services, Charles River's cloud-deployed front office technology forms the foundation of State Street Alpha<sup>SM</sup>. Charles River helps automate and simplify the 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 partner ecosystem enables clients to access the data, analytics, application and liquidity providers that support their product and asset class mix. We serve clients globally with more than 1,200 employees in 11 regional offices.

(Statistics as of Q2 2022)

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