

# Barra Analytics on FactSet

Barra's market-leading equity risk, performance attribution, and optimization tools delivered via FactSet's integrated portfolio management application.

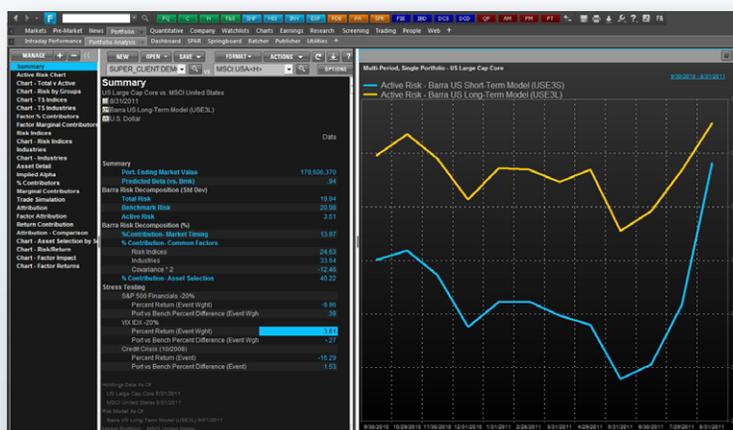
Barra's market-leading equity risk models, analytics, and optimizer are backed by thorough research, quality data, and robust methodologies. Designed to maximize portfolio intuition and forecast accuracy, these tools are fully integrated into the FactSet platform in the portfolio analytics suite.

Without any additional investment in technology infrastructure, FactSet clients can access Barra analytics to:

- » Run screens and build alpha signals using the Barra asset characteristics
- » Construct portfolios with Barra equity risk models and Barra Open Optimizer
- » View risk and performance attribution analysis
- » Build and automate consolidated reports
- » Perform pre-trade analysis to verify the new risk profile if trades are executed
- » Look through composite assets such as ETFs to measure risk and sector/industry weightings

## Key Benefits

- » **Insight** – Understand the contributing factors to past returns and current risk exposures.
- » **Confidence** – Rely on sophisticated factor models and an experienced global data processing team for high-quality, timely, and relevant analytics.
- » **Operational Efficiency** – Leverage the existing relationship with FactSet to access Barra analytics.
- » **Optimization** – Utilize the latest optimization enhancements from Barra.
- » **Consolidated Reporting** – Add Barra analytics to reports with fundamental data and other content available on FactSet.
- » **Premier Support** – Gain access to highly trained support teams from both MSCI and FactSet.



Note: Separate licensing is required to use multiple systems from Barra and FactSet.

- » **Risk** – Standard risk-forecasting analytics include portfolio, factor, and asset-level measures in both absolute and benchmark relative terms. Users can access several key numbers, including tracking error, risk decomposition into common and stock specific factors, active exposures, and contributions to risk. The Barra models are also available for use with other FactSet analytics.
- » **Performance Attribution** – Attributing returns to fundamental factors on a daily basis provides both a greater understanding of how and where a portfolio manager adds value and a more consistent and realistic analysis of the portfolio.
- » **Optimization** – Incorporating updated functionality from MSCI, the Barra Open Optimizer allows customize objective functions, paring constraints, risk target optimization, constraint hierarchy, leverage constraints, conditional rebalance, other advanced features.<sup>1</sup>
- » **Asset Characteristics** – Clients can screen and analyze securities based on asset-specific characteristics such as total risk, predicted beta, exposures to specific factors, estimated yield, and more. This functionality can be used for idea generation, relative value analysis, or as the basis for alpha signals.

## Available Barra Models

FactSet clients can access Single Country models, Global models including the Barra Integrated Model, and regional models for Europe, Asia-Pacific, and the emerging markets.

Countries in **Bold** are covered by their own dedicated models in addition to Barra global/region and integrated models. All other countries are covered by global/regional or integrated models only.

MSCI Index Countries						Non-MSCI Index Countries					
Developed Markets			Emerging Markets			Frontier Markets					
Americas	Europe & Middle East	Pacific	Americas	Europe, Middle East & Africa	Asia	Americas	Europe & CIS	Africa	Middle East	Asia	Global
Canada United States	Austria Belgium Denmark Finland France Germany Ireland Israel Italy Netherlands Norway Portugal Spain Sweden Switzerland United Kingdom	<b>Australia</b> Hong Kong Japan New Zealand Singapore	<b>Brazil</b> Chile Mexico Peru	Czech Republic Egypt Greece Hungary Poland Russia South Africa Turkey	<b>China</b> <b>India</b> <b>Korea</b> Indonesia Malaysia Philippines <b>Taiwan</b> Thailand	Argentina Jamaica Trinidad & Tobago	Bosnia Herzegovina Bulgaria Croatia Estonia Lithuania Kazakhstan Romania Serbia Slovenia Ukraine	Botswana Ghana Kenya Mauritius Morocco Nigeria Tunisia	Bahrain Jordan Kuwait Lebanon Oman Palestine Qatar Saudi Arabia United Arab Emirates	Bangladesh Pakistan Sri Lanka Vietnam	Cote d'Ivoire Cyprus Iceland Latvia Macedonia Malta Montenegro Namibia Slovakia Venezuela Zambia

The Barra Models incorporate the latest advances in research methodology:

- » New factors based on Systematic Equity Strategies to improve accuracy and explanatory power especially during periods of economic crisis.
- » Optimization Bias Adjustment reduces forecasting bias in optimized portfolios.
- » Volatility Regime Adjustment calibrates factor volatilities to current levels and results in a faster response to market trends.
- » Robust specific risk models incorporate Volatility Regime Adjustment and Bayesian shrinkage techniques for greater forecast accuracy.

The latest models are available with:

- » Full daily updates designed to improve risk monitoring, exposure control, intra-month portfolio rebalancing, scenario/stress testing, and backtesting.
- » Deep daily history for extensive backtesting.
- » Multiple investment horizons.

Models focusing on specific investment styles such as the Barra US Small Cap Equity Model and Barra US Sector Models<sup>2</sup> are also available.

<sup>1</sup> Some features pending release.

<sup>2</sup> Consumer Discretionary, Consumer Staples, Energy, Financials, Health Care, Industrials, Information Technology, Materials, Telecommunication Services and Utilities Sectors are covered by Barra US Sector Models integrated and individual versions.

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## About MSCI

MSCI Inc. is a leading provider of investment decision support tools to investors globally, including asset managers, banks, hedge funds and pension funds. MSCI products and services include indexes, portfolio risk and performance analytics, and ESG data and research.

The company's flagship product offerings are: the MSCI indexes with over USD 9 trillion estimated to be benchmarked to them on a worldwide basis<sup>1</sup>; Barra multi-asset class factor models, portfolio risk and performance analytics; RiskMetrics multi-asset class market and credit risk analytics; IPD real estate information, indexes and analytics; MSCI ESG (environmental, social and governance) Research screening, analysis and ratings; and FEA valuation models and risk management software for the energy and commodities markets. MSCI is headquartered in New York, with research and commercial offices around the world.

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<sup>1</sup> As of March 31, 2014, as reported on June 25, 2014, by eVestment, Lipper and Bloomberg