

Portfolio Risk

Enhanced Multi-Asset Credit & Market Risk Management Capabilities

Your ability to generate alpha and make timely, well-informed business decisions is directly tied to the quality of your risk management infrastructure. Successful risk management requires control of real-time intraday exposure across multiple asset classes and investment strategies.

Broadridge's Portfolio Risk offers new multi-asset market and credit risk capability fully integrated with your order and portfolio management systems to uncover hidden market risks and test your positions' sensitivities to them. A component of our Portfolio Master solution, Portfolio Risk is the only service of its kind on the marketplace that allows you to manage your investment decision making and execution process in a single application. It eliminates the need to add risk management tools outside your OMS and PMS systems.

Portfolio Risk is hosted on Broadridge's highly resilient, secure and available technology infrastructure. We offer critical IT services including disaster recovery, secure back-up and continual upgrades away from our clients' production environments. As a multifunctional managed service, the Portfolio Risk solution helps reduce a firm's total cost of technology ownership drastically.

- Ability to actively manage market & credit risk
- Reduces operational risk through providing transparency on risk and trading process
- Real-time P&L and sensitivity reporting
- Offers multi-asset class coverage
- Provides front-to-back office capabilities
- Helps reduce total cost of technology ownership
- Fully managed disaster recovery and scheduled back-ups

Sensitivity Grids (IR/CR)

With Portfolio Risk you can identify the sensitivity of your portfolio (or any aggregation of positions) to each point on the credit or yield curve to which the portfolio is exposed. Once the concentration of exposure is identified you can determine the positions that contribute to that exposure.

How it Works

You can analyze portfolio risk by applying various Risk Scenarios, tracking portfolio Sensitivity, calculating historical Value at Risk and generating Correlation matrices.

You can configure, schedule and visually analyze risk calculations, report risk values and make on-demand changes in the calculation parameters.

Market Value Difference (Sum)		Tenor Point								
Yield Cur...	Strategy	4Y	5Y	6Y	7Y	8Y	9Y	10Y	1	
⊖ AUD-LIBOR	1 Global Macro	0	0	0	0	0	0	0	0	
	5Y5Y AUD	-12,099	1,572	-387	1,388	268,132	26,944	0	0	
	6M AUDNZD 1.25P	0	0	0	0	0	0	0	0	
	FX OPTIONS	0	0	0	0	0	0	0	0	
	AUD-LIBOR Total	-12,099	1,572	-387	1,388	268,132	26,944	0	0	
⊖ CAD-5A		-1,321	0	0	0	0	0	0	0	
⊖ CHF-LIBOR	1 Global Macro	0	0	0	0	0	0	0	0	
	2Y5Y SWISS FLATTE...	-1,320	247,629	27,232	0	0	0	0	0	
	Active	0	0	0	0	0	0	0	0	
	FX FWD/NDF	0	0	0	0	0	0	0	0	
	FX OPTION	0	0	0	0	0	0	0	0	
	FX SPOT	0	0	0	0	0	0	0	0	
	H Defensives	0	0	0	0	0	0	0	0	
	L Defensives	0	0	0	0	0	0	0	0	
	L Testing Book	0	0	0	0	0	0	0	0	
	MacroRP	0	0	0	0	0	0	0	0	
	PORTFOLIO HEDGE	0	0	0	0	0	0	0	0	
	CHF-LIBOR Total	-1,320	247,629	27,232	0	0	0	0	0	
⊖ EUR-EURIBOR		-91,198	-28,474	0	0	0	0	0	0	
⊖ GBP-LIBOR		-30,956	35,717	69,915	0	0	0	0	0	
⊖ HKD-HIBOR		0	0	0	0	0	0	0	0	
⊖ JPY-LIBOR		0	0	0	0	0	0	0	0	
⊖ NOK-NIBOR		0	0	0	0	0	0	0	0	
⊖ NZD-BBR		-8,884	-16,853	0	-41,103	0	0	0	1,215,547	
⊖ SEK-LIBOR		0	0	0	0	0	0	0	0	
⊖ USD-GOVT		-217	-30	-10	0	0	0	0	0	
⊖ USD-LIBOR		-6,100	-5,890	-29,074	-1,606	1,365,683	-43,376	-4,231	0	
	Grand Total	-92,692	231,701	77,876	-41,321	1,633,815	70,320	1,218,778	0	

Correlation Report

Generate correlation matrices based on the MPHS data.

Portfolio Risk can generate a correlation matrix based on the multi-period historical scenarios. Correlations can be calculated at various aggregation levels – fund, strategy, risk category, risk group – to be extended in future versions and against individual securities such as indices. The correlation can also be calculated against a lagged series of individual securities. The correlation matrix allows you to drill down into the various aggregation levels. Using this tool you can see the correlation of a strategy against a fund or/and index.

Broadridge Financial Solutions, Inc. (NYSE: BR) is the leading provider of investor communications and technology-driven solutions for broker-dealers, banks, mutual funds, and corporate issuers globally. We add value by helping clients reduce their capital investments in operations infrastructure, allowing them to increase their focus on core business activities.

Scenario Analysis

Three types of risk scenarios enable you to get various portfolio simulations:

Deterministic Scenarios	<p>A 'what if' set of market data shifts enables you to control how the market environment has changed.</p> <p>A single scenario can shift multiple market data elements including equity prices, FX rates, points on yield and credit curves, points on equity and FX volatility surfaces.</p>
Historical Scenarios	<p>For a defined historical period of interest, a scenario derives market data shifts from any changes over that time period.</p> <p>You can also create deterministic and predictive scenarios to represent an interpretation of a historical scenario.</p>
Predictive Scenarios	<p>In a scenario, you define deterministic market data shifts for selected core factors. Portfolio Risk performs a multi-linear regression between core factors and other market data on which your portfolio is dependent. Combining core factor shifts and the regression equation creates market data shifts.</p> <p>You can calculate regression based on recent data or select a historical period of stress.</p>

Value-at-Risk

Portfolio Risk offers you the ability to calculate VAR. Calculating Historical VAR (HVAR) is a two-stage process:

Simulate the possible outcomes for each security in portfolio

First step, you configure and run a Multi Period Historical Scenario to get simulation data. For a scenario, you can select the required time period, sampling frequency and loss horizon. This time period can be as long as needed and can be calculated over periods of stress.

These scenarios are generally run at the end of the day, but can be run intraday if required. You can add new securities to the simulation set intraday and see the intraday VaR without recalculating all simulations.

Use the simulations to calculate the VaR at different aggregation levels

From a single set of simulations you can get multiple VAR calculations by varying the VaR calculation parameters (confidence level, subset of historical period, aggregation levels, etc). To change the VaR calculation parameters, you do not need to restart the MPHS scenario.

You can view various VaR values in the grid and track the distribution of the simulation in a diagram. As position quantities change or new securities are traded and simulated, VaR is recalculated to provide an intraday analysis.

Strategy Name	MPHS:3Y/5D/5D		RF +75bp (Form PF)	VOL +10% (Form PF)	EQ +5% (Form PF)	Predictive: CL-20% QL+10%		Predictive: 1987 Equity Market Crash	Global Tightening of Interest Rates
	VaR 95% 200D	VaR 99% 200D	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value	Market Value
1 Global Macro	23,839,993	23,839,993	-385,901	147,592	676,684	-1,904,999	-2,291,883	267,901	-6,287,991
10Y-30Y STEEPENER	776,141	1,295,757	-491,419	0	0	0	0	0	20,324,197
1Y1Y 2Y1Y STEEPENER NZD	25,757,167	25,757,167	8,273,785	0	0	1,289,851	-450,714	0	-115
1Y1Y CAD	406,810	406,810	-271	0	0	17,387	10,039	0	-372,969
2Y5Y SWISS FLATTENER	232,720	390,144	38,123	0	0	11,338	375	0	-6,778,146
5Y-10Y-30Y USD SWAP FLY	436,693	614,301	-183,190	0	0	0	0	0	-1,931,167
5Y5Y AUD	524,412	524,412	1,393,869	0	0	29,078	-3,149	0	-218
6M AUD/NZD 1.25P	722,656	722,656	-343	6,339	0	0	0	0	0
Active	23,428	34,394	0	0	216,457	-128,537	-277,291	0	0
FX OPTION	264,927	264,927	34	-1,286,402	431,771	98,674	0	0	7,957
Short Term - Global	63,358,392	63,358,392	86,335	190,026	2,897,345	-3,638,039	-8,014,078	149,591	0



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