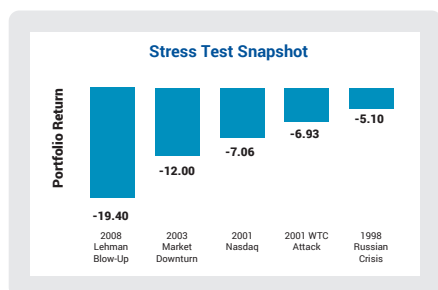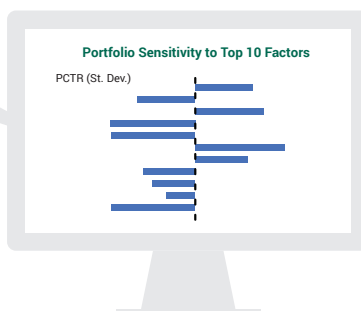# Affordable Stress-Testing and Systematic Risk Analysis With
RiskPlus

Understanding downside risk is a critical part of due diligence. Even in low-volatility, growth environments, investors still want to know how their portfolios would perform under a variety of conditions, from historical events to long-tail scenarios. RiskPlus uses the performance data already in eVestment, or you can aggregate data from your managers.

Stress-test your portfolio with a robust library of factor models and customize your own

Stress Test Snapshot

Portfolio Return

-19.40 — 2008 Lehman Blow-Up
-12.00 — 2003 Market Downturn
-7.06 — 2001 Nasdaq
-6.93 — 2001 WTC Attack
-5.10 — 1998 Russian Crisis

Analyze market and factor sensitivity

Portfolio Sensitivity to Top 10 Factors
PCTR (St. Dev.)

Identify strategies that are risk contributors and diversifiers

By Marginal Contribution to ETL

Top Risk Diversifiers

Fund 18	4.55%	0.35	-1.13
Fund 7	5.02%	.73	.94
Fund 3	3.94%	1.63	0.74

Top Risk Contributors

Fund 2	4 32%	11 65	7 93

Use RiskPlus To

Stress test your portfolio
Use out-of-the-box market stresses, or create your own to conduct simulations and see how your portfolio would perform under various conditions – whether actual historical events or hypothetical scenarios.

Monitor key risk-return metrics
Get immediate line-of-sight into essential metrics, from Skewness, Kurtosis and Sharpe Ratio to Stable Tail-Adjusted Return, R-Ratio and Volatility.

Identify portfolio sensitivity to top factors
Choose the factors that are most important to you and get a dashboard view of how sensitive your portfolio is to each.

Analyze risk composition
Identify strategies that are diversifying your portfolio risk and that are contributing to it.

Generate automated reports
Inform your board or other stakeholders about your systematic approach to risk assessment.

Risk Plus Capabilities

eVestment RiskPlus is a returns-based risk analytics solution, providing a comprehensive breakdown of your portfolio's risk and return components. RiskPlus allows investors to use custom factor models, risk budgeting and user-defined stress tests to analyze risk and report results to their stakeholders.
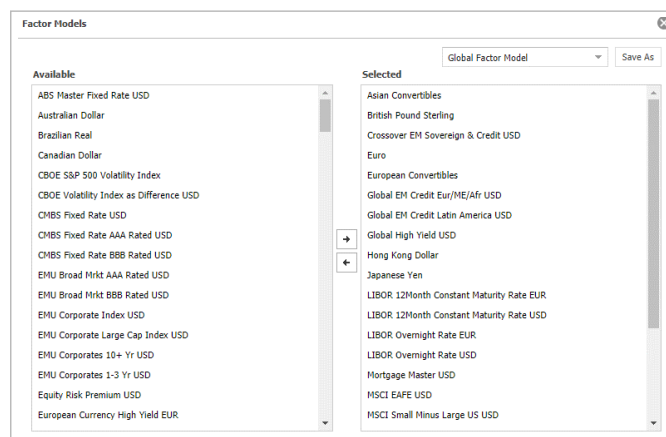
Stress Testing

Choose from 11 pre-defined stress tests or customize your own to assess the impact to your portfolio against historically documented financial crises and fluctuations in the market. View the 10 worst performing managers per historical scenario based on percentage loss of initial strategy value.

2002 Market Downturn

	-54.51
	-50.26
	-28.53
	-22.42
	-21.68
	-19.36
	-17.44
	-16.70
	-15.13
	-14.61

Custom Factor Models

Choose from over 170 factors to create custom factor models for multi-dimensional insight into the sources of risk in your portfolio.

Factor Models

| Available	Selected (Global Factor Model) — Save As
ABS Master Fixed Rate USD	Asian Convertibles
Australian Dollar	British Pound Sterling
Brazilian Real	Crossover EM Sovereign & Credit USD
Canadian Dollar	Euro
CBOE S&P 500 Volatility Index	European Convertibles
CBOE Volatility Index as Difference USD	Global EM Credit Eur/ME/Afr USD
CMBS Fixed Rate USD	Global EM Credit Latin America USD
CMBS Fixed Rate AAA Rated USD	Global High Yield USD
CMBS Fixed Rate BBB Rated USD	Hong Kong Dollar
EMU Broad Mrkt AAA Rated USD	Japanese Yen
EMU Broad Mrkt BBB Rated USD	LIBOR 12Month Constant Maturity Rate EUR
EMU Corporate Index USD	LIBOR 12Month Constant Maturity Rate USD
EMU Corporate Large Cap Index USD	LIBOR Overnight Rate EUR
EMU Corporates 10+ Yr USD	LIBOR Overnight Rate USD
EMU Corporates 1-3 Yr USD	Mortgage Master USD
Equity Risk Premium USD	MSCI EAFE USD
European Currency High Yield EUR	MSCI Small Minus Large US USD

Portfolio Risk Analysis

Gain a comprehensive and summarized view of your portfolio risk, including its VaR, Expected Tail Loss and Expected Tail Return statistics, risk versus return and downside versus upside potential.

SIMULATED PORTFOLIO RISK STATISTICS

TRADITIONAL				TAIL MEASURES			
StDev	Ann. StDev	Mean	Ann. Mean	ETL 95	VaR 95	VaR 5	ETR 95
2.52	8.73	0.69	8.30	5.51	-3.55	4.43	5.64

TOP 10 FACTORS BY SYSTEMATIC RISK (STDEV)

	Factor PC to StDev	Factor MC to StDev
TOTAL SYSTEMATIC RISK	87.07	
Asian Convertibles	36.98	2.34
MSCI EAFE USD	34.02	4.51
European Convertibles	11.52	3.56
Russell 3000	6.25	3.48
Global EM Credit	3.88	2.31
MSCI Value Minus Growth	3.87	-0.44
S&P GSCI Index	2.99	4.65
Global High Yield USD	2.19	2.33
S&P GSCI Crude Oil USD	2.12	5.99
20-Year Treasury Constant	0.72	2.33
SPECIFIC RISK	12.93	

TOP 10 FACTORS BY SYSTEMATIC RISK (ETL)

	Factor PC to ETL	Factor MC to ETL
TOTAL SYSTEMATIC RISK	95.08	
Asian Convertibles	39.49	5.47
MSCI EAFE USD	37.35	10.84
European Convertibles	12.66	8.57
Russell 3000	6.90	8.41
S&P GSCI Index	3.88	13.21
Global EM Credit	3.82	4.97
MSCI Value Minus Growth	3.06	-0.76
S&P GSCI Crude Oil USD	2.79	17.24
Mortgage Master USD	2.36	-0.53
Global High Yield USD	2.18	5.07
SPECIFIC RISK	4.92	

Risk Plus Capabilities

Monthly Portfolio Risk Budgeting

Identify the biggest contributors of portfolio risk and risk diversifiers by comparing returns that strategies should be earning based on their risk profile versus actual returns to maximize portfolio performance.
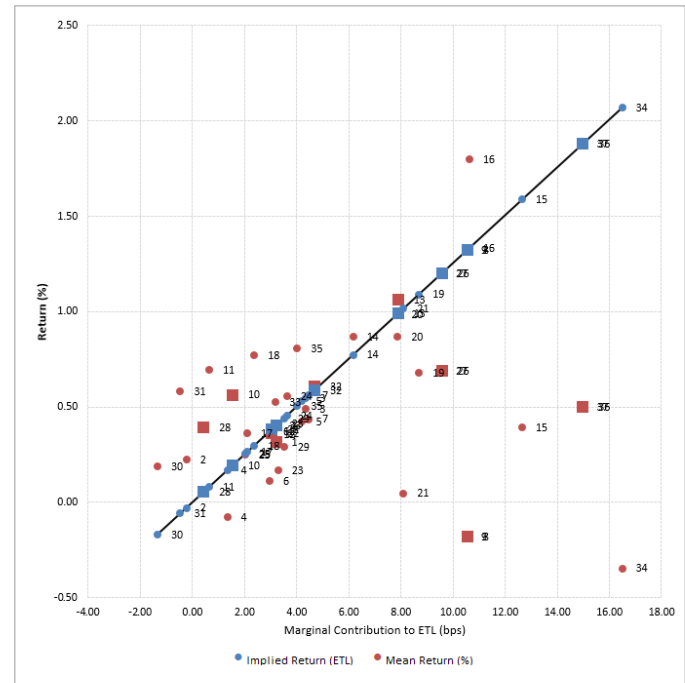
Stress Factor Values

View the factor analysis table to tie factor exposure to the effect on the portfolio during the stress period and identify any factors that had significant returns.

Returns & Correlation

Choose Classical or EWMA methods of calculating mean returns and correlations to accurately capture the dependency relationships between the returns of your strategies.

Factor Analysis

Use the factor analysis data table and correlation matrix to explain the variance of each strategy in your portfolio.

	BETA / P-VALUE	RiskPlus HFs Portfolio MD	Fund I		Fund II		Fund III		Fund IV		Fund V	
R²		88.18%	34.27%		27.05%		84.25%		48.44%		85.51%	
Residual Standard Error			0.05		0.05		0.01		0.01		0.01	
Intercept		0.004					0.004	0.000	0.006	0.000	-0.004	0.028
20-Year Treasury Constant Maturity Rate		0.008									-0.140	0.000
3-Year Treasury Constant Maturity Rate		0.000									-0.020	0.069
Asian Convertibles		0.398	0.991	0.000			0.118	0.027	0.263	0.000		
British Pound Sterling		0.014			0.663	0.004	-0.117	0.003				
CBOE Volatility Index as Difference USD		0.029							0.060	0.035		
Crossover EM Sovereign & Credit USD		-0.068			-1.245	0.000					0.525	0.000
Euro		0.098			0.419	0.123	0.236	0.001			0.197	0.001
European Convertibles		0.081					0.217	0.000				
Global EM Credit Eur/ME/Afr USD		0.042							0.083	0.002		
Global EM Credit Latin America USD		-0.014					0.063	0.076			0.177	0.007
Global High Yield USD		0.024					0.143	0.005				
Japanese Yen		0.007					-0.147	0.004				
LIBOR 12Month Constant Maturity Rate EUR		0.001					0.018	0.001				
LIBOR 12Month Constant Maturity Rate USD		-0.006					-0.032	0.011	-0.026	0.077		
LIBOR Overnight Rate EUR		0.000							0.007	0.086	0.011	0.050
LIBOR Overnight Rate USD		-0.003	-0.018	0.100			0.005	0.047				
ML Global Govt Bond II USD		0.018			1.162	0.002	-0.463	0.000	-0.287	0.000		
MSCI EAFE USD		0.190			0.987	0.000						
MSCI Small Minus Large US USD		-0.050										
MSCI Value Minus Growth US USD		-0.221			-0.826	0.003					-0.304	0.000
Mortgage Master USD		-0.247									0.548	0.078
Russell 3000		0.045			-0.512	0.036					0.135	0.004

Factor Contribution and Exposure

Gain insight into the breakdown of risk by its systematic and specific components and view strategy exposure to each factor in the model used for the stress test. See the sensitivity of each strategy, and the total portfolio, to the factors in the model to explain strategy behavior under each scenario.

	Factor PC to StDev (%) ●	Factor PC to ETL (%) ●
SYSTEMATIC RISK	87.07	95.08
SPECIFIC RISK	12.93	4.92
Equity Risk	42.83	46.27
Fixed Income Risk	49.84	54.81
Commodity Risk	5.11	6.66
Interest Rate Risk	0.54	0.40
Volatility Risk	-3.66	-4.12
FX Risk	-7.59	-8.94