PortfolioEffect
Risk and Performance Metrics Database

Financial database that offers key risk and performance metrics such as Sharpe ratio, Value-at-Risk, Expected Shortfall for 8,000+ US stocks, stock indices and ETFs since 2013

Available Datasets

PortfolioEffect service employs latest advances in high frequency market microstructure theory to produce traditional price metrics using tick-level market data. When used as inputs to a risk model or a trading strategy, these estimates bring a dramatic improvement in relevance and precision.

Metric	Description
SHARPE_RATIO	Sharpe ratio
VALUE_AT_RISK	Value-at-Risk (at 95% and 99% conf. intervals)
EXPECTED_SHORTFALL	Expected shortfall, expected tail loss (at 95% and 99% conf. intervals)
MOD_SHARPE_RATIO	Modified Sharpe ratio (at 95% and 99% conf. intervals)
TREYNOR_RATIO	Treynor ratio
SORTINO_RATIO	Sortino ratio (at 0% return threshold)
INFORMATION_RATIO	Information ratio
STARR_RATIO	STARR ratio (at 95% and 99% conf. intervals)
RACHEV_RATIO	Rachev ratio (at 95% and 99% conf. intervals)
GAIN_VARIANCE	Gain variance
LOSS_VARIANCE	Loss variance
GAIN_LOSS_VARIANCE_RATIO	Gain to loss variance ratio

Window Length

Each metric is available in multiple flavors, depending on the rolling window length used for its calculation. Metrics at longer windows (e.g. 1 week) are less sensitive to recent price changes, while capturing important aspects of long-term price behavior. Same metrics at shorter time windows (e.g. 1 day) use fewer price points, but are much more responsive to the latest market dynamics (e.g. new volatility regime after a news release).

Length	Description	Available on Quandl
1_WEEK	1 week (5 trading days) window	**Yes**
1_DAY	1 day window	**Yes**
1_HOUR	1 hour window	No
1_MIN	1 minute window	No
1_SEC	1 second window	No

Methodology

The metrics are computed using a time series of high frequency price returns of an instrument in a rolling window of given length and then rescaled to a 1 day horizon.

PortfolioEffect features a next-generation “smart” model pipeline for high frequency data. Returns are processed with a series of auto-calibrating models for high frequency market microstructure noise, price jumps/outliers, fat distribution tails (extreme events), long memory (price fractality) and intaday risk factors (single index model).

Using high frequency data dramatically improves precision of statistical estimates due to the so-called bias-variance trade-off. High frequency data provides many more recent/fresh data points, thus decreasing the variance of estimates, without using stale data points that would increase the estimation bias. Please, visit our website documentation section to learn more about PortfolioEffect's methodology.

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