

**Glossary**

**Alpha** - Alpha measures the difference between a portfolio's actual returns and its expected performance, given its level of risk as measured by beta. A positive Alpha figure indicates the portfolio has performed better than its beta would predict. In contrast, a negative Alpha indicates the portfolio has underperformed, given the expectations established by beta. Alpha is calculated by taking the excess average monthly return of the investment over the risk free rate and subtracting beta times the excess average monthly return of the benchmark over the risk free rate.

**Beta** - Beta measures the sensitivity of the fund's excess return (total return minus the risk-free return) with respect to the benchmark's excess return that results from their systematic co-movement. It is the ratio of what the excess return of the fund would be to the excess return of the benchmark if there were no fund-specific sources of return. If beta is greater than one, movements in value of the fund that are associated with movements in the value of the benchmark tend to be amplified. If beta is one, they tend to be the same, and if beta is less than one, they tend to be dampened. If such movements tend to be in opposite directions, beta is negative. Beta is measured as the slope of the regression of the excess return on the fund as the dependent variable and the excess return on the benchmark as the independent variable. The beta of the market is 1.00 by definition. Morningstar calculates beta by comparing a portfolio's excess return over T-bills to the benchmark's excess return over T-bills, so a beta of 1.10 shows that the portfolio has performed 10% better than its benchmark in up markets and 10% worse in down markets, assuming all other factors remain constant. Conversely, a beta of 0.85 indicates that the portfolio's excess return is expected to perform 15% worse than the benchmark's excess return during up markets and 15% better during down markets.

**Excess Return** - This is a measure of an investment's return in excess of a benchmark.

**R2** - R-Squared reflects the percentage of a portfolio's movements that can be explained by movements in its benchmark.

**Std Dev** - Standard Deviation is a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over a certain period of time. Investors use the standard deviation of historical performance to try to predict the range of returns that are most likely for a given fund. When a fund has a high standard deviation, the predicted range of performance is wide, implying greater volatility. Standard deviation is most appropriate for measuring risk if it is for a fund that is an investor's only holding. The figure can not be combined for more than one fund because the standard deviation for a portfolio of multiple funds is a function of not only the individual standard deviations, but also of the degree of correlation among the funds' returns. Morningstar computes standard deviation using the trailing monthly total returns for the appropriate time period. All of the monthly standard deviations are then annualized.

**Sharpe Ratio** - A risk-adjusted return measure that measures excess return relative to a risk-free rate of return. It is calculated by dividing the manager's excess return (relative to cash or Treasury Bills) by its Standard Deviation, which measures the volatility of returns, or risk. Therefore, the Sharpe Ratio is a measure of return per unit of total risk.

**Sortino Ratio** - Similar to the Sharpe Ratio, the Sortino Ratio is a risk-adjusted return measure that measures excess return relative to a risk-free rate of return, but is only concerned with downside risk. It is calculated by dividing the manager's excess return (relative to cash or Treasury Bills) by its Downside Deviation. In other words, it measures the return per unit of downside risk.

**Information Ratio** - Measures the risk-adjusted excess return relative to a benchmark. It is calculated by dividing the manager's excess return (relative to the benchmark) by its tracking error. By utilizing Tracking Error instead of Standard Deviation in the calculation, IR effectively eliminates market risk and isolates only the risk taken from active management. In other words, IR shows how a manager performed per unit of active risk taken. Therefore, IR can be viewed as a measure of efficiency or skill, as managers with higher IR's are more efficient (skillful) in producing excess returns per unit of risk taken.