

# Glossary

## TECHNICAL RISK RATIOS

All 5 are used in Modern Portfolio Theory and are intended to help investors determine the risk-reward profile of an investment.

<b>Alpha</b>	A measure of performance on a risk-adjusted basis. Alpha is a measure of the difference between a portfolio's actual return and its expected performance, given its level of risk as measured by beta. A positive Alpha number indicates the portfolio has performed better. In contrast, a negative Alpha number indicates the portfolio has underperformed, given the expectations.
<b>Beta</b>	Beta is a measure of a portfolio's sensitivity to market movements. A beta of 1 indicates that the security's price will move with the market. A beta of less than 1 means that the security will be less volatile than the market. A beta of greater than 1 indicates that the security's price will be more volatile than the market. Beta is calculated by comparing a portfolio's excess return over T-bills to the benchmark's excess return over T-bills.
<b>Standard Deviation</b>	Standard deviation measures the investment's volatility. It is a statistical measurement of dispersion about an average, which, for a mutual fund, depicts how widely the returns varied over the past three years. A large standard deviation tells us how much the return on the fund is deviating from the expected normal returns. The more spread apart the data, the higher the deviation. When a fund has a high standard deviation, the predicted range of performance is wide, implying greater volatility.
<b>R<sup>2</sup> (R-squared)</b>	R <sup>2</sup> , also known as the Coefficient of Determination, reflects the percentage of a portfolio's movement that can be explained by the movement of its primary benchmark over the past three years. R-squared values range from 0 to 100. An R-squared of 100 means that all movements of a security are completely explained by movements in the index. A higher R-squared value will indicate a more useful beta figure.
<b>Sharpe Ratio</b>	A ratio that measures risk-adjusted performance. The Sharpe Ratio tells us whether a portfolio's returns are due to smart investment decisions or a result of excess risk. The higher the Sharpe Ratio, the better the fund's historical risk-adjusted performance.

**Effective Duration** Effective duration is a duration calculation for bonds with embedded options (also known as "option adjusted duration"). Effective duration takes into account expected cash flow fluctuations due to interest rate changes, expected mortgage prepayment, and the likelihood that embedded options will be exercised if a fund holds futures, other derivative securities, or other funds as assets. The aggregate effective duration should include the weighted impact of those exposures.

**Effective maturity** Average effective maturity is a weighted average of all the maturities of the bonds in a portfolio, computed by weighting each bond's effective maturity by the market value of the security. Average effective maturity considers all mortgage prepayments, puts, and adjustable coupons. Longer-maturity funds are generally considered more interest rate sensitive than their shorter counterparts.

**Equity Style Box** The Morningstar U.S. Equity Style Box™ is a graphical representation of the investment style of stocks and portfolios. It classifies securities according to market capitalization (the vertical axis) and 10 growth and value factors (the horizontal axis). Two of the style categories, value and growth, are common to both stocks and portfolios. However, the central column of the style box represents the core style (those stocks for which neither value nor growth characteristics dominate); for portfolios, it represents the blend style (a mixture of growth and value stocks or mostly core stocks).

**Fixed Income Style Box** The fixed income style box is based on the two pillars of fixed-income performance: interest rate sensitivity and credit quality. The three interest sensitivity groups are limited, moderate and extensive and the three credit quality groups are high, medium and low. These groupings display a portfolio's effective duration and third party credit ratings to provide an overall representation of the fund's risk orientation given the sensitivity to interest rate and credit rating of bonds in the portfolio. Municipal bond funds with duration of 4.5 years or less qualify as low; more than 4.5 years but less than 7 years, medium; and more than 7 years, high. For hybrid funds, both equity and fixed-income style boxes appear.

**Portfolio Turnover** Portfolio turnover is a measure of the portfolio manager's trading activity which is computed by taking the lesser of purchases or sales (excluding all securities with maturities of less than one year) and dividing by average monthly net assets. A turnover ratio of 100% or more does not necessarily suggest that all securities in the portfolio have been traded. In practical terms, the resulting percentage loosely represents the percentage of the portfolio's holdings that have changed over the past year.