PORTFOLIO STATISTICS

ALPHA

- Alpha is a risk-adjusted measure of the return on an investment. It is the return in excess of the compensation for the risk taken, and thus commonly used to assess active managers' performances.
- A positive alpha indicates performance better than anticipated for the risk the manager has taken.
- A negative alpha indicates performance worse than anticipated for the risk the manager has taken.

BETA

- The beta of an investment or portfolio is a number describing the relation of its returns with those of the financial market as a whole. It is used to measure systematic (market) risk.
- A positive beta means that the asset's returns generally follow the market's returns, in the sense that they both tend to be above their respective averages together, or both tend to be below their respective averages together. A higher beta entails more market risk and therefore more volatility.
- A negative beta means that the asset's returns generally move opposite the market's returns: one will tend to be above its average when the other is below its average. A lower beta entails less market risk and therefore less volatility.

CORRELATION

- Correlation is a measure of how two securities move together. Its value is between -1 and +1.
- When constructing a portfolio, a best practice is to choose non-correlated assets to increase diversification, minimizing potential risk further than if all assets were positively correlated historically.
- A correlation of +1 means that assets move in the same direction to market changes. As one security moves up or down, the other security will move lockstep in the same direction.
- A correlation of -1 means that assets move in the opposite direction to market changes. When one security moves in one direction, the other security will move by an equal amount in the opposite direction.

EXCESS RETURN

- This is a measure of the extent to which a portfolio's return is higher than its benchmark.
- A higher excess return will mean better relative performance to its benchmark.

R-SQUARED

- R-squared is a measure of strength of the relationship between a portfolio and its market measure, or benchmark. Values range between 0 to 100, with 0 indicating no correlation and 100 indicating perfect correlation.
- This measure is helpful in determining the how useful alpha or beta is for an investment. The higher the R-squared, the more confidence we have in the values of the alpha and beta.

SHARPE RATIO

- The Sharpe ratio measures risk adjusted return. It shows excess returns taking into account an investment's risk-free return per unit of risk, where risk is measured by standard deviation.
- This ratio shows whether your portfolio returns are due to intelligent investing or taking on excess risk.
- The higher the ratio, the better the risk-adjusted return.

STANDARD DEVIATION

- Standard deviation shows how widely a portfolio's returns have varied above or below the average over a specified period of time. It is a measure of the total volatility, or risk, of your portfolio.
- A high standard deviation entails higher volatility and, therefore, higher total risk.

TREYNOR RATIO

- The Treynor ratio is like the Sharpe ratio in that it measures risk adjusted return. However, it measures risk in terms of beta, or systematic risk.
- The higher the ratio, the better the return given the amount of risk taken.