

Wellington Management Company, LLP Commodities

Last Updated: August 2014

Strategy Basics

Asset Class:	Commodities
Investment Style:	Fundamental/Mean Reverting
Firm Inception:	1928
Firm Assets:	\$904 Billion
Strategy Inception:	June 2003
Strategy Assets:	\$4.8 Billion
Min. Size, Comm. Fund:	\$5 Million
Fee, Commingled Fund:	0.75% on all assets
Liquidity	Daily
Net Exposure Limits	90% to 100%

Firm Background and History

Wellington Management Company was founded in 1928 by Walter Morgan and was incorporated in 1933. It was originally named the Industrial and Power Securities Company and later changed its name to the Wellington Fund in 1935. At its inception, the company created the first balanced mutual fund in the United States, which still exists today. In 1979 the public company was purchased by 29 original partners and taken private. The Firm became a Limited Liability Partnership in 1996 and is now owned by 133 partners. While the firm is headquartered in Boston, Massachusetts, it maintains offices in Chicago, San Francisco, Radnor, PA, and affiliate offices in Beijing, Hong Kong, London, Singapore, Sydney, and Tokyo. Wellington is one of the oldest investment managers in the country and only caters to institutional investors.

Wellington Management does not have a chief investment officer or a single approach to evaluating investments. The firm became involved in commodities management in the early 1980's, when they launched their first dedicated energy portfolio.

Strategy Background

Wellington's Commodities investment approach is counter-cyclical and is distinguished by its balanced sector exposure, the incorporation of fundamental research and moderate turnover of active positions.

Wellington's Strategic Benchmark (base case portfolio) is rebalanced quarterly and has equal weights in Energy, Industrial Metals, Precious Metals, and Agriculture/Livestock.

Through industry analysis, Wellington seeks value from market volatility created by the majority of investors whose commodities investment strategies are based on technical analysis. Wellington will overweight commodities when prices are attractive or when they see relative value, typically based on a six month to two year time horizon.

Although Wellington allows deviation from its Strategic Benchmark, the sector allocation is typically more diversified than the commonly used commodity indexes. Individual commodity exposures, contract (term) selection and sector allocations are all actively managed relative to the Strategic Benchmark.

Wellington has actively managed commodities with this approach since July 2003, however in January 2008 they revised their cash management strategy for the cash collateral underlying the commodities futures exposure to be much more conservative. The revised cash management approach is now a feature of all of active commodities portfolios, while other aspects of the commodities portfolio management have remained consistent throughout this time period.

Key Investment Professionals

There are two Portfolio Managers on the strategy, David Chang and Greg LeBlanc. The team utilizes the firm's 19 natural resources equity analysts (the six top contributors are listed below) as well as other investment resources.

David Chang, CFA, Commodities Portfolio Manager

Mr. Chang is responsible for managing commodity portfolios for institutional investors worldwide. He joined the firm upon graduating from Tufts University where he received his B.A. in Quantitative Economics and International Relations. Mr. Chang holds the Chartered

Financial Analyst designation and is a member of the Boston Security Analysts Society and the CFA Institute.

Gregory LeBlanc, CFA, Global Industry Analyst

Mr. LeBlanc is responsible for managing energy portfolios for institutional investors worldwide. He joined Wellington Management in 1995 as a trade administrator on the US Equity Trading Desk. Prior to joining the firm, Mr. LeBlanc worked at State Street Bank & Trust as a manager of Custody and Accounting Operations. Mr. LeBlanc received his B.A. in Economics from Bates College. He also holds the Chartered Financial Analyst designation.

Thomas Levering, Global Industry Analyst

Mr. Levering concentrates on global utilities and related energy infrastructure. He provides the team with perspective on utilities' fuel consumption and changes to their demand patterns, particularly as it relates to coal, natural gas, power and uranium. Prior to joining the firm in 2000, Mr. Levering was an associate with McKinsey & Co. He also worked with The Northbridge Group as an associate and research analyst. Mr. Levering received his MBA from the University of Pennsylvania and his B.A. in Economics, cum laude, from Harvard University.

Sabre S. Mayhug, Commodities Research Analyst

Mr. Mayhug conducts fundamental research and analysis on commodities and related-equities. Prior to joining the firm in 2004, Mr. Mayhug was a senior buyer in the Commodity Group at Safeway Inc. Prior to that, he was senior agriculture analyst for the US Senate Budget Committee and held a variety of positions at ConAgra Foods Inc. He is also manager/co-owner of Mayhug Farms, and worked at Bjornstad Farms in Norway (1993). Mr. Mayhug received his B.A., in East Asian studies and Visual and Environmental studies from Harvard College.

John C. O'Toole, CFA, Global Industry Analyst

Mr. O'Toole is a global industry analyst focused on the metals and mining industry. Prior to joining the firm in 1992, he worked at Fleet Bank. Mr. O'Toole received his B.S. in Business Management from Bentley College. He holds the Chartered Financial Analyst designation and is a member of the Boston Security Analysts Society.

Mark N. Viviano, CFA, Global Industry Analyst

Mr. Viviano conducts fundamental research on the global energy sector. He joined the firm in 2002 as an account administrator in the Client Administration Group and later moved to the Global Industry Research Group as a research associate on the energy team. Prior to joining the firm in 2002, Mr. Viviano worked at State Street

Corporation where he was an account manager in their Mutual Funds Group. He received his M.S., with high honors, from Boston University and his B.A. from Hamilton College. Additionally, he holds the CFA designation.

Keith White, Global Industry Analyst

Mr. White conducts research on the metals and mining sectors as a member of the Cyclical Team. He graduated from James Madison University in 2001 with a B.S. in Economics.

Process

Wellington utilizes a fundamental investment approach to commodities based on a valuation framework. They analyze fundamental supply and demand dynamics to generate investment ideas from an investment universe that includes Energy, Industrial Metals, Precious Metals, and Agriculture/Livestock commodities.

Valuation

The valuation framework for pricing each commodity is established through understanding the impact of different price-outcomes from producer and consumer behavior. For each commodity, the team establishes a price range with a distinct high and low, within which they believe a commodity will trade over an entire business cycle. An analysis of production costs is used to determine the low end of the price range; the high end of the range is based on an assessment of demand sensitivity which models the price level at which consumers change their behavior either by seeking cheaper substitutes or through conservation.

Fundamental Analysis

The team's fundamental analysis examines supply and demand over a multi-year horizon. They focus on factors with longer-term implications, such as capacity utilization rates and industry capital expenditure levels. Shorter-term cyclical factors, such as current inventories and trends in inventory levels, are also considered. To assess demand, their analysts monitor the behavior of commodities' consumers. The team looks for instances where current prices are disconnected from their valuation framework and fundamental views. The team favors commodities where capacity is tight and demand is accelerating; they are biased against commodities where prices are stimulating supply growth or where spare capacity remains high.

Portfolio Construction

The portfolio includes between 20 and 50 exposures to commodities. Individual commodity positions are based on the most attractive investment ideas from a risk/return perspective. Positions are adjusted based on fundamental views, seasonal factors, each commodity's historical price range and quantitative risk model results.

Maximum net exposure to individual commodities is limited to 30% of the total portfolio market value or 10% in excess of the benchmark exposure, whichever is greater. The portfolio's sector exposures will not normally exceed $\pm 15\%$ relative to the Strategic Benchmark's sector weights.

The portfolio's gross investment exposure, defined as the sum of all long positions plus the absolute value of all short positions, may exceed 100% of the market value of the portfolio, with a maximum gross exposure of 200% (maximum 150% long versus 50% short). The portfolio managers and product management continually monitor total exposures to ensure that the portfolio does not exceed this limit. The portfolio is prohibited from holding a net-short exposure to any single commodity.

The investment universe is not constrained to the commodities held within the Strategic Benchmark. The investment universe for the consists of both benchmark commodities and non-benchmark commodities, including coal, power, ethanol, iron ore, uranium, alumina, tin, plastics, palladium, platinum, soybean oil, soybean meal, orange juice, lumber, canola oil, palm oil, barley, oats, rapeseed, rice, rubber, CO2 emissions, SO2 emissions, dry bulk freight and tanker rates.

Most of the exposure to commodity prices will be via derivatives, but the strategy can also invest in vehicles that provide direct exposure to commodity prices, such as ETFs or closed-end funds.

Basis Trades

The team evaluates price relationships between a number of related commodities that typically trade within reasonably tight ranges with respect to each other (e.g., WTI Crude vs. Brent Crude, and US Natural Gas vs. UK Natural Gas). The portfolio has the flexibility to implement these so-called basis trades when they believe the divergence in relative value between a pair of related commodities is unsustainable. For example, temporary inventory build-up at one regional natural gas hub versus normal inventory levels at a hub in a separate region could result in this type of temporary divergence.

Roll Management

The portfolio gains exposure to commodities by employing the full maturity spectrum of futures contracts and related derivatives. While passive index investors typically hold the nearest-to-maturity contract, Wellington actively manages contract selection, and are not constrained to holding the same contract as the Strategic Benchmark. When establishing a position in a long-dated contract, factors considered include that contract's roll yield, as well as its liquidity, seasonality, and volatility. The portfolio managers analyze the futures curve and work with trading desk to determine an appropriate position along the curve based on the anticipated holding period, roll yield, and liquidity.

Related, the strategy approach has flexibility (within limits) to have short exposure at one point along a commodity's curve, as long as it has equal or greater exposure at other points long the curve. This enables the team to benefit from the changing shape of the curve, and add alpha as a result.

In general, nearer-term contracts tend to be more volatile than the longer-term contracts, and also the slope of the futures curve tends to be steeper at the near-end compared to the long-end. Consequently, during times when the team prefers to be more aggressive, one option is to invest nearer-term contracts. Conversely, when they wish to be a bit more defensive, an option is to invest in longer-term contracts. In addition, the Portfolio can mitigate the roll-yield effect in contango situations by investing in longer-dated contracts, benefiting the portfolio.

Cash Collateral

Collateral is managed to achieve high quality and liquidity. It includes repurchase agreements, US Treasury obligations and US Agency obligations.

Risk Management

As the approach seeks to maintain diversification of active risk across commodity positions and maturities, contribution-to-risk is a key factor input. The risk management system makes seasonal adjustments to risk and uses stress testing on the correlation between commodities. This assessment is an iterative process applied to the portfolio daily and to each new positioning idea.

At the aggregate portfolio level, net exposure is limited to 90-100%, gross exposure is limited to 90-200% (150% long versus 50% short), and the commodity exposure gained

via derivatives is fully collateralized.

The top five counterparties include Goldman Sachs, Barclays, Deutsche Bank, Credit Suisse and Morgan Stanley. Broker collateral requirements are met by posting the required collateral, but the remainder of the portfolio is kept in conservative short-term cash, which has daily liquidity and is used in the event of any additional margin requirements.

The firm manages counterparty risk in derivatives transactions by limiting derivatives transactions to approved counterparties, transacting OTC derivatives under appropriate master agreements including collateral provisions, and actively managing collateral postings. Counterparties are approved by the Counterparty Review Group, who assesses the creditworthiness of new and existing counterparties in accordance with a defined set of quantitative and qualitative criteria. The group has representation from Credit Research, Trading, Legal, and Operations. Derivative operations monitor exposure daily relative to collateral provisions and manage the receipt and delivery of collateral. The firm relies upon the expertise of its bond and equity analysts for evaluating counterparty risks. They actively monitor counterparties, their ratings, reported capital, and relevant capital ratios as reported by them.

The Investment Review Group at Wellington reviews the quality of portfolio management services with respect to the philosophy, process and principles of the mandate. The Group typically reviews each portfolio manager formally at least once a year. The discussion consists of a review of the portfolio manager's investment philosophy, process, performance, portfolio characteristics, adherence with compliance standards, and the people and resources that support the investment management of client portfolios. The Group consists of individuals from across the firm, including portfolio management, product management, research, and risk management.

Risk Factors and Potential Red Flags

The strategy does extend contract maturity further than other active commodities managers. This can exaggerate relative underperformance when the futures curve shifts from contango to backwardation due to short term spikes in demand and supply disruptions (shorter-dated maturity contracts rise faster than longer-dated contracts), or shifting expectations of future supply/demand (longer-dated contracts fall more than short-dated contracts).

Wellington closed the strategy to new marketing efforts at the start of 2010 due to changing US regulations that impacted all commodities investors. At the start of 2012, they re-opened the strategy with \$1 billion in newly available capacity due to changes in the US Commodities Futures Trading Commission regulations. Future capacity of the strategy is dependent on the legal and regulatory environment regarding speculative commodities trading.

Performance

The strategy demonstrates strong historical outperformance, generating more than 200 bps of excess annualized returns compared to the DJ-UBS Commodities Index since inception. It achieved this with similar total risk as the benchmark and outperformed in both up and down market environments. Because of a relatively similar commodities allocation scheme to the Dow Jones-UBS Commodity Index, the tracking error to that index is estimated to be moderate (5%-10%).

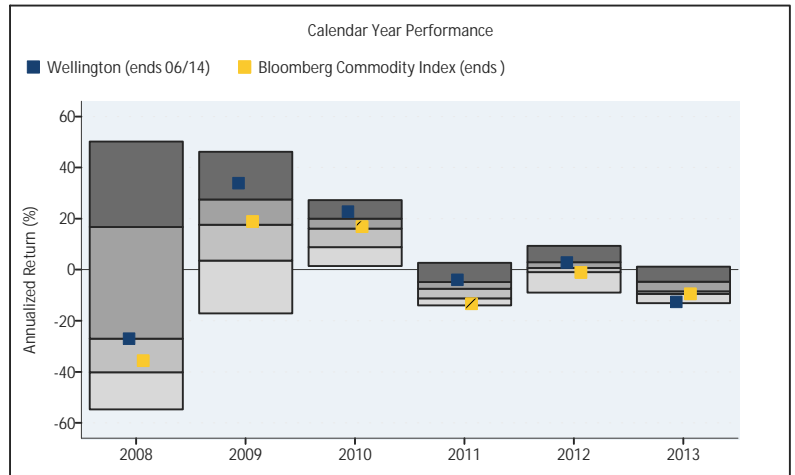
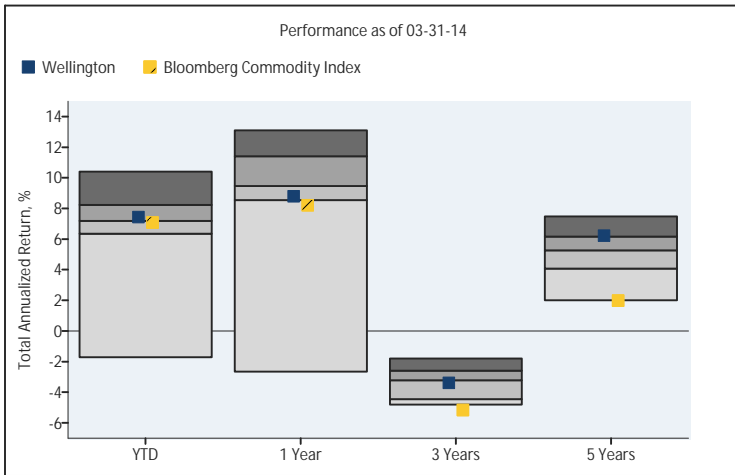
We expect Wellington's Strategic Benchmark to outperform other strategies indexed to the DJ-UBS Commodities Index when metals prices outperform energy prices. The equal sector weight methodology increases the likelihood of generating excess returns in different types of environments (rather than being overly reliant on the energy cycle), and provides greater exposure to Industrial and Precious Metals. In the first quarter of 2014, the strategy gained +3.77% vs. +0.08% for the index. The fund outperformed in 2013 by +56 bps.

Strategy AUM	
2013	\$4,266m
2012	\$6,626m
2011	\$5,995m
2010	\$6,030m
2009	\$3,574m
2008	\$2,307m

Recommendation

Wurts & Associates believes clients seeking to add a medium tracking error, active, long-biased commodities manager should consider the Wellington Commodities Strategy for the following reasons:

- Focus on fundamental research
- Contrarian/value approach that diversifies a momentum investment approach
- Strong global industry analysts support
- Substantial track record of managing active commodities

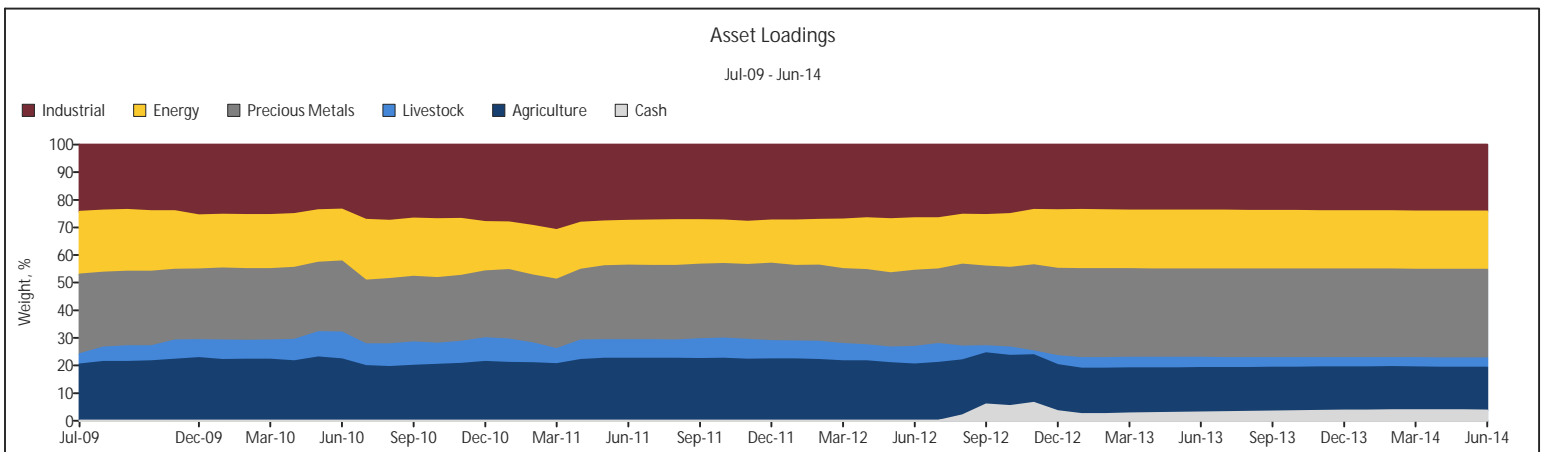
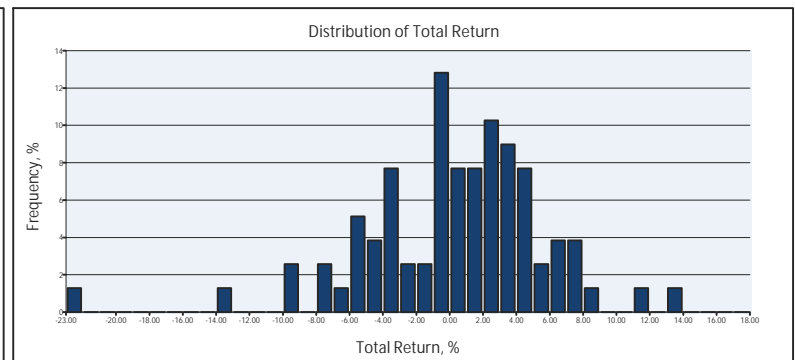
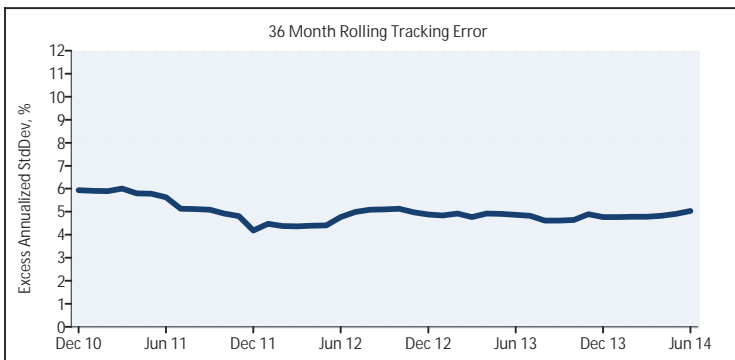


	Wellington	Bloomberg Commodity Index
QTD	3.8	0.1
YTD	7.4	7.1
1 Year	8.8	8.2
3 Years	-3.4	-5.2
5 Years	6.2	2.0

Calendar Year Performance	Wellington	DJ UBS Commodity
2013	-12.65	-9.52
2012	2.77	-1.06
2011	-3.99	-13.32
2010	22.76	16.83
2009	33.91	18.91
2008	-27.06	-35.65

5 Year Statistics	Wellington
Alpha, %	4.26
Beta	0.93
R-Squared, %	89.65
Sharpe Ratio	0.48
Tracking Error, %	4.86
Batting Average	0.62

Correlation: Jul-09 - Jun-14	Wellington	Bloomberg Commodity Index
S&P 500	0.66	0.64
BC Agg	-0.03	-0.08
MSCI EAFE	0.66	0.66
CPI	0.02	-0.02
Bloomberg Commodity	0.95	1.00



Glossary of Terms

Active Management: A method of portfolio management based on the assumption that security prices do not always reflect their true, or intrinsic, value and that this disparity will be corrected over time. Managers engaging in active management attempt to find securities priced below their intrinsic value. It is theorized that as the rest of the market realizes the security is selling below its intrinsic value, the forces of supply and demand will drive the price up and the investment will make money.

Agency Securities: Obligations of agencies of the United States government but not obligations of the government itself. While not backed by the full faith and credit of the U.S. government, these securities are considered to be virtually default free because it is widely viewed that the United States government would not let one of its agencies default. Some of the agencies issuing these bonds are FNMA (Fannie Mae), FHLMC (Freddie Mac), and GNMA (Ginnie Mae).

Alpha (α): The excess return of a portfolio after adjusting for market risk. This excess return is attributable to the selection skill of the portfolio manager. Alpha is calculated as: Portfolio Excess Return – (Beta x Excess Market Return).

Arithmetic Mean: The mathematical average of a series of numbers.

Asset Allocation: The way in which the assets of an investment portfolio are split among asset classes. Studies have shown that more than 90% of the variability of the return of a portfolio is due to asset allocation.

Barclays Capital Aggregate Bond Index: Broadly diversified bond index that serves as a proxy for the bond market as a whole. It contains all types of fixed income securities, including mortgage- and other asset-backed securities.

Barclays Capital Government/Credit Bond Index (BCGC): Index containing Treasury securities, foreign (denominated in US dollars) and domestic corporate bonds, as well as agency securities.

Benchmark: Investment index used as a standard by which to measure the relative performance of an overall portfolio or an individual money manager. Appropriate benchmarks are selected based on their similarity to a portfolio or to the style of the individual money manager being measured. For example, a large cap core equity manager would be appropriately measured against the S&P 500 index. Alternatively, a fixed income core manager might be measured against the Barclays Capital Aggregate Bond index.

Beta (β): A measure of systematic, or market, risk, or that part of risk in a portfolio or security that is attributable to general market movements. It is calculated by dividing the covariance of a security by the variance of the market.

Book-to-Market: The ratio of book value per share to market price per share. Growth managers will typically have low book-to-market ratios while value managers will have high book-to-market ratios.

Bottom Up: An approach of equity management generally referred to as stock picking. Using this approach, a manager does not rely as much on industry or economic variables as much as on the characteristics of individual companies. These managers try to find companies that will fare well based on internal strength, possibly even in the face of adverse economic or industry movements.

Collateralized Mortgage Obligations (CMOs): A security backed by a pool of pass-through securities or mortgages that has a stated maturity. These securities provide a much more stable and predictable cash flow pattern than do pass-through securities. Different classes (tranches) of bonds are issued with different maturities, "A" being the shortest maturity bond and "Z" being the longest maturity bonds. The cash flows from the underlying assets are used to pay interest and retire the bonds in order of maturity.

Commercial Paper: A short-term, unsecured promissory note generally issued by corporations with high credit ratings. The maturity of these notes is usually less than 270 days. Commercial paper is considered to be part of the money market. The ratings of commercial paper range from P-1 (highest rating) to P-4 (lowest rating).

Commingled Fund: A fund consisting of assets from several accounts that are blended together. Investors in a commingled fund investment benefit from economies of scale, which allow for lower trading costs per dollar investment, diversification and professional money management.

Convertible Bonds: Bonds that contain an embedded call option. They are convertible into the common stock of the company issuing the bonds at some pre-specified price. The yield on these bonds is typically less than that of a non-convertible bond due to the embedded call option and the resulting increased opportunity to realize capital gains.

Correlation Coefficient (r): A measure of the relative movement of returns of one security or asset class versus another over time. A correlation of 1 means the returns of two securities move in lock step over time. A correlation of -1 means the returns of two securities move in the exact opposite direction over time. Correlation is used as a measure to help maximize the benefits of diversification when constructing an investment portfolio.

Credit Quality: A measure of credit worthiness of an issuing company or agency as reflected by a grade given to an interest bearing security. Credit quality is rated on a scale of AAA to D and measures the ability of the borrowing company or agency to make both interest and principal payments as set forth in the bond indenture, or contract.

Diversification: The practice of selecting several assets with differing return characteristics so as to reduce overall portfolio volatility.

Downside Risk: The likelihood that the return on an investment portfolio will fall below a pre-specified rate of return, e.g., the actuarial assumed rate of return.

Duration: A measure of a bond's effective term to maturity. Duration takes into account the size and timing of cash flows in order to determine the sensitivity of the price of a bond to a change in interest rates. The higher the duration, the more sensitive a bond is to interest rates changes.

Efficient Frontier: A line plotted on a risk / return graph that represents alternative portfolios with the highest amount of return for a given level of risk.

Emerging Markets: Securities markets in less developed countries. Emerging markets are typically characterized by market inefficiencies, lack of information, lack of price continuity, little liquidity, and lack of

adequate rules and regulations. There are typically a small number of players in these markets and price manipulation is common. High returns are available due to the extremely high risk associated with participation in these markets.

Excess Return: Rate of return in excess of the risk-free rate, typically defined by the rate of return on short-term U.S. government obligations, i.e., T-bills. (Also known as Risk Premium.)

Excess Return Ratio: A measure of a money manager's ability to earn additional return relative to the additional risk incurred in doing so. The ratio is calculated as follows: $(\text{Portfolio Return} - \text{Benchmark Return}) / \text{Tracking Error}$.

Geometric Mean: Equal to the annualized compound rate of return over a given period.

Growth Manager: Refers to the style of an equity manager. A growth manager typically seeks capital appreciation by choosing stocks that are expected to grow at a faster rate than their peers or the market as a whole. Typical portfolio characteristics of this strategy include high price-to-earnings ratio, low book-to-market ratio, and high and sustained earnings per share growth.

Index: A passively managed portfolio of securities that remains constant from one period to the next. Indexes are used to gauge the performance of sectors of the market or the market as a whole. In addition, indexes are used as a benchmark for measuring the performance of investment managers.

Information Ratio: A measure of a manager's ability to earn excess return without incurring additional risk. It can be calculated as follows: $\text{alpha} / \text{tracking error}$.

Investment Grade: Investment grade bonds are bonds that are rated BBB or higher.

Junk Bonds: Also called high-yield bonds, these are bonds with ratings from BB to D. They offer higher yields due to their increased risk of default. A bond rated D is already in default while a bond rated C is expected to default at some point in the future.

Large Capitalization Stocks: Also referred to as large-cap stocks, these are the securities of companies whose overall market capitalization is roughly greater than \$6 billion.

Market Capitalization: The total value of a publicly traded company. Market capitalization is determined by multiplying the total number of shares that a company has outstanding by the market price of each of those shares. Companies are classified by market capitalization as small, medium, or large.

Market Efficiency: Defined as the ability of a market to process information quickly and correctly so that every security traded in that market is always fairly priced based upon current expectations of the future.

Mean-Variance Optimization: The process of building an Efficient Frontier through the evaluation of all possible combinations of selected asset classes with different risk and return characteristics.

Medium Capitalization Stocks: Also referred to as mid-cap stocks, these are the securities of companies whose overall market capitalization is roughly between \$1.5 billion and \$6 billion.

Modern Portfolio Theory: Principles underlying analysis and evaluation of rational portfolio choices based on risk-return trade-offs and investment diversification.

MSCI EAFE Index: The Morgan Stanley Capital International Europe Australia and Far East (MSCI EAFE) Index is a value-weighted index composed of equity securities traded in the countries that give the index its name. This index is a typical benchmark for international equity managers as well as the basis for many international equity index funds.

Mutual Fund: Pools of money are managed by an investment company. They offer investors a variety of goals depending on the fund and its investment charter. Some funds, for example, seek to generate income on a regular basis. Others seek to preserve an investor's money. Still others seek to invest in companies that are growing at a rapid pace. Mutual funds are investment companies regulated by the Investment Company Act of 1940.

Passive Management: A method of portfolio management that is based on the belief that all securities are fairly priced and that there are no additional returns to be made from security selection. Often called a buy and hold strategy or indexing, this method comes from purchasing a well-diversified portfolio of securities and holding them indefinitely.

Pass-Through Securities: A pool of mortgages is formed and then shares in the pool are issued. Holders of the shares receive the cash flows from the underlying mortgage pool (i.e. the interest and principal payments). One problem with pass-through securities is the unpredictable nature of the cash flows due to events such as prepayment of the underlying mortgages.

Policy Index: A customized performance benchmark designed to reflect the characteristics of an investment portfolio. The policy index represents the return that would have been produced by passive investment in the target asset allocation of a plan.

Portfolio Excess Return: The rate of return of a portfolio over and above the risk-free rate. Portfolio excess return is attributed to the amount of additional market risk born by the portfolio plus the skill of the portfolio manager.

Portfolio Turnover: The percentage of a portfolio that is sold and replaced (turned over) during a given time period. Low portfolio turnover is indicative of a buy and hold strategy while high portfolio turnover implies a more active form of management.

Price-to-Earnings Ratio: Also called the earnings multiplier, it is calculated by dividing the price of a company's stock into earnings per share. Growth managers typically hold stocks with high price-to-earnings ratios whereas value managers hold stocks with low price-to-earnings ratios.

Price-Weighted Index: An index whose value is simply the arithmetic average of the prices of the securities that the index contains. In this type of index securities with the highest prices will have the greatest effect on the value and return of the index. The Dow-Jones Industrial average is an example of a price-weighted index.

Relative Return: The difference between the rate of return of a portfolio and its benchmark.

Residual Risk: The portion of total risk attributable to the unique risk of a given portfolio or security (also known as unsystematic risk). The key goal of diversified portfolio is to reduce residual risk to the greatest extent possible. It is calculated by subtracting market risk (or Beta) from total risk.

Risk Premium: An expected return in excess of the risk-free rate. The premium provides compensation for the assumption of risk.

Risk-Free Rate: The rate of interest that one can earn on an investment with no default risk. It is generally assumed to be the interest rate on a 91 day T-Bill.

R-Squared: Also called the coefficient of determination, it measures the amount of variation in one variable explained by variations in another. In the case of investments, the term is used to explain the amount of variation in a security or portfolio explained by movements in the market or the portfolio's benchmark.

Russell 2000 Index: A value-weighted small-cap stock index composed of the 2000 securities with the lowest market capitalization in the Russell 3000 index. This is one of the most common benchmarks for small-cap equity managers and is compiled by the Frank Russell Company.

Russell Mid-Cap Index: A value-weighted index composed of the 800 smallest companies, by market capitalization, in the Russell 1000 index. This index is compiled by the Frank Russell Company and, as its name implies, is used as a benchmark for mid-cap portfolios.

S & P 500 Index: A value-weighted index compiled by Standard and Poor's that is comprised of 500 of the largest companies traded on the NYSE and NASDAQ exchanges. This is the most common proxy for the equity market as a whole and is the typical benchmark for large-cap portfolios.

Sharpe Ratio: A measure of portfolio efficiency. The Sharpe Ratio indicates excess portfolio return for each unit of risk associated with achieving the excess return. The higher the Sharpe Ratio, the more efficient the portfolio. It can be calculated as: Portfolio Excess Return / Portfolio Standard Deviation.

Small Capitalization Stocks: Also referred to as small-cap stocks, these are securities of companies whose overall market capitalization is roughly less than \$1.5 billion.

Standard Deviation (σ): A measure of volatility, or risk, inherent in a security or portfolio. The standard deviation of a series is a measure of the extent to which observations in the series differ from the arithmetic mean of the series. For example, if a security has an average annual rate of return of 10% and a standard deviation of 5%, then two-thirds of the time, one would expect to receive an annual rate of return between 5% and 15%.

Systematic Risk: Often called market risk, it is risk that is due to macroeconomic factors and as such this type of risk affects all risky assets and cannot be reduced through diversification.

Top Down: An approach to equity management whereby the manager first forms an opinion on the direction of the economy as a whole. Next, the manager determines how their economic forecast will affect certain industries and finally how the industry effect will apply to individual companies within those industries.

Tracking Error: The standard deviation of the difference between the rate of return of a portfolio and its benchmark.

Treasury Securities: Obligations of the United States government, which are considered free of default risk.

Universe: Also called a peer group, a universe is a large number of portfolios of a similar style. These portfolios can be divided into deciles or quartiles and then used for performance measurement and comparative purposes. Portfolios are ranked within the universe, which tells the investor how well a manager has done relative to his or her peers.

Unsystematic Risk: Also called company specific risk, it is risk that is unique to a particular company due to things such as the nature of their business or their use of leverage. Unsystematic risk can be reduced or eliminated by holding a well-diversified portfolio.

Value: Refers to the style of an equity manager. A value manager seeks to create returns by purchasing stocks selling at a discount to their true, or intrinsic, value. Typical portfolio characteristics of this strategy include a low price-to-earnings ratio, high book-to-market ratio, and high dividend yield.

Value-Weighted Index: An index whose value is computed by determining the relative weightings of each of the securities that it contains by dividing each securities total market capitalization by the total market capitalization of all of the securities in the index. This weight is then applied to a base value for the index, usually 100. The change in the index is computed by recalculating the relative weightings using the current market capitalization for each security divided by its base time period market capitalization and multiplying the sum of all the new weightings by the initial index value. In a value-weighted index companies with the largest market capitalization will have the greatest effect on the return of the index due to their larger relative weighting. The S & P is an example of a value-weighted index.

Weighted Average Maturity (WAM): A measure of the overall maturity of a bond portfolio that can assist an investor in determining a portfolio's sensitivity to changes in interest rates. The higher the weighted average maturity, the greater the effect of a change in interest rates on portfolio value.