

## Sage Advisory Services, Ltd. Co.

5900 Southwest Parkway Building 1  
Austin, Texas 78735

Style: US Taxable Core  
Sub-Style: Intermediate Taxable Core  
Firm AUM: \$12.0 billion  
Firm Strategy AUM: \$3.0 billion

Year Founded: 1996  
GIMA Status: Focus  
Firm Ownership: Employee-Owned  
Professional-Staff: 22^

### PRODUCT OVERVIEW

Sage Advisory Services, Ltd. Co.'s ("Sage") Intermediate Term Fixed Income strategy employs a value oriented comprehensive portfolio management approach, which blends together the investment techniques of active duration management, market sector rotation and undervalued security selection. Sage seeks to reduce downside risk in any environment and maintain consistent quarterly total returns over an intermediate investment horizon. Portfolio security selection is primarily focused on investment grade fixed income obligations, such as U.S. Treasury and Agency debt obligations, corporate debt obligations and mortgage and asset backed debt obligations.

### TARGET PORTFOLIO CHARACTERISTICS

|                          |                  |
|--------------------------|------------------|
| Number of bond holdings: | 10 to 40         |
| Average credit quality:  | AA to AAA        |
| Average maturity:        | 3.8 to 5.2 years |
| Average duration:        | 3.0 to 4.0 years |
| Average coupon:          | 2.5 to 6.0%      |
| Average turnover rate:   | 30 to 35%        |

### PORTFOLIO STATISTICS \*

|                         | -----03/16----- | 09/15            |
|-------------------------|-----------------|------------------|
|                         | Sage            | Index***<br>Sage |
| Number of bond holdings | 131             | — 142            |
| SEC Yield               | 2.4             | — 2.4            |
| Avg credit quality      | AA              | — AA             |
| Avg maturity            | 4.25 yrs.       | — 4.23 yrs.      |
| Avg duration            | 3.82 yrs.       | — 3.7 yrs.       |
| Avg coupon              | 2.5%            | — 2.5%           |

### FIXED INCOME SECTOR DISTRIBUTION (%) \* \*

|                                     | 03/16 | 12/15 | 09/15 | 06/15 |
|-------------------------------------|-------|-------|-------|-------|
| U.S. Treasury                       | 35.10 | 38.40 | 27.37 | 30.98 |
| Financials <sup>1</sup>             | 13.24 | 13.23 | 14.44 | 17.80 |
| Industrials <sup>1</sup>            | 12.76 | 15.22 | 17.64 | 16.40 |
| Asset-Backed Securities             | 11.89 | 11.56 | 11.71 | 12.54 |
| CMBS                                | 6.91  | 5.93  | 8.06  | 6.32  |
| Mortgage-Backed Securities          | 8.47  | 3.76  | 9.41  | 5.65  |
| U.S. Agencies                       | 3.00  | 2.97  | 3.00  | 3.01  |
| Cash/Cash Equivalents               | 2.43  | 2.46  | 4.04  | 2.33  |
| Medium capitalization <sup>1</sup>  | 2.94  | 3.04  | 0.99  | 2.32  |
| Collateralized Mortgage Obligations | 2.10  | 2.25  | 2.18  | 1.53  |
| Foreign Bonds                       | 1.16  | 1.18  | 0.88  | 0.83  |
| Governments                         | 0.00  | 0.00  | 0.28  | 0.29  |

^As of 06/30/2015. Information as of 03/31/2016 is not yet available.

<sup>1</sup>High Grade Corporates

\*Total may not equal 100% due to rounding.

\*As represented by Sage Advisory Services, Ltd. Co..

\*\*\*Index : BC Gov/Cr Intm

## MANAGER'S INVESTMENT PROCESS

- Seek to identify optimal portfolio duration positioning via horizon return analysis and cash flow modeling
- Establish market sector allocations relative to market environment
- Utilize quantitative analysis techniques for portfolio construction and security valuation
- Select individual securities based upon potential performance contribution and develop an optimal portfolio
- Sell security when it fails to meet the manager's minimum risk constraints established within investment guidelines

## RISK CONSIDERATIONS

Investing in securities entails risks, including: Fixed Income securities may be sensitive to changes in prevailing interest rates. When rates rise the value generally declines. There is no assurance that the private guarantors or insurers will meet their obligations. U.S. Treasuries are guaranteed by the U.S. government and, if held to maturity, offer a fixed rate of return and fixed principal value. Growth investing does not guarantee a profit or eliminate risk. The stocks of these companies can have relatively high valuations. Because of these high valuations, an investment in a growth stock can be more risky than an investment in a company with more modest growth expectations. Value investing does not guarantee a profit or eliminate risk. Not all companies whose stocks are considered to be value stocks are able to turn their business around or successfully employ corrective strategies which would result in stock prices that do not rise as initially expected.

## PORTFOLIO'S MATURITY STRUCTURE (%) \* \*

|                       | 03/16 | 12/15 | 09/15 | 06/15 |
|-----------------------|-------|-------|-------|-------|
| 0 to 2 Years          | 20.68 | 21.58 | 18.79 | 19.14 |
| 2 to 4 Years          | 32.49 | 29.13 | 30.56 | 31.28 |
| 4 to 6 Years          | 21.22 | 23.56 | 16.16 | 23.03 |
| 6 to 8 Years          | 15.13 | 10.28 | 23.15 | 8.84  |
| 8 to 12 Years         | 9.81  | 12.34 | 7.30  | 15.38 |
| 12 to 17 Years        | 0.67  | 0.65  | 0.00  | 0.00  |
| Over 17 Years         | 0.00  | 0.00  | 0.00  | 0.00  |
| Cash/Cash Equivalents | 0.00  | 2.46  | 4.04  | 2.33  |

## PORTFOLIO'S CREDIT QUALITY STRUCTURE (%) \*

### Investment Grade

|     | 03/16 | 12/15 | 09/15 | 06/15 |
|-----|-------|-------|-------|-------|
| AAA | 69.49 | 64.01 | 60.49 | 60.02 |
| AA  | 3.04  | 3.08  | 3.68  | 2.93  |
| A   | 8.80  | 8.69  | 11.23 | 11.20 |
| BBB | 18.35 | 21.76 | 20.56 | 23.52 |

### Below Investment Grade

|                       |      |      |      |      |
|-----------------------|------|------|------|------|
| BB                    | 0.00 | 0.00 | 0.00 | 0.00 |
| B                     | 0.00 | 0.00 | 0.00 | 0.00 |
| Below B               | 0.00 | 0.00 | 0.00 | 0.00 |
| Not Rated             | 0.00 | 0.00 | 0.00 | 0.00 |
| Cash/Cash Equivalents | 0.32 | 2.46 | 4.04 | 2.33 |

<sup>^</sup>As of 06/30/2015. Information as of 03/31/2016 is not yet available.

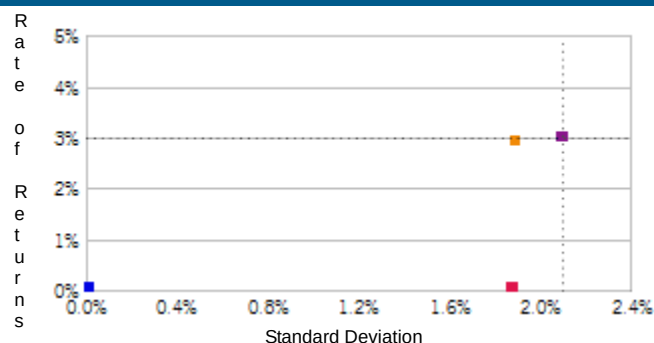
<sup>†</sup>High Grade Corporates

<sup>\*</sup>Total may not equal 100% due to rounding.

<sup>\*</sup>As represented by Sage Advisory Services, Ltd. Co..

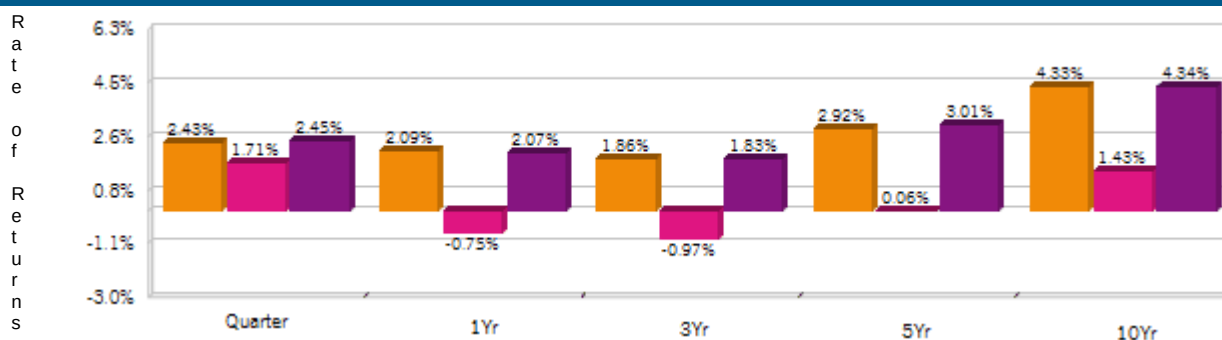
<sup>\*\*†</sup>Index : BC Gov/Cr Intm

## RISK/RETURN ANALYSIS - 5 YEARS ENDING 03/31/16



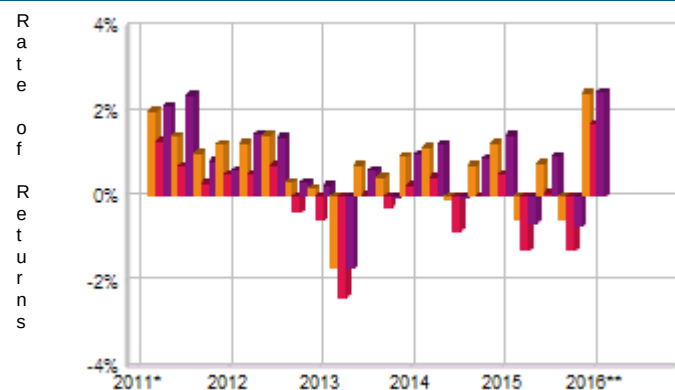
|                | STD  | ROR  |
|----------------|------|------|
| Sage (Gross)   | 1.89 | 2.92 |
| Sage (Net)     | 1.88 | 0.06 |
| BC Gov/Cr Intm | 2.10 | 3.01 |
| 90-Day T-Bills | 0.02 | 0.06 |

## AVERAGE ANNUAL TOTAL RETURN (%) - PERIODS ENDING 03/31/16



| INVESTMENT RESULTS | Annual Rates of Return (%) |      |      |      |      |      |      |       |       |       | 10 Year - Ending 03/31/16 |           |
|--------------------|----------------------------|------|------|------|------|------|------|-------|-------|-------|---------------------------|-----------|
|                    | 2006                       | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013  | 2014  | 2015  | Annual                    | Std. Dev. |
| Sage (Gross)       | 4.43                       | 7.20 | 5.18 | 5.88 | 5.93 | 4.82 | 4.34 | -0.31 | 2.77  | 0.92  | 4.33                      | 2.85      |
| Sage (Net)         | 1.53                       | 4.22 | 2.24 | 2.95 | 3.00 | 1.92 | 1.44 | -3.13 | -0.08 | -1.89 | 1.43                      | 2.83      |
| BC Gov/Cr Intm     | 4.08                       | 7.39 | 5.07 | 5.24 | 5.89 | 5.80 | 3.90 | -0.86 | 3.12  | 1.07  | 4.34                      | 2.99      |

## RISK VOLATILITY (%)



\*04/01/11-12/31/11

\*\*01/01/16-03/31/16

|                | Number Of | Up Qtrs. | Down |
|----------------|-----------|----------|------|
| Sage (Gross)   | 16        | 4        |      |
| Sage (Net)     | 13        | 7        |      |
| BC Gov/Cr Intm | 15        | 5        |      |

## PORTFOLIO'S QUARTERLY RETURNS (%)

|      | Quarter1 |       | Quarter2 |       | Quarter3 |       | Quarter4 |       |
|------|----------|-------|----------|-------|----------|-------|----------|-------|
|      | Gross    | Net   | Gross    | Net   | Gross    | Net   | Gross    | Net   |
| 2006 | 0.06     | -0.64 | 0.36     | -0.35 | 2.86     | 2.15  | 1.10     | 0.39  |
| 2007 | 1.57     | 0.85  | -0.16    | -0.86 | 2.71     | 1.99  | 2.93     | 2.21  |
| 2008 | 3.38     | 2.66  | -1.19    | -1.89 | -1.70    | -2.39 | 4.74     | 3.99  |
| 2009 | 0.25     | -0.45 | 1.93     | 1.21  | 2.97     | 2.25  | 0.63     | -0.08 |
| 2010 | 1.46     | 0.75  | 2.76     | 2.04  | 2.76     | 2.05  | -1.13    | -1.82 |
| 2011 | 0.29     | -0.41 | 2.01     | 1.30  | 1.42     | 0.71  | 1.02     | 0.32  |
| 2012 | 1.24     | 0.54  | 1.25     | 0.54  | 1.44     | 0.73  | 0.34     | -0.37 |
| 2013 | 0.21     | -0.55 | -1.69    | -2.38 | 0.73     | 0.03  | 0.46     | -0.25 |
| 2014 | 0.96     | 0.26  | 1.16     | 0.45  | -0.10    | -0.81 | 0.73     | 0.02  |
| 2015 | 1.25     | 0.54  | -0.55    | -1.25 | 0.79     | 0.08  | -0.56    | -1.26 |
| 2016 | 2.43     | 1.71  |          |       |          |       |          |       |

Related

Fiduciary Services

| PORTFOLIO'S RISK STATISTICS - ENDING 03/31/16 <sup>1 2</sup> | PERIODS |        |
|--------------------------------------------------------------|---------|--------|
|                                                              | 3 Year  | 5 Year |
| Standard Deviation                                           | 2.13%   | 1.89%  |
| Standard Deviation of Primary Benchmark                      | 2.25%   | 2.10%  |
| Sharpe Ratio                                                 | 0.85    | 1.51   |
| Sharpe Ratio of Primary Benchmark                            | 0.79    | 1.41   |
| Alpha                                                        | 0.15%   | 0.32%  |
| Beta                                                         | 0.94    | 0.86   |
| Downside Risk                                                | 0.19%   | 0.48%  |
| R-Squared                                                    | 0.97    | 0.92   |
| Tracking Error                                               | 0.37%   | 0.62%  |
| Information Ratio                                            | 0.09    | -0.14  |

## PORTFOLIO DIVERSIFICATION - R<sup>2</sup>(INCEPTION THROUGH 12/14)+

|                         | R <sup>2</sup> |
|-------------------------|----------------|
| Sage vs. BC Gov/Cr Intm | 0.97           |

+Statistics are calculated using gross of fee performance only.

1. Statistics are calculated using gross of fee performance only.
2. BC Gov/Cr Intm was used as the primary benchmark and the 90-Day T-Bills Index as the risk-free benchmark.

See important notes and disclosures pages for a discussion of the sources of the performance data used to calculate the performance results and related analyses shown above.

## IMPORTANT NOTES AND DISCLOSURES

## COMPOSITE DISCLOSURES

**Past performance is no guarantee of future results. Actual individual account results may differ from the performance shown in this profile. There is no guarantee that this investment strategy will work under all market conditions. Do not use this profile as the sole basis for your investment decisions.**

Performance results in this profile are calculated assuming reinvestment of dividends and income. Returns for more than one year are annualized and based on quarterly data. Returns for periods of less than a calendar year show the total return for the period and are not annualized.

**Related Performance (Manager's Composite):**

For periods before the date on which Morgan Stanley begins to calculate an applicable performance composite for actual Morgan Stanley program accounts, the performance composite and certain other information for this strategy (including the data on page 1 of this profile) are based on the investment manager's own composite and data. This composite includes accounts managed by the investment manager according to the same or a substantially similar investment strategy. To provide maximum information to you, the investment manager's own composite is linked to the Morgan Stanley composite to create a simulated continuous track record of performance information for the investment strategy. The investment manager's composite may include separately managed accounts, institutional accounts and/or mutual funds. Performance and other data for the investment managers composite may vary from that of Morgan Stanley accounts due to differences such as the availability and weighting of securities, trading implementation or client objectives. Morgan Stanley does not verify composite and other data provided by the investment manager and therefore does not guarantee its accuracy. Some of the accounts in the investment managers composite may have invested in the initial public offering ("IPO") market, whereas accounts held in Morgan Stanley programs do not do so. Since investment managers may use different methods of selecting accounts to be included in their composites and for calculating performance, returns of different investment managers may not be comparable.

**Related Performance:**

Sage Advisory Services, Ltd. Co.'s intermediate term fixed income performance prior to 4/1/2002 includes all fee-paying, fully discretionary intermediate term fixed income accounts managed for one full quarter by Sage. From 1/1/2003 through 12/31/2004, the performance represents a composite that includes all intermediate term fixed income accounts that are fee-paying, fully discretionary and have assets over \$1 million that are managed for one full quarter by Sage.

**Fiduciary Services Performance:**

In this profile, the performance from 4/1/2002 through June 2012 consists of accounts in either the Morgan Stanley or the Smith Barney form of the Fiduciary Services program. From July 2012, performance consists of all Fiduciary Services accounts managed by the investment manager in the strategy, subject to any other limitations stated in this profile. Performance composites calculated by Morgan Stanley include all fee-paying portfolios with no investment restrictions. New accounts are included upon the first full quarter of performance. Terminated accounts are removed in the quarter in which they terminate. Performance is calculated on a total return basis and by asset weighting the individual portfolio returns using the beginning of period values.

**Equity Account (Gross):** Sage's gross results do not reflect a deduction of the investment advisory fees charged by Sage, or program fees, if any, but are net of commissions charged on securities transactions.

**Net Performance for all Periods:** To demonstrate the effect of Morgan Stanley's fees that would have applied if you had invested in the investment manager strategy's through the Fiduciary Services program, the net results for all periods are calculated by deducting a quarterly fee of 0.75% (equivalent to an annual fee of 3%).

Morgan Stanley program fees are usually deducted quarterly, and have a compounding effect on performance. The Morgan Stanley program fee, which differs among programs and clients, is described in the applicable Morgan Stanley ADV brochure, which is available at [www.morganstanley.com/ADV](http://www.morganstanley.com/ADV) or on request from your Financial Advisor or Private Wealth Advisor.

Document approval date February 2013.

Fiduciary Services is a separately managed account program sponsored by Morgan Stanley. For periods for which sufficient data is available, the profile shows a composite of client accounts managed by the investment manager in the Fiduciary Services program. Through June 2012, Morgan Stanley offered the Fiduciary Services program through two channels - the Morgan Stanley channel and the Smith Barney channel. For periods through June 2012, any composite based on Fiduciary Services accounts consists of Fiduciary Services accounts managed by the manager in the strategy in either the Morgan Stanley channel or the Smith Barney channel. If the strategy or similar strategies were available in both the Morgan Stanley and Smith Barney forms of the program, through June 2012 this profile presents the composite for the strategy that is closest to the strategy currently offered in the Fiduciary Series program. If both strategies were equally close, this profile shows through June 2012 the longer of the two composites. From July 2012, any composite based on Fiduciary Services accounts consists of all Fiduciary Services accounts managed by the manager in the strategy, subject to any other limitations stated in this profile. Performance and other data for Fiduciary Services composites may differ from composites in other Morgan Stanley programs, and performance and data for composites in one channel may differ from composites in the other channel, due to differences such as the availability and weighting of securities, trading implementation or client objectives.

**Focus List, Approved List, and Watch Status:**

Global Investment Manager Analysis ("GIMA") uses two methods to evaluate investment products in applicable advisory programs. In general, strategies that have passed a more thorough evaluation may be placed on the "Focus List", while strategies that have passed through a different and less comprehensive evaluation process may be placed on the "Approved List". Sometimes an investment product may be evaluated using the Focus List process but then placed on the Approved List instead of the Focus List.

Investment products may move from the Focus List to the Approved List, or vice versa. GIMA may also determine that an investment product no longer meets the criteria under either evaluation process and will no longer be recommended in investment advisory programs (in which case the investment product is given a "Not Approved" status).

GIMA has a "Watch" policy and may describe a Focus List or Approved List investment product as being on "Watch" if GIMA identifies specific areas that (a) merit further evaluation by GIMA and (b) may, but are not certain to, result in the investment product becoming "Not Approved". The Watch period depends on the length of time needed for GIMA to conduct its evaluation and for the investment manager to address any concerns. GIMA may, but is not obligated to, note the Watch status in this report with a "W" or "Watch" on the cover page.

For more information on the Focus List, Approved List, and Watch processes, please see the applicable Morgan Stanley ADV brochure ([www.ms.com/adv](http://www.ms.com/adv)). Your Financial Advisor or Private Wealth Advisor can provide on request a copy of a paper entitled "GIMA: At A Glance".

## ADDITIONAL DISCLOSURES

The information about a representative account is for illustrative purposes only. Actual account holdings, performance and other data will vary depending on the size of an account, cash flows within an account, and restrictions on an account. Holdings are subject to change daily. The information in this profile is not a recommendation to buy, hold or sell securities.

Actual portfolio statistics may vary from target portfolio characteristics.

The investment manager may use the same or substantially similar investment strategies, and may hold similar portfolios of investments, in other portfolios or products it manages (including mutual funds). These may be available at Morgan Stanley or elsewhere, and may cost an investor more or less than this strategy in the Morgan Stanley Fiduciary Services program.

The portfolio may, at times, invest in exchange-traded funds (ETFs), which are a form of equity security in seeking to maintain continued full exposure to the broad equity market.

Morgan Stanley investment advisory programs may require a minimum asset level and, depending on your specific investment objectives and financial position, may not be suitable for you. Investment advisory program accounts are opened pursuant to a written client agreement. The investment manager acts independently of, and is not an affiliate of, Morgan Stanley Smith Barney LLC. Diversification does not guarantee a profit or protect against a loss.

*No obligation to notify* Morgan Stanley has no obligation to notify you when information in this profile changes.

*Sources of information* Material in this profile has been obtained from sources that we believe to be reliable, but we do not guarantee its accuracy, completeness or timeliness. Third party data providers make no warranties or representations relating to the accuracy, completeness or timeliness of the data they provide and are not liable for any damages relating to this data.

*No tax advice* Morgan Stanley and its affiliates do not render advice on legal, tax and/or tax accounting matters to clients. Each client should consult his/her personal tax and/or legal advisor to learn about any potential tax or other implications that may result from acting on a particular recommendation.

*Not an ERISA fiduciary* Morgan Stanley is not acting as a fiduciary under either the Employee Retirement Income Security Act of 1974, as amended, or under section 4975 of the Internal Revenue Code of 1986, as amended, in providing the information in this profile.

©2015 Morgan Stanley Smith Barney LLC Member SIPC.

## INDEX DESCRIPTIONS

### 90-Day T-Bills

The 90-Day Treasury Bill is a short-term obligation issued by the United States government. T-bills are purchased at a discount to the full face value, and the investor receives the full value when they mature. The difference of discount is the interest earned. T-bills are issued in denominations of \$10,000 auction and \$1,000 increments thereafter.

### BC Gov/Cr Intm

The Barclays Government/Credit Bond Index contains bonds that are investment grade and that have at least one year to maturity. The Barclays Intermediate Government/Credit Bond Index is composed primarily of bonds covered by the Barclays Government/Credit Bond Index with maturities between one and 9.99 years.

### S&P 500

The S&P 500 Total Return has been widely regarded as the best single gauge of the large cap U.S. equities market since the index was first published in 1957. The index has over \$5.58 trillion benchmarked, with index assets comprising approximately \$1.31 trillion of this total. The index includes 500 leading companies in leading industries of the U.S. economy, capturing 75% coverage of U.S. equities. This index includes dividend reinvestment.

**Indices are unmanaged and have no expenses. You cannot invest directly in an index.**

## GLOSSARY OF TERMS

**Alpha** is a mathematical estimate of risk-adjusted return expected from a portfolio above and beyond the benchmark return at any point in time.

**American Depositary Receipts (ADRs)** are receipts for shares of a foreign-based corporation held in the vault of a U.S. bank.

**Average Portfolio Beta** is a measure of the sensitivity of a benchmark or portfolio's rates of return to changes against a market return. The market return is the S&P 500 Index. It is the coefficient measuring a stock or a portfolio's relative volatility.

**Beta** is a measure of the sensitivity of a portfolio's rates of return to changes in the market return. It is the coefficient measuring a stock or a portfolio's relative volatility.

**Bottom-Up Stock Selection** Emphasis primarily on individual stock selection. Considerations of economic and industry factors are of secondary importance in the investment decision-making process.

**Capitalization** is defined as the following: Mega (Above \$100 billion), Large (\$12 to \$100 billion), Medium (\$2.5 - \$12 billion), Small (\$.50 - \$2.5 billion) and Micro (below \$.50 billion).

**Dividend** a portion of a company's profit paid to common and preferred shareholders.

**Downside Risk** is a measure of the risk associated with achieving a specific target return. This statistic separates portfolio volatility into downside risk and upside uncertainty. The downside considers all returns below the target return, while the upside considers all returns equal to or above the target return.

**Duration** is a measure of price sensitivity expressed in years.

**High Grade Corporate Bonds** corporate bonds from issuers with credit ratings of AA or AAA.

**Information Ratio** is a measure of the investment manager's skill to add active value against a given benchmark relative to how stable that active return has been. Essentially, the information ratio explains how significant a manager's alpha is. Therefore, the higher the information ratio, the more significant the alpha.

**Investment Grade Bonds** are those rated by Standard & Poor's AAA (highest rated), AA, A or BBB (or equivalent rating by other rating agencies or, in the case of securities not rated, by the investment manager).

**Price/Book Ratio (P/B)** weighted average of the stocks' price divided by book value per share. Book value per share is defined as common equity, including intangibles, divided by shares outstanding times the adjustment factor.

**Price/Cash Flow Ratio** a ratio used to compare a company's market value to its cash flow. It is calculated by dividing the company's market cap by the company's operating cash flow in the most recent fiscal year (or the most recent four fiscal quarters); or, equivalently, divide the per-share stock price by the per-share operating cash flow.

**Price/Earnings Ratio (P/E Ratio)** shows the multiple of earnings at which a stock sells. Determined by dividing current stock price by current earnings per share (adjusted for stock splits). Earnings per share for the P/E ratio are determined by dividing earnings for past 12 months by the number of common shares outstanding. The P/E ratio shown here is calculated by the harmonic mean.

**Price/Sales Ratio** determined by dividing current stock price by revenue per share (adjusted for stock splits). Revenue per share for the P/S ratio is determined by dividing revenue for past 12 months by number of shares outstanding.

**R<sup>2</sup> (R-Squared)/Portfolio Diversification** indicates the proportion of a security's total variance that is benchmark-related or is explained by variations in the benchmark.

**Sharpe Ratio** measures the efficiency, or excess return per unit of volatility, of a manager's returns. It evaluates managers' performance on a volatility-adjusted basis.

**Standard Deviation** is a statistical measure of historical variability or spread of returns around a mathematical average return that was produced by the investment manager over a given measurement period. The higher the standard deviation, the greater the variability in the investment manager's returns relative to its average return.

**Top-Down/Economic Analysis** Emphasis primarily on macroeconomic trends as opposed to bottom-up stock selection.

**Tracking Error** represents the standard deviation of the difference between the performance of the investment strategy and the benchmark. This provides a historical measure of the variability of the investment strategy's returns relative to its benchmark.

**U.S. Treasury Bonds** a marketable, fixed interest U.S. government debt security with a maturity of more than 10 years. Treasury bonds make interest payments semi-annually and the income that holders receive is only taxed at the federal level.

**Volatility** a measure of risk based on the standard deviation of the asset return. Volatility is a variable that appears in option pricing formulas, where it denotes the volatility of the underlying asset return from now to the expiration of the option. There are volatility indexes. Such as a scale of 1-9; a higher rating means higher risk.