

Boyd Watterson Asset Management, LLC

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Cleveland, Ohio 44114

Style: US Taxable Core  
Sub-Style: Taxable Core  
Firm AUM: \$6.9 billion  
Firm Strategy AUM: \$336.0 million

Year Founded: 1928  
GIMA Status: Approved  
Firm Ownership: Titanium Asset Management  
Professional-Staff: 68

PRODUCT OVERVIEW
Boyd Watterson Asset Management, LLC ("Boyd Watterson") seeks to achieve fixed income results in excess of its benchmarks through active portfolio management. The foundation of the firm's investment philosophy is based on fundamental economic and credit research conducted by highly experienced investment professionals. It is Boyd Watterson's belief that above average returns can be achieved through duration management, exploiting changes in spread relationships and identifying undervalued sectors. First, the strategy assumptions create a bias with respect to relative duration management. Second, quantitative interest rate models provide analysis into the direction of interest rates. The strategy team reconciles the biases into a specific duration target. The resulting portfolio duration will range between +/- 25% of the prescribed benchmark, unless otherwise specified by the client. The eligible securities include investment grade, high yield rated B- or B3 at time of purchase, and non-U.S. dollar denominated securities rated B- or B3 at time of purchase. The underlying strategy assumptions normally lead to biases with regard to sector allocation. Historical spread relationships are then referenced to clarify and enhance the specifics of the sector allocation decision. Boyd Watterson designs the portfolio for the Market Duration Fixed Income strategy by building on core portfolio holdings such as treasuries, agencies and investment grade corporate bonds, then investing up to a 30% weighting of below investment grade securities and/or non-U.S. dollar denominated bonds.

TARGET PORTFOLIO CHARACTERISTICS	
Number of bond holdings:	25 to 35
Average credit quality:	A
Average maturity:	5.5 to 6.4 years
Average duration:	3.4 to 5.6 years
Average coupon:	5.5 to 5.8%
Average turnover rate:	0 to 50%

PORTFOLIO STATISTICS			
	-----06/18-----		12/17
	Boyd Watterson	Index***	Boyd Watterson
Number of bond holdings	51	—	53
SEC Yield	3.8	—	3.9
Avg credit quality	A	—	A
Avg maturity	7.28 yrs.	—	8.35 yrs.
Avg duration	5.31 yrs.	—	6.47 yrs.
Avg coupon	3.7%	—	4.1%

FIXED INCOME SECTOR DISTRIBUTION (%) <sup>+</sup>				
	06/18	03/18	12/17	09/17
Industrials <sup>1</sup>	34.00	16.16	32.00	35.00
Mortgage-Backed Securities	20.00	21.00	26.00	24.00
Financials <sup>1</sup>	23.00	22.10	24.00	23.00
U.S. Treasury	19.00	16.00	12.00	12.00
Medium capitalization <sup>1</sup>	3.00	3.00	3.00	3.00
Cash/Cash Equivalents	1.00	2.00		
High Yield Corporates	0.00	19.74	0.00	0.00

<sup>1</sup>High Grade Corporates  
<sup>+</sup>Total may not equal 100% due to rounding.  
<sup>\*\*\*</sup>Index : BC Aggregate

## MANAGER'S INVESTMENT PROCESS

- Top-down investment process formulates economic outlook that leads to strategy assumptions
- Assumptions outline the likely behavior of interest rates and trends in volatility
- Economic outlook is formed
- Consistent examination of historical spread relationships leads to sector allocation decision
- Strategy assumptions create a bias with respect to relative duration management

## 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 (%) \*

	06/18	03/18	12/17	09/17
0 to 2 Years	17.40	10.40	11.20	15.70
2 to 4 Years	9.60	9.60	9.90	12.60
4 to 6 Years	23.40	21.80	36.20	28.30
6 to 8 Years	30.30	36.70	20.80	22.10
8 to 12 Years	6.30	8.50	6.70	7.00
12 to 17 Years	0.00	0.00	15.20	0.00
Over 17 Years	13.00	13.00	0.00	14.30
Cash/Cash Equivalents	0.00	0.00	0.00	0.00

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

### Investment Grade

	06/18	03/18	12/17	09/17
AAA	40.50	38.80	40.60	39.10
AA	0.00	0.00	0.00	0.00
A	7.60	7.80	8.80	10.70
BBB	34.10	33.70	29.00	29.80

### Below Investment Grade

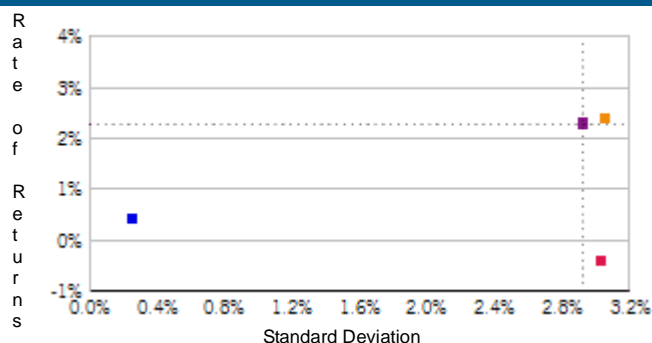
BB	15.03	15.06	17.50	18.70
B	2.77	4.64	4.10	1.70
Below B	0.00	0.00	0.00	0.00
Not Rated	0.00	0.00	0.00	0.00
Cash/Cash Equivalents	0.00	0.00	0.00	0.00

<sup>1</sup>High Grade Corporates

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

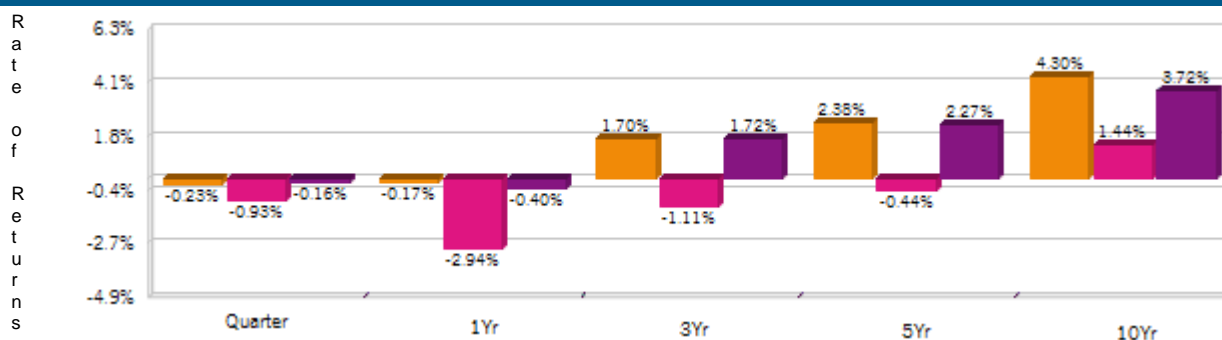
\*\*\*Index : BC Aggregate

## RISK/RETURN ANALYSIS - 5 YEARS ENDING 06/30/18



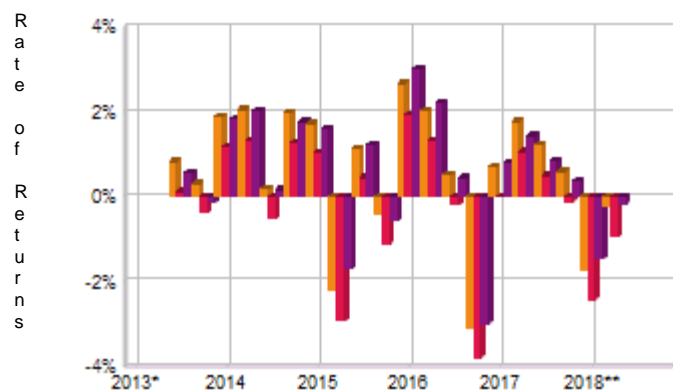
	STD	ROR
Boyd Watterson (Gross)	3.06	2.38
Boyd Watterson (Net)	3.04	-0.44
BC Aggregate	2.93	2.27
90-Day T-Bills	0.26	0.39

## AVERAGE ANNUAL TOTAL RETURN (%) - PERIODS ENDING 06/30/18



INVESTMENT RESULTS	Annual Rates of Return (%)										10 Year - Ending 06/30/18	
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	Annual	Std. Dev.
Boyd Watterson (Gross)	6.98	7.11	7.38	7.03	5.64	-1.04	6.28	0.22	2.04	4.35	4.30	3.59
Boyd Watterson (Net)	4.07	4.20	4.45	4.10	2.74	-3.77	3.35	-2.54	-0.78	1.47	1.44	3.59
BC Aggregate	5.24	5.93	6.54	7.84	4.22	-2.02	5.96	0.55	2.65	3.54	3.72	3.33

## RISK VOLATILITY (%)



\*07/01/13-12/31/13

\*\*01/01/18-06/30/18

	Number Of	Up Qtrs.	Down
Boyd Watterson (Gross)	15	5	
Boyd Watterson (Net)	11	9	
BC Aggregate	14	6	

## PORTFOLIO'S QUARTERLY RETURNS (%)

	Quarter1		Quarter2		Quarter3		Quarter4	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
2008	1.85	1.15	-1.32	-2.02	-0.52	-1.22	7.00	6.30
2009	-0.26	-0.96	2.74	2.04	3.77	3.07	0.73	0.03
2010	1.94	1.24	2.75	2.05	3.18	2.48	-0.64	-1.34
2011	1.04	0.34	1.91	1.21	1.94	1.24	1.96	1.25
2012	0.85	0.15	2.29	1.58	1.86	1.16	0.54	-0.16
2013	0.04	-0.66	-2.21	-2.89	0.83	0.13	0.32	-0.37
2014	1.89	1.19	2.05	1.34	0.21	-0.50	2.00	1.29
2015	1.73	1.03	-2.22	-2.90	1.15	0.45	-0.40	-1.10
2016	2.66	1.95	2.04	1.33	0.53	-0.17	-3.10	-3.78
2017	0.71	0.00	1.77	1.07	1.22	0.51	0.59	-0.11
2018	-1.72	-2.42	-0.23	-0.93				

Related

Select UMA

PORTFOLIO'S RISK STATISTICS - PERIODS ENDING 06/30/18 <sup>1 2</sup>

	3 Year	5 Year
Standard Deviation	3.24%	3.06%
Standard Deviation of Primary Benchmark	3.22%	2.93%
Sharpe Ratio	0.33	0.65
Sharpe Ratio of Primary Benchmark	0.34	0.64
Alpha	-0.01%	0.06%
Beta	0.99	1.03
Downside Risk	0.32%	0.34%
R-Squared	0.98	0.97
Tracking Error	0.46%	0.50%
Information Ratio	-0.04	0.22

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

	R <sup>2</sup>
Boyd Watterson vs. BC Aggregate	0.89

+Statistics are calculated using gross of fee performance only.

1. Statistics are calculated using gross of fee performance only.  
2. BC Aggregate 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.

**Sources of Performance Results and Other Data:** The performance data and certain other information for this strategy (including the data on page 1 of this profile) reflect the investment manager's results in managing Morgan Stanley program accounts, or the investment manager's results in managing accounts and investment products, in the same or a substantially similar investment discipline. (For periods through June 2012, the Fiduciary Services program operated through two channels - Morgan Stanley channel and the Smith Barney channel - and any performance and other data relating to Fiduciary Services accounts shown here for these periods is calculated using accounts in only one of the these channels.) This information for the investment manager is presented solely to provide information about accounts that were managed according to investment objectives and strategies the same or substantially similar to the corresponding investment discipline in the Select UMA program. Although the Fiduciary Services and Select UMA programs are both Morgan Stanley managed account programs, the performance results and other features of similar investment disciplines in the two programs may differ due to investment and operational differences. For example, the individual investment disciplines in the Select UMA accounts may contain fewer securities, which would lead to a more concentrated portfolio. The automatic rebalancing, wash sale loss and tax-harvesting features of the Select UMA program, which are not available in Fiduciary Services, also could cause differences in performance. Accordingly, the performance of the accounts in the Fiduciary Services program is not, and may differ significantly from, the performance of the accounts in the Select UMA program and should not be considered indicative of or a substitute for Select UMA performance. Similarly, performance results of the investment manager's composites may differ from those of Select UMA accounts managed in the same or a substantially similar investment discipline.

**Related Performance:**

Boyd Watterson Asset Management, LLC's (Boyd Watterson) Ultra Enhanced Core SMA Fixed Income performance represents a composite of all fully discretionary market duration institutional fixed income accounts managed by Boyd Watterson. The composite was size-weighted and consisted of 2 accounts with a market value of \$1.1 million as of 9/30/2006. Subsequent to 9/30/2006, the performance represents a composite of all fully discretionary retail market duration fixed income accounts managed by Boyd Watterson in an outside wrap fee platform (not the Morgan Stanley Fiduciary Services program). The composite is size-weighted and consists of 77 accounts with a market value of \$163.8 million as of 06/30/18.

**Morgan Stanley Performance:**

The composite consists of 77 account(s) with a market value of **\$163.8 million** as of **06/30/2018**. In this profile, the performance from January 1, 2011 through June 30, 2012 consists of accounts managed by the investment manager in this strategy in either the Morgan Stanley or the Smith Barney form of the Fiduciary Services program. From July 1, 2012 through December 31, 2015, performance consists of all Fiduciary Services (FS) accounts managed by the investment manager in this strategy, subject to any other limitations stated in this profile. From January 1, 2016, performance consists of the performance of all FS accounts (as described in the previous sentence) as well as the performance of all single style Select UMA accounts managed by the investment manager in this 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 beginning with the second full calendar month of performance. Terminated accounts are removed in the month in which they terminate (but prior performance of terminated accounts is retained). Performance is calculated on a total return basis and by asset weighting the individual portfolio returns using the beginning of period values.

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

**Net Performance for all Periods:** Net performance results reflect a deduction of 0.7% quarterly. This consists of three components: 0.625% maximum quarterly MSSB Advisory Fee and 0.0175% maximum quarterly Program Overlay Fee (which, together cover the services provided by Morgan Stanley), plus 0.0575% quarterly SMA Manager Fees (being the fee currently charged by Boyd Watterson to new clients for managing their assets in the Personal Portfolio program). The SMA Manager Fees may differ from manager to manager, and managers may change their fee to new clients from time to time. If you select this manager for your account, check the SMA Manager Fees specified in the written client agreement, in case these have changed since you received this profile. Historical net fees reflect the Advisory Fee Schedule as of March 31, 2014.

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 June 2015.

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**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 Morgan Stanley's Select UMA 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.

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## 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 Aggregate

The Barclays Aggregate Index is composed of securities from the Barclays Government/Corporate Bond Index, Mortgage-Backed Securities Index and Asset-Backed Securities Index.

### 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.