

## Invesco Advisers, Inc.

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Atlanta, Georgia 30309

Style: US Large Cap Value  
Sub-Style: Relative Value  
Firm AUM: \$1,053.4 billion<sup>^</sup>  
Firm Strategy AUM: \$219.0 million

Year Founded: 1935  
GIMA Status: Approved  
Firm Ownership: Invesco, Ltd.  
Professional-Staff: 8643<sup>^</sup>

### PRODUCT OVERVIEW

The team believes that longer-term investors can take advantage of pricing anomalies in financial markets by purchasing stocks of companies that are currently underpriced. The team describes the investment philosophy as "value with a catalyst." The portfolio managers believe that large, well-established, undervalued companies that are experiencing a positive change or catalyst may have the potential to provide long-term growth of capital and income. The Invesco Large Cap Relative Value Team, which manages the Invesco Growth and Income SMA, generally seeks to identify companies with strong fundamentals that are experiencing a change in management, industry dynamics, or operational efficiency, which should have a positive impact on the stock valuation. The Team aims to exploit these market inefficiencies by investing in companies that appear undervalued relative to the market in general. Ultimately, the team believes that the market will recognize the value in these companies. In addition, the portfolio managers believe that thorough fundamental research is the key to identifying such companies with a high degree of confidence. In short, the team seeks companies that are: Attractively valued, Under-earning relative to their potential, Out of favor with investors, Experiencing a positive catalyst

### TARGET PORTFOLIO CHARACTERISTICS

Number of stock holdings:	40 to 60
P/E ratio:	Below the S&P 500
Cash level over market cycle:	3 to 5%
Risk (standard deviation):	Above the S&P 500
Average turnover rate:	10 to 30%
Use ADRs:	0 to 20%
Capitalization:	Mega, Large and Medium companies

### PORTFOLIO STATISTICS

	-----06/20-----	12/19	
	Invesco	Index***	Invesco
Number of stock holdings	44	839	42
Dividend Yield	0.0%	2.6%	2.5%
Distribution Rate	—	—	—
Wtd avg P/E ratio <sup>1</sup>	14.09x	16.70x	13.82x
Wtd avg portfolio beta	—	—	—
Mega capitalization <sup>+</sup>	0.0%	38.2%	0.0%
Large capitalization <sup>+</sup>	0.0%	47.2%	0.0%
Medium capitalization <sup>+</sup>	0.0%	13.9%	0.0%
Small capitalization <sup>+</sup>	0.0%	0.6%	0.0%
Micro capitalization <sup>+</sup>	0.0%	0.0%	0.0%

### PORTFOLIO'S EQUITY SECTOR WEIGHTINGS <sup>+</sup>

	-----06/20-----	12/19	
Sector	Invesco	Index***	Invesco
Energy	6.73	5.28	11.00
Materials	4.64	4.48	2.70
Industrials	9.52	12.34	5.50
Consumer Discretionary	4.87	6.98	4.90
Consumer Staples	6.24	8.12	7.80
Health Care	16.58	14.08	16.10
Financials	23.81	18.52	26.60
Information Technology	14.17	10.22	10.10
Communication Services	6.11	9.33	4.90
Utilities	2.16	5.91	1.30
Real Estate/REITs	0.00	4.75	0.00
Cash/Cash Equivalents	3.18	0.00	6.30

### PORTFOLIO'S TOP FIVE EQUITY HOLDINGS

	%
ORACLE CORP	3.8
JOHNSON and JOHNSON	3.6
BK OF AMERICA CORP	3.6
CSX CORP	3.6
PHILIP MORRIS INTL INC	3.6

### % PROCESS BASED ON

0	Asset allocation - cash vs. stock
0	Industry or sector weighting
100	Stock Selection

### MANAGER'S INVESTMENT STRATEGY

- Top-down / portfolio structures based on economic trends  
 Bottom-up / portfolio structure based on individual securities

<sup>^</sup>As of 03/31/2020. Information as of 06/30/2020 is not yet available.

\*\*\*Index : Russell 1000 VI

<sup>1</sup>The P/E used here is calculated by the harmonic mean.

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

**MANAGER'S INVESTMENT PROCESS**

- **Distilling the Universe**The investable universe includes approximately 1,000 large-cap equities with characteristics similar to those in the Russell 1000 Value Index. The managers first screen this universe for liquidity constraints. To retain purity to the style box, the stocks are then quickly filtered for those with \$5 billion in market cap or greater.
- **Fundamental Analysis**Fundamental research begins with a rigorous financial statement analysis where the fiscal soundness of the company is evaluated.
- **Identifying a Catalyst**The focus of the process is on finding a catalyst for change within the company, typically from one or more of the following:
  - change in management,
  - industry dynamics, or
  - operational efficiency
- **Valuation Analysis**Upon identification of a viable catalyst, the managers will model a company's potential future cash flows and normalized earnings based on the impact of the catalyst. This analysis will help ensure that the managers do not fall into the "value trap" where the cyclical nature of certain securities in the same sector can make them all appear attractive as value candidates when they are at the trough in their earnings cycle. It is from these estimates that the managers set a price target range relative to an industry multiplier. The managers will only initiate purchase if the relative ability of the company to achieve their expectations outweighs potential downside risk.
- **Qualitative Analysis**Qualitative research undertaken in meetings with company managers and investment analysts supplement and confirm the quantitative research and buy decision. Generally, the portfolio managers are looking for companies that have been neglected in the market, and recently under covered by analysts.
- **Portfolio Architecture/Construction**Because the target portfolio attempts to limit volatility and downside risk, portfolio construction plays an important role in risk management at both the sector and security levels.

**RISK CONSIDERATIONS**

Equity securities prices may fluctuate in response to specific situations for each company, industry, market conditions and general economic environment. Companies paying dividends can reduce or cut payouts at any time. Strategies that invest a large percentage of assets in only one industry sector (or in only a few sectors) are more vulnerable to price fluctuation than portfolios that diversify among a broad range of sectors. Investing in securities entails risks, including: When investing in value securities, the market may not necessarily have the same value assessment as the manager, and, therefore, the performance of the securities may decline. Value investing involves the risk that the market may not recognize that securities are undervalued and they may not appreciate as anticipated. 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. Bonds rated below investment grade may have speculative characteristics and present significant risks beyond those of other securities, including greater credit risk and price volatility in the secondary market. Investors should be careful to consider these risks alongside their individual circumstances, objectives and risk tolerance before investing in high-yield bonds. If a strategy expects to hold a concentrated portfolio of a limited number of securities, it should be noted that a decline in the value of these investments would cause the portfolio's overall value to decline to a greater degree than that of a less concentrated portfolio.

**PORTFOLIO'S ALLOCATION HISTORY (%)<sup>+</sup>**

	06/20	03/20	12/19	09/19
U.S. Stocks	86	87	84	82
Non-U.S. Stocks	11	9	9	12
Cash/Cash Equivalents	3	4	6	6

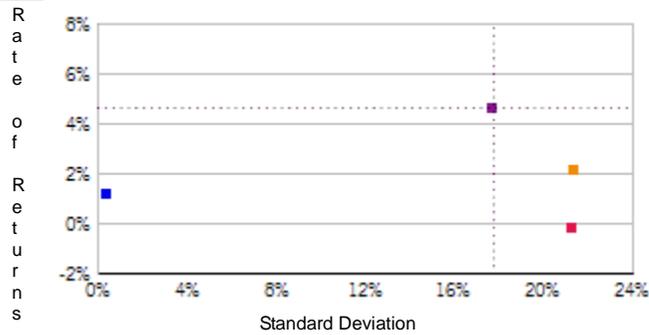
<sup>^</sup>As of 03/31/2020. Information as of 06/30/2020 is not yet available.

<sup>\*\*\*</sup>Index : Russell 1000 VI

<sup>1</sup>The P/E used here is calculated by the harmonic mean.

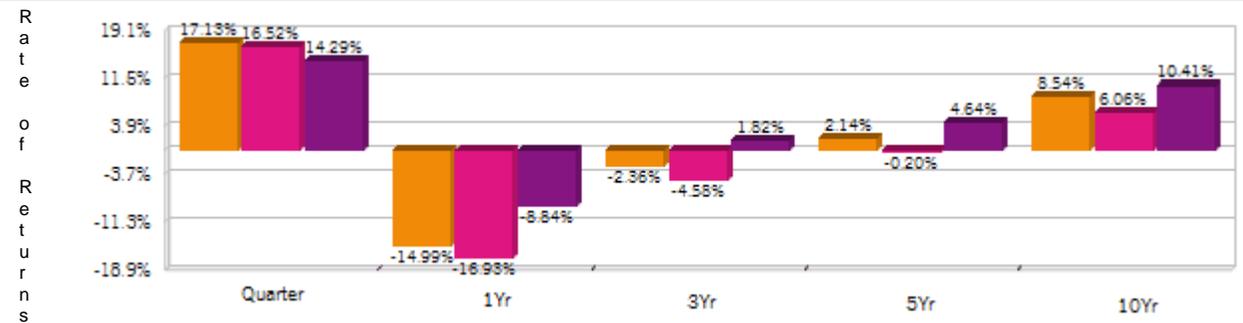
<sup>+</sup>Total may not equal 100% due to rounding.

RISK/RETURN ANALYSIS - 5 YEARS ENDING 06/30/20



	STD	ROR
Invesco (Gross)	21.41	2.14
Invesco (Net)	21.32	-0.20
Russell 1000 VI	17.75	4.64
90-Day T-Bills	0.43	1.15

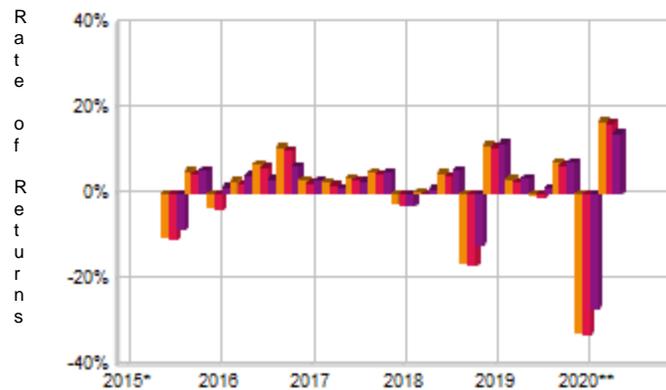
AVERAGE ANNUAL TOTAL RETURN (%) - PERIODS ENDING 06/30/20



INVESTMENT RESULTS

	Annual Rates of Return (%)										10 Year - Ending 06/30/20	
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	Annual	Std. Dev.
Invesco (Gross)	12.48	-0.08	14.65	33.83	7.72	-3.99	18.69	16.10	-13.26	23.79	8.54	17.72
Invesco (Net)	9.91	-2.34	12.00	30.84	5.17	-6.21	15.92	13.42	-15.26	21.02	6.06	17.65
Russell 1000 VI	15.51	0.39	17.50	32.54	13.46	-3.84	17.33	13.66	-8.27	26.54	10.41	15.77

RISK VOLATILITY (%)



\*07/01/15-12/31/15      \*\*01/01/20-06/30/20

	Number Of	Up Qtrs.	Down Qtrs.
Invesco (Gross)	14	6	6
Invesco (Net)	14	6	6
Russell 1000 VI	16	4	4

PORTFOLIO'S QUARTERLY RETURNS (%)

	Quarter1		Quarter2		Quarter3		Quarter4	
	Gross	Net	Gross	Net	Gross	Net	Gross	Net
2010	6.65	6.01	-13.60	-14.11	10.07	9.46	10.90	10.27
2011	5.66	5.06	-0.15	-0.71	-15.68	-16.19	12.31	11.71
2012	9.92	9.29	-2.77	-3.35	6.81	6.20	0.43	-0.16
2013	11.82	11.20	4.27	3.67	4.75	4.16	9.59	8.96
2014	2.02	1.40	4.25	3.63	-0.15	-0.74	1.43	0.84
2015	-1.23	-1.85	2.59	2.00	-10.05	-10.58	5.35	4.77
2016	-2.96	-3.57	3.06	2.47	6.99	6.38	10.93	10.28
2017	3.29	2.69	2.79	2.19	3.93	3.33	5.21	4.60
2018	-2.13	-2.67	0.65	0.07	4.91	4.32	-16.07	-16.60
2019	11.54	10.94	3.50	2.92	-0.17	-0.75	7.42	6.79
2020	-32.32	-32.73	17.13	16.52				

Related      Select UMA

PORTFOLIO'S RISK STATISTICS -€<sup>1</sup> PERIODS ENDING 06/30/20 <sup>1 2</sup>

	3 Year	5 Year
Standard Deviation	26.06%	21.41%
Standard Deviation of Primary Benchmark	22.04%	17.75%
Sharpe Ratio	-0.16	0.05
Sharpe Ratio of Primary Benchmark	0.00	0.20
Alpha	-3.50%	-2.55%
Beta	1.18	1.19
Downside Risk	4.42%	4.10%
R-Squared	0.99	0.97
Tracking Error	4.50%	4.99%
Information Ratio	-0.93	-0.50

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

Invesco vs. Russell 1000 VI	R <sup>2</sup> 0.96
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+Statistics are calculated using gross of fee performance only.

1. Statistics are calculated using gross of fee performance only.
2. Russell 1000 VI 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

**The disclosures provided below apply to performance information in this profile, if any. Past performance is not a 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 achieve its intended results under all market conditions. Do not rely upon 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 calendar 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. No representation is being made that any portfolio will or is likely to achieve profits or losses similar to those shown. Returns will fluctuate and an investment upon redemption may be worth more or less than its original value. Performance shown does not reflect the impact of fees and expenses of the underlying mutual fund and ETFs, as applicable.

**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) may include one or more of the following: (i) the performance results of a composite of Morgan Stanley accounts managed by the third party investment manager, (ii) the performance results for accounts and investment products managed by the third party investment manager, in the same or a substantially similar investment strategy outside of the applicable Morgan Stanley program, and/or (iii) in the case of Model Portfolio Strategies, the Model Portfolio Provider's results in managing accounts outside of the Morgan Stanley Select UMA program prior to Model Portfolio Strategy's inception in the Morgan Stanley Select UMA program. For periods through June 2012, the Fiduciary Services program operated through two channels – the 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.) Please note that the Fiduciary Services program was closed on January 2, 2018. Although the Fiduciary Services and Select UMA programs are both Morgan Stanley managed account programs, the performance results and other features of similar investment strategies in the two programs may differ due to investment and operational differences. Performance in one program is not indicative of potential performance in the other. For example, the individual investment strategies in Select UMA program 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. In addition, any performance results included in this profile that are based on a third party investment manager's accounts that are not part of the Morgan Stanley program accounts or institutional accounts that are part of the Model Portfolio strategy may differ due to investment and operational differences as well. As such, performance results of the third party investment manager's composites and the third party Model Portfolio Strategies may differ from those of Select UMA accounts managed in the same or a substantially similar investment strategy. For example, in the case of Model Portfolio Strategies, Morgan Stanley, as the investment manager, may deviate from the Third Party Model Portfolios.

With respect to those accounts that are subject to the Employee Retirement Income Security Act of 1974 and/or Section 4975 of the Internal Revenue Code of 1986, as amended, and are invested in an investment strategy managed by a Sub-Manager that is an affiliate of MSSB, the Sub-Manager fees will be reduced to 0.00%

**Related Performance:**

Invesco Worldwide ("The Firm") manages a broad array of investment strategies around the world. The Firm comprises U.S.-based Invesco Advisers, Inc. (excluding Unit Investment Trusts) and all wholly owned Invesco firms outside of North America (excluding Religare Enterprises Ltd.). All entities within the Firm are directly or indirectly owned by Invesco Ltd. Invesco Canada Ltd. is also a GIPS-compliant firm whose assets are managed by a subsidiary of Invesco Ltd. Invesco Senior Secured Management, Inc., Invesco Private Capital, Inc., and Invesco PowerShares Capital Management LLC are affiliates of the Firm. Each is an SEC-registered investment adviser and is marketed as a separate entity. Invesco Great Wall Fund Management Co. Ltd is a fund management company established under China Securities Regulatory Commission's approval, and its assets are excluded from total Firm assets.

Invesco Worldwide claims compliance with the Global Investment Performance Standards (GIPS®) and has prepared and presented this report in compliance with the GIPS standards. Invesco Worldwide has been independently verified for the periods January 1, 2003 through December 31, 2015. The legacy firms that constitute Invesco Worldwide have been verified since 2001 or earlier. The verification reports are available upon request. Verification assesses whether (1) the firm has complied with all the composite construction requirements of the GIPS standards on a firm-wide basis and (2) the firm's policies and procedures are designed to calculate and present performance in compliance with the GIPS standards. Verification does not ensure the accuracy of any specific composite presentation.

A complete list and description of Firm composites and performance results is available upon request. Additional information regarding policies for calculating and reporting returns is available upon request. All returns are expressed in U.S. dollars and are gross of non-reclaimable withholding tax, if applicable.

For periods beginning April 1, 2016, the Invesco Growth and Income SMA Wrap Composite (previously named the Invesco Large Cap Relative Value Wrap Composite) is composed of 100% non-fee paying discretionary institutional accounts styled after the Invesco Growth and Income SMA Model Portfolio (previously named the Invesco Large Cap Relative Value Model Portfolio), which seeks capital growth and income by emphasizing a value style of investing seeking well-established, undervalued companies believed to possess the potential for capital growth and income as defined by the Russell 1000® Value Index Total Return (TR). For all periods prior to April 1, 2016, the Invesco Growth and Income SMA Wrap Composite (previously named the Invesco Large Cap Relative Value Wrap Composite) was composed of 100% non-fee-paying discretionary wrap accounts. The performance results beginning April 1, 2016 are those of the Invesco Growth and Income SMA Institutional Composite. The composite is managed in comparison to, not duplication of, the benchmark. The composite was created in December 2008.

**Morgan Stanley Performance:**

**Gross Performance:** Invesco's gross results do not reflect a deduction of any investment advisory fees or program fees, charged by Invesco or Morgan Stanley, but are net of commissions charged on securities transactions.

**Net Performance for all Periods:** Net performance results reflect a deduction of 0.5875% quarterly. This consists of three components: 0.5% maximum quarterly MS Advisory Fee and 0.0175% maximum quarterly Program Overlay Fee (which, together cover the services provided by Morgan Stanley), plus 0.07% quarterly SMA Manager Fees (being the fee currently charged by Invesco to new clients for managing their assets in the Select UMA 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 October 1, 2018. 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 August 2017. #CRC 1874975

#### 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 Model Portfolio Provider or 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.

Overlay Managers or Executing Sub-Managers ("managers") in some of Morgan Stanley's Separately Managed Account ("SMA") programs may affect transactions through broker-dealers other than Morgan Stanley or our affiliates. If your manager trades with another firm, you may be assessed costs by the other firm in addition to Morgan Stanley's fees. Those costs will be included in the net price of the security, not separately reported on trade confirmations or account statements. Certain managers have historically directed most, if not all, of their trades to outside firms. Information provided by managers concerning trade execution away from Morgan Stanley is summarized at: [www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf](http://www.morganstanley.com/wealth/investmentsolutions/pdfs/adv/sotresponse.pdf). For more information on trading and costs, please refer to the ADV Brochure for your program(s), available at [www.morganstanley.com/ADV](http://www.morganstanley.com/ADV), or contact your Financial Advisor/Private Wealth Advisor.

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.

**Russell 1000 VI**

The Russell 1000 Value Index is representative of the U.S. market for large capitalization stocks containing those companies in the Russell 1000 Index with lower price-to-book ratios and lower forecasted growth.

**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).

**Distribution Rate** is defined as the most recent distribution paid, annualized, and then divided by the current market price. Distribution rate may consist of investment income, short-term capital gains, long-term capital gains, and /or returns of capital.

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

**Dividend Yield** annual dividend per share divided by price per share. Dividend Yield for the portfolio is a weighted average of the results for the individual stocks in the portfolio.

**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' 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.

**R2 (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.