

*Providing Investors, the diversification they need, with the  
downside protection they desire*

# Quantitative Investment Decisions

*The Safety Net For Your Portfolio*

Breaking the Cycle of Fear-Based Investing

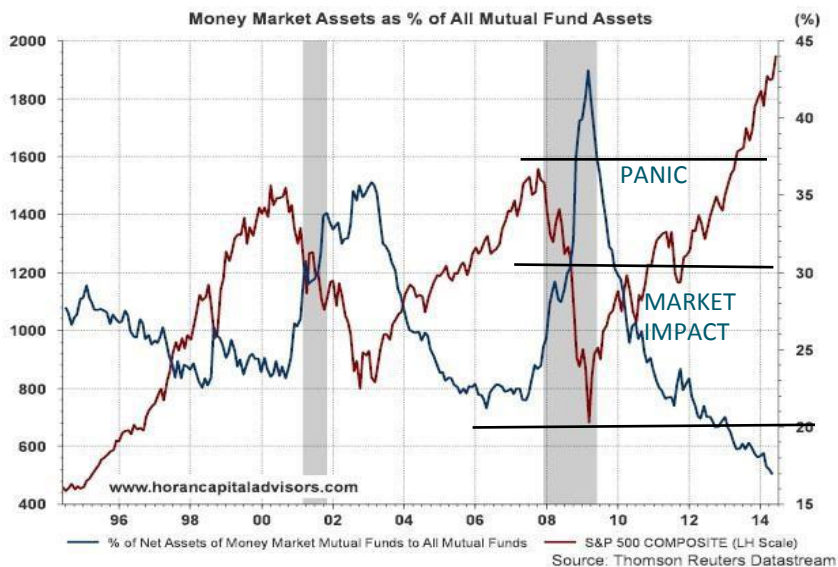
The Tactical Rotation Strategies

*A Suite of Separately Managed  
Account Strategies*

# Breaking the Cycle of Fear-based Investing

## How do investor's react to financial market stress?

### INVESTORS RUN TO THE SAFETY OF CASH!

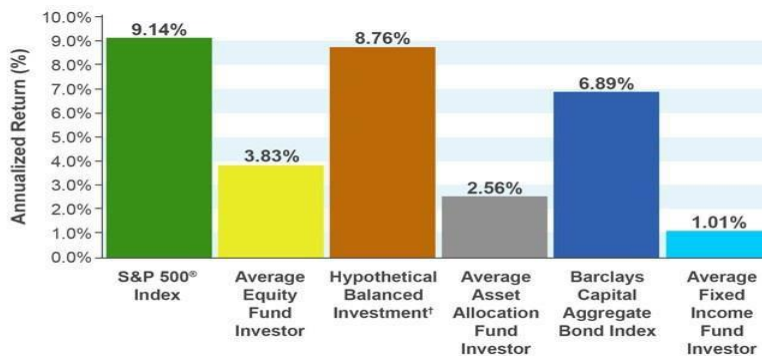


When the going gets tough investors abandon the notion of traditional diversification, seeking the comfort and safety of cash. This phenomenon can be clearly observed during the last two recessions, as highlighted in the gray areas in the chart on the left. Money market assets as a percentage of mutual fund assets skyrocketed to unprecedented levels in 2003, 2008 and 2009, while the S&P 500 plummeted to below 800, demonstrating the large scale abandonment of portfolio equity and bonds. Stated another way; **investors are loss averse rather than risk averse.**

## What's been the result of investor's reaction to market distress?

DALBAR conducted a study of just such behavior for the period January 1, 1991 through December 31, 2010. The study found that the average equity mutual fund investor earned a return of 3.83% while the S&P 500 returned 9.14%, an astounding difference of 5.31%. On the fixed income side, the average bond investor earned 1.01% versus 6.89% for the Barclays Capital Aggregate Bond Index. Observed behavioral patterns indicate investor participation in the downside, while sitting out too long during subsequent market recoveries, **leading to dramatic under-performance relative to the market.**

### DISAPPOINTING UNDERPERFORMANCE RELATIVE TO THE MARKET



Source: Quantitative Analysis of Investor Behavior (QAIB) 2011, DALBAR Inc.

## Why do investors abandon diversification during market distress?

### TRADITIONAL DIVERSIFICATION FAILS INVESTORS WHEN NEEDED MOST

Asset Class/ Representative ETF	Correlation as of 10/31/2007	Correlation as of 10/31/2008	Difference
Russell 2000 (IWM)	0.80	0.95	Increase of 0.16
MSCI EAFE (EFA)	0.81	0.95	Increase of 0.14
US REITs (IYR)	0.67	0.83	Increase of 0.16
Fixed Income (AGG)	-0.24	0.41	Increase of 0.65
Commodities (GSG)	-0.13	0.60	Increase of 0.73

Source: Morningstar Direct™

During times of significant market distress, volatility rises as do correlations among asset classes previously displaying low or no correlation relative to other assets. As correlations rise toward 1.0, loss protections offered through traditional diversification among asset classes deteriorates leaving investors without downside protection they assumed would be there to weather the storm. **Traditional diversification only delivers protection in normalized markets.**

# What's been frequently touted as the standard industry advice through all market conditions?

**BUY AND HOLD A DIVERSIFIED MIXTURE OF ASSET CLASSES SO YOU DON'T MISS THE BIGGEST UP DAYS AND RELY ON ASSET CLASS DIVERSIFICATION VIA CORRELATIONS TO PROVIDE DOWNSIDE PROTECTION**

## Why stay fully invested?

S&P 500 Returns Annualized

January 1, 1995 to December 31, 2014

# of "Best Days" Missed	Change in Return of S&P 500
0 Days	9.85%
5 Days	7.62%
10 Days	6.10%
20 Days	3.62%
40 Days	-0.45%

## Avoiding the down days may be more critical.

S&P 500 Returns Annualized

January 1995 to December 2014

# of "WORST Days" Missed	Change in Return of S&P 500
0 Days	9.85%
5 Days	12.24%
10 Days	14.13%
20 Days	17.19%
40 Days	22.19%

# Is there a strategy that has the potential to participate in up markets *and* provides protection in extreme down markets?

**THE QUANTITATIVE INNOVATION UNDERLYING QID TACTICAL ROTATION STRATEGIES SEEKS JUST SUCH AN INVESTOR OUTCOME.**

1 | Built-in Downside Protection

2 | Diversification

3 | Rules-based Discipline

QID develops and distributes strategies with a unique attribute of a **built-in downside protection mechanism** that provides signaling to raise cash and reduce equity market exposure during periods it identifies as having a high probability of substantial market loss, a feature absent from buy and hold portfolios. Our belief is that investors are mischaracterized as risk averse when they are actually loss averse.

QID's strategies provide investors **diversification to participate in up or sideways moving markets**. The Strategies provide investors with the tools to diversify across and within an asset class. QID's strategies currently provide investor exposure to global, U.S. and international equity as well as fixed-income and alternative asset classes to develop custom asset allocations. Within each asset class the use of ETF's provides a secondary level of diversification to avoid the specific risk of any one security. Each ETF typically contains numerous individual securities to provide the asset class exposure desired.

A quantitative signaling engine provides binary (buy/sell) signals on each portfolio position delivering **rules based discipline** to investment decisions. The algorithms across equity, fixed income, and alternative asset classes are driven by proprietary technical based algorithms.

QID **claims compliance with the Global Investment Performance Standards (GIPS®)** has been independently verified by Ashland Partners & Company, LLP. TGRS Composite receives a quarterly performance examination.



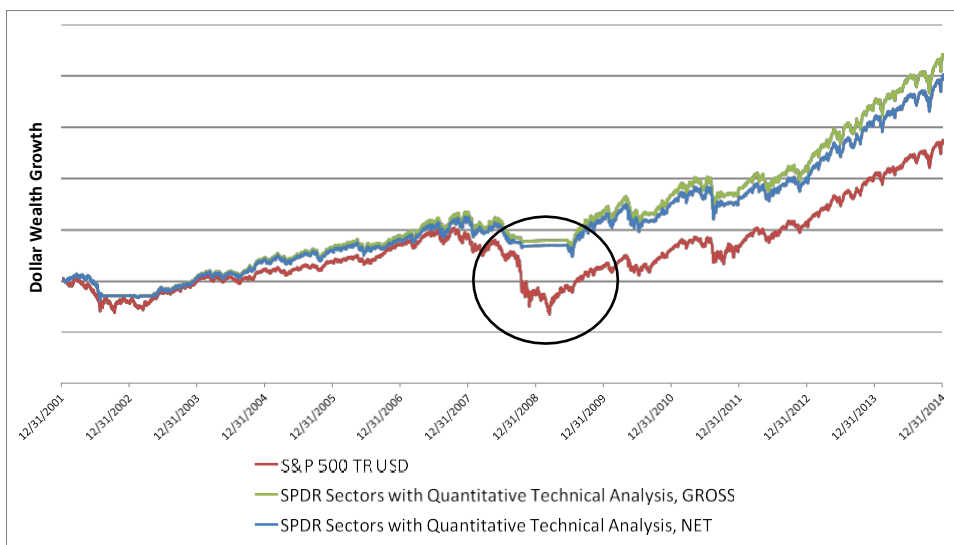
# A Quantitative Engine to Drive Decisions

The quantitative engine driving investment decisions within QID's portfolio solutions removes behavioral biases from the investment process. The engine utilizes multiple sequences of technical indicators to produce the binary trading signals mentioned in the previous section.

Studies have shown that trading rules based on technical indicators have stood the test of time as one of several noted market anomalies demonstrating predictive power.

Brock, Lakonishok & LeBaron, 1992

### Technical Analysis Applied to U.S. Sector ETFs Appears to Add Value



Source: Morningstar Direct™

The graph to the left illustrates how a strategy based on technical rules can potentially outperform a buy and hold strategy over time. The technical based strategy line (navy blue) tracks evenly with the S&P 500 (orange line) for several years, showing reasonable upside capture. The blue line flattens out in 2008-2009 as a result of technical signals indicating a sale of the underlying portfolio components to cash. Subsequent to this market drawdown period, the distance between the two lines widens and remains that way because of the capital preservation that occurred during the drawdown in the technical rules based strategy.

## The QID Quantitative Engine

The quantitative engine aims to identify specific price trends within the actual market price data in an effort to identify instances when the probability of a downturn or upturn of a position seems likely in the near future. In this way the strategy is probabilistic in its approach.

There are times when it is beneficial for the engine to generate signals quickly, and there are times when short term pricing noise should be smoothed and ignored until better information is available. Each strategy signal is based on the strength of the observed data to avoid unnecessary whipsaw trading when possible.

The key to the success of the strategy is the specific **sequential arrangement of technical indicators**.



Some indicators are used to obtain a preliminary view of price movements and then others follow to confirm or refute information derived from the primary indicators.

# Not Just a Defensive Strategy

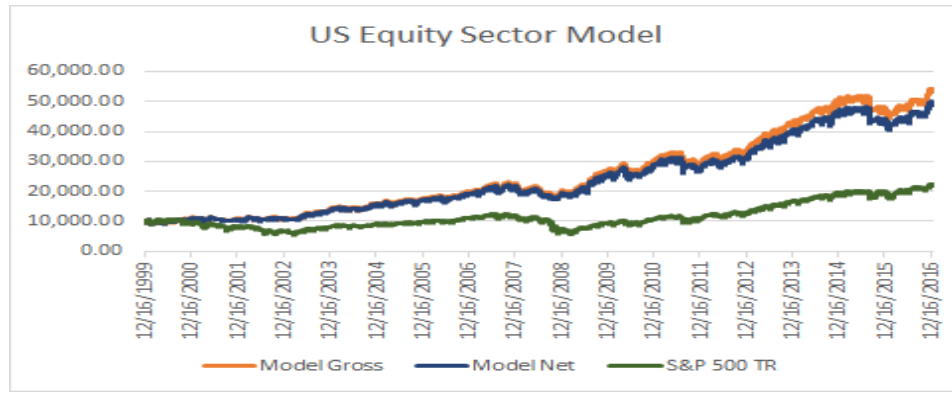
While one of the primary objectives of the QID quantitative strategies is protection from extreme downside experiences, investors incorrectly assume that a large portion of the upside must be sacrificed as a cost for this protection.

As demonstrated by the charts to the right through a hypothetical back-test of the QID U.S. Equity Sector model, a strategy that is defensive on the downside can also provide reasonable upside participation in bull markets.

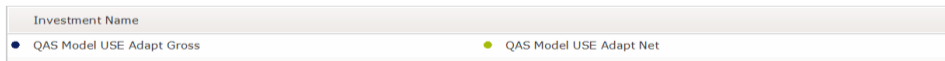
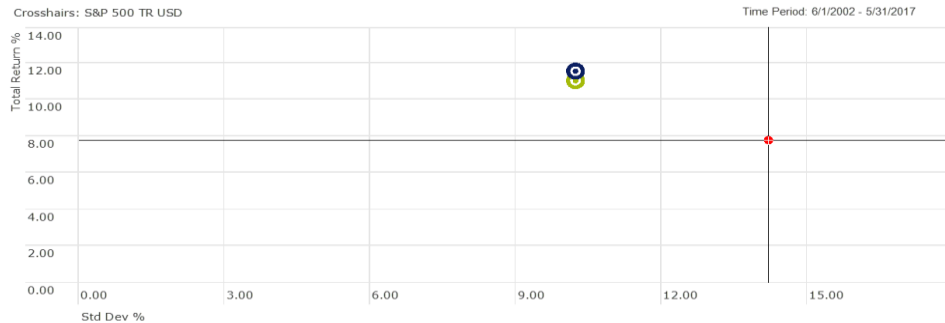
In the top chart to the right, the U.S. Equity Sector Model Performs very well during bear markets 12/17/99 to 12/31/2016, and the third chart performs reasonably well during the bull market period of December 30, 2011 through December 2016.

The second and fourth chart to the right illustrate the defensive nature of the U.S. Equity Sector Strategy model with a much lower standard deviation of returns over the same time period.

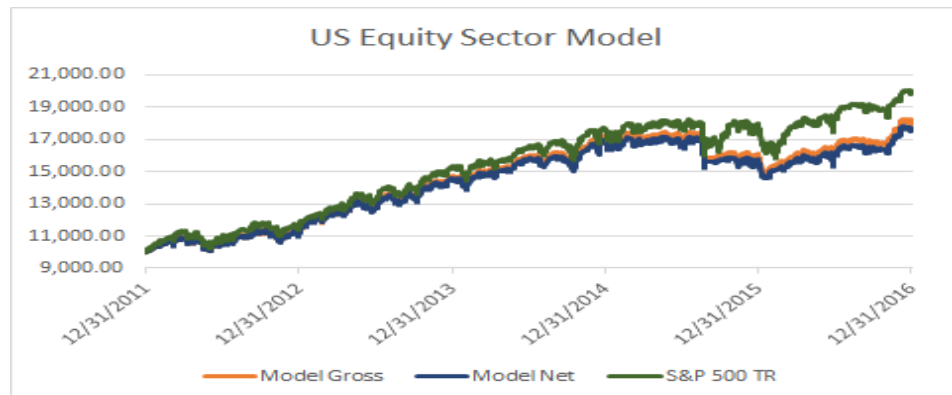
The U.S. Equity Sector model strategies perform well in UP as well as DOWN markets as we demonstrate in the table below.



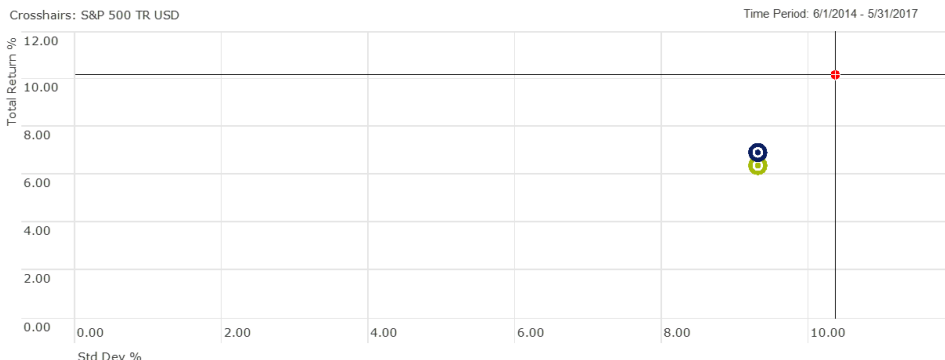
12/17/1999-12/31/2016



12/31/2011-12/31/2016



12/31/2011-12/31/2016



Year	QUSS Model Gr	QUSS Model Net	S&P 500 TR USD	Market Direction
2008	-9.51	-9.96	-37.00	Down
2009	32.36	31.70	26.46	Up
2010	13.70	13.14	15.06	Up
2011	-2.63	-3.11	2.11	Flat
2012	12.43	11.87	16.00	Up
2013	31.21	30.55	31.39	Up
2014	15.04	14.46	13.69	Up
2015	-6.54	-7.00	1.38	Flat
2016	13.11	12.54	11.96	Up
Annual Return (%)	3.64	2.73	0.98	
Cumulative Return (%)	137.91	127.45	85.53	

(1) The "QUSS Model" refers to the QID U.S. Equity Sector Strategy constructed with S&P Sector ETFs.



## Strategy Highlights

Quantitative Investment Decisions believes its strategies deliver the returns investors seek, with the downside protection they desire, to stay fully invested through full market cycles (QID makes the cash decision for investors inside the strategy) so that the need for long term growth in wealth may be achieved.

### 1 **Disciplined Downside Protection**

QID develops strategies that focus on downside protection that buy and hold portfolios do not. Our belief is that investors are loss versus risk adverse.

### 2 **Fully Invested Across Market Cycles**

By controlling for extreme losses we believe our strategies can give investors the confidence they need to remain fully invested in our strategies through market cycles.



### 3 **Targeted Alpha Generation in Up and Down Markets**

The model strategies, when back-tested, tend to outperform their indexes, driving alpha through full market cycles.

### 4 **Diversification & Cost Efficiency**

The portfolio construction process and the underlying ETF components provide diversification across the asset class and overall portfolio cost efficiencies in a tactical package.

### 5 **Asymmetric Risk Profile** (an *alternative* investment profile)

The QID Strategies' back-tested models' performance tends to perform well relative to their respective indices on the upside, making them a viable candidate for their respective asset classifications.

Given their defensive tendencies however, the strategies seem appropriate as a hedge fund exposure displaying a non-normal distribution of returns, asymmetric, with positive skewness and low kurtosis.

# A Complete Suite of Tactical Asset Classes

## Equity

### United States

- Consumer Staples
- Utilities
- Technology
- Financials/REITS
- Materials
- Industrials
- Energy Health
- Care Consumer
- Discretionary

### Ex-USA

- Asia ex-Japan
- Japan
- Canada
- Europe
- Emerging Markets

### Alternative Investments

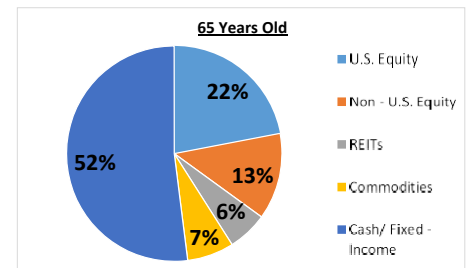
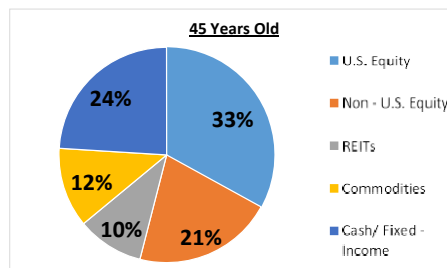
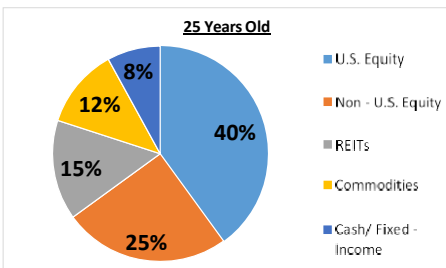
- Agriculture
- Energy (Oil & Natural Gas)
- Precious Metals (Gold & Silver)
- Real Estate
- U.S. Equity (S&P 500)

### Fixed Income

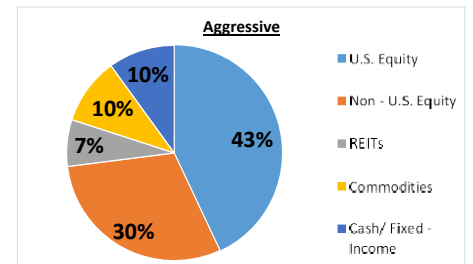
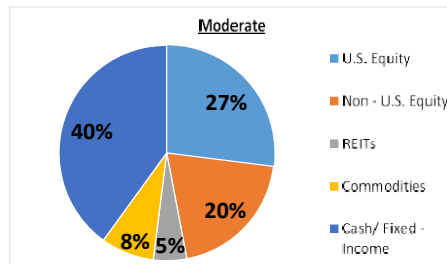
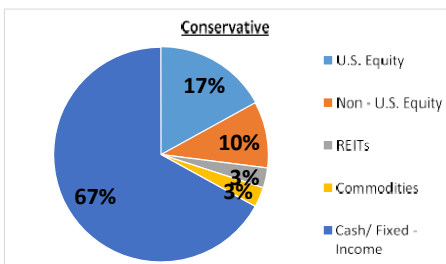
- U.S. T- Bills, T-Notes, T-Bonds
- TIPS
- U.S. Investment Grade Corporate Bonds
- High Yield Bonds
- Mortgage Backed Bonds
- Municipal Bonds
- Global Debt
- Developed Market
- Emerging Market Debt

## Customizable Tactical Allocated Portfolio Solutions on a Risk or Aged-Based Basis

### Age-Based



### Risk-Based



# Disclosures

## **Quantitative Investment Decisions, LLC (“QID”) claims compliance with the Global Investment Performance Standards (GIPS®) and verified by Ashland Partners & Co., LLP through December 31, 2015**

### **Firm Definition**

Quantitative Investment Decisions, LLC (“QID” or the “Advisor”) is registered in the state of Florida as a registered investment advisor organized as a Limited Liability Company (“LLC”) under the laws of the State of Delaware, whose principle place of business is in Naples, FL. The entire investment team and critical operations staff became affiliated with QID on January 2, 2015.

QID reviews a total firm AUM report broken out by account on a quarterly basis to ensure that only actual assets managed, or sub-advised, by QID are included. All accounts deemed to be advisory only, hypothetical, or model in nature are excluded from total firm AUM. Total firm assets are all discretionary (whether fee-paying or not) for which QID has investment management responsibility, including assets managed by sub-advisors that QID has authority to select.

### **Obtaining a Compliant Presentation and the Firm’s List of Composite Descriptions**

A compliant presentation, including the performance data for the composite, may be obtained by contacting Ron Santangelo at 239.529.2019 or by emailing Ron at [ron.santangelo@qidllc.com](mailto:ron.santangelo@qidllc.com).

The Investment Strategies of Quantitative Investment Decisions (QID) are long-term growth portfolios that invest in Exchange Traded Funds (ETF) as markets are rising and scales to cash as markets weaken using a trading algorithm. Its objective is capital appreciation. The charts above show the hypothetical total return of the U.S. Equity Sector Model. The hypothetical returns are shown separately as gross (GR) and net (NR) of management fees for the model. The QUSS Strategy is in the process of having its annual performance examination by Ashland Partners & Company, LLP. for the period **August 1, 2015 through December 31, 2016**.

The benchmark for the QID U.S. Equity Sector Strategy is the S&P 500 TR USD. The returns for the Indexes shown include dividend reinvestment.

Individual client accounts may have experienced investment results during the corresponding time periods that were materially different from those of the composite returns. The U.S. Dollar is the currency used to express performance.

Performance data shown is hypothetical performance. Hypothetical past performance is no guarantee of future results. Investments are subject to risk, and any of QID’s investment strategies may lose money. QID’s actively managed portfolios may underperform in bull or Bear markets. The investment strategy presented is not appropriate for every investor and individual clients should review the terms, conditions and risk involved with specific products or services. The portfolio is constructed with asset class sector ETFs. Exchange Traded Funds seek investment results that, before expenses, generally correspond to the price and yield of a particular index. There is no guarantee that the price and yield performance of the index can be fully matched. ETFs are subject to risks similar to those of stocks.

### **Risks**

No investment strategy or risk management technique can guarantee returns or eliminate risk in any market environment. Asset allocation, nor diversification, does not guarantee a profit or protect against loss. Investment returns may fluctuate and are subject to market volatility, so that an investor’s shares, when redeemed or sold, may be worth more or less than their original cost. All investments include a risk of loss that clients should be prepared to endure. Quantitative Investment Decision’s actively managed portfolio may under perform in bull or Bear markets.

### **Hypothetical Back-Tested Performance and Analytics**

Back-tested performance is NOT an indicator of future actual results. There are limitations inherent in hypothetical results particularly that the performance results do not represent the results of actual trading using client assets, but were achieved by means of retroactive application of a back-tested model that was designed with the benefit of hindsight. The results reflect the performance of a strategy not historically offered to investors and do NOT represent returns that any investor actually attained. Back-tested results are calculated by the retroactive application of a model constructed on the basis of historical data and based on assumptions integral to the model which may or may not be testable and are subject to losses. Back-tested performance is developed with the benefit of hindsight and has inherent limitations.

Specifically, back-tested results do not reflect actual trading, or the effect of material economic and market factors on the decision making process, or the skill of the adviser. Since trades have not actually been executed, results may have under-or-over-compensated for the impact, if any, of certain market factors, such as lack of liquidity, and may not reflect the impact that certain economic or market factors may have had on the decision-making process. Further, back-testing allows the security selection methodology to be adjusted until past returns are maximized.

Actual performance may differ significantly from back-tested performance.

### **For more information contact:**

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