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Quantitative Investment Decisions, LLC was founded with one objective in mind – to help investors protect assets in the event of an extended market downturn. While no investment model can predict the unexpected, QID’s strategies help remove emotional and irrational behavior from the investment decision process. By limiting downside risk and participating in the market upside, the intent is to outperform an appropriate benchmark over a market cycle. QID strategies are built using 100% quantitative, proprietary algorithms that identify and react to changing market conditions. Our strategies tend to provide a more asymmetric risk profile with reduced left tail risk. QID provides the diversification that investors need with the downside protection that they desire.

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### Tactical Fixed Income Strategy Features

- 100% quantitative process that focuses primarily on downside risk, especially in weak markets
- Under extreme market conditions, the strategy can build and hold substantial cash positions to avoid losses
- Employs NO shorting, leverage, or exotic derivative investments
- Broad Global fixed income asset class diversification
- A proprietary weighting system is used to determine the weighting of each sector and asset class
- Multiple ETF sponsors
- \$1,000,000 account minimum

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### Portfolio Expectations

The QID Tactical Fixed Income Strategy is designed to limit losses during extended market downturns. The strategy endeavors to deliver attractive risk-adjusted returns through multiple investment markets. The strategy is diversified and may use a defensive allocation to cash equivalents and/or U.S. Treasury instruments.

### ETF Universe

The ETF’s used in the Tactical Fixed Income Strategy are chosen based upon a proprietary scoring system. The system considers such factors as tracking error, liquidity and cost efficiency. The strategy may use ETFs from one or multiple sponsors.

### Ron Santangelo, CFA®

Chief Investment Officer  
Portfolio Manager



Since the early 1990’s, Mr. Santangelo has been an industry

leader in the development of advanced quantitative methods and enhanced returns-based style analysis. As the Manager of Managed Products Research, at Merrill Lynch, Mr. Santangelo assisted in the development of the SPDR® sector ETF’s. His focus, throughout his career, has been on controlling downside risk and quantitative investment strategies.

# Tactical Fixed Income Strategy

4Q - 2018

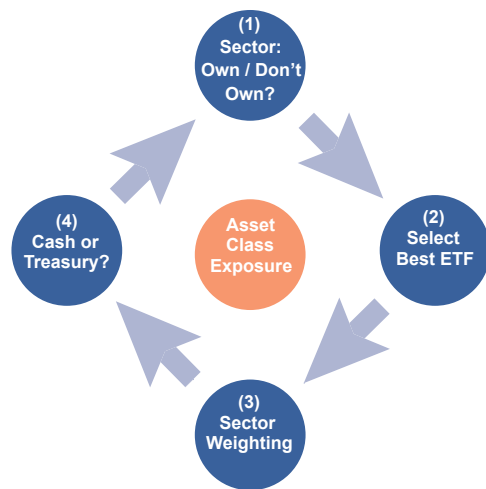
## Investment Process

The QID Tactical Fixed Income strategy provides broad exposure to fixed income. The portfolio can be allocated to domestic corporate, mortgage and municipal bonds, as well as TIPS. In addition, on an opportunistic basis the portfolio may also incorporate global, international developed market, emerging market debt and inverse Treasury ETF. Each category is represented by an ETF. Within the domestic corporate bond asset class, a quantitative model determines if the position is represented by an investment grade or a high yield bond ETF. Each QID strategy utilizes built-in downside loss protection. The model will look at each asset class separately to determine the likelihood of significant loss.

The allocation to the various fixed income asset classes are interdependent upon one another. The model will calculate the likelihood of significant loss associated with each asset class and generate either an “on” or “off” signal. Depending on which categories are “on” will determine if and how other fixed income categories are used in the strategy.

As fixed income asset classes are signaled “off” (sold), the strategy may build a defensive position equal to the allocation to the style that was sold. The default defensive position is an intermediate Treasury bond ETF, however, a separate algorithm is used to determine if a money market fund/ETF might be more appropriate. If all fixed income asset classes are “off”, the portfolio will become 100% defensive.

Note: A municipal bond ETF is used as a diversifying asset class and we believe it is appropriate for both taxable and tax-exempt accounts. International developed market and emerging market debt may be used opportunistically, over time.



QID employs a four-step quantitative process in building and managing its tactical strategies:

1. Decide when to own or not own a specific sector, asset class or international market
2. Select the appropriate ETF for each sector or asset class using a proprietary scoring system that considers factors such as tracking error, liquidity and cost efficiency
3. The strategy uses a proprietary portfolio weighting process
4. When a defensive position is employed, determine which cash or U.S. Treasury instrument is appropriate

### Asset Class Breakdown

U.S. and International Fixed Income
Investment Grade Corporate Bonds
Mortgage Backed Bonds
Municipal Bonds
Treasury Inflation Protected Securities (TIPS)
High Yield Corporate Bonds
Intermediate U.S. Treasury Bonds / Inverse Treasury
Global / International Developed Market Debt
MLPs / Convertibles
Cash Equivalent / Money Market Fund-ETF

# Tactical Fixed Income Strategy

4Q - 2018

## Performance Returns

Annualized Returns through 12/31/2018	Quantitative Investment Decisions Tactical Fixed Income Strategy		Index
	Gross	Net	
3 Months	-7.62%	-7.62%	1.64%
Year-to-Date	-15.62%	-15.62%	0.05%
Trailing 1 Year	-15.62%	-15.62%	-0.05%
Trailing 2 Year	-6.74%	-6.80%	1.81%
Trailing 3 Year	-2.45%	-2.51%	2.08%

## Return/Risk Analysis

06/01/2015 to 12/31/2018	Quantitative Investment Decisions Tactical Fixed Income Strategy		Index
	Gross	Net	
Best Month	3.30%	3.30%	1.85%
Worst Month	-4.28%	-4.28%	-2.39%
% of Up Months	48.84%	48.84%	58.14%
% of Down Months	51.16%	51.16%	41.86%
Maximum Drawdown (%)	-15.67%	-15.68%	-3.40%

## Yearly Returns

	Quantitative Investment Decisions Tactical Fixed Income Strategy		
	Gross	Net	Index
2017	3.08%	2.46%	3.61%
2016	6.74%	6.66%	2.62%
2015	n/a	n/a	n/a
2014	n/a	n/a	n/a

## Comparative Return/Risk Analysis

06/01/2015 to 12/31/2018	Quantitative Investment Decisions Tactical Fixed Income Strategy Gross
Alpha	-3.77%
Beta	0.53
Annualized Standard Deviation	4.49%
R-Squared	10.35%
Up Capture Ratio	10.93%
Down Capture Ratio	104.85%

Source: QID

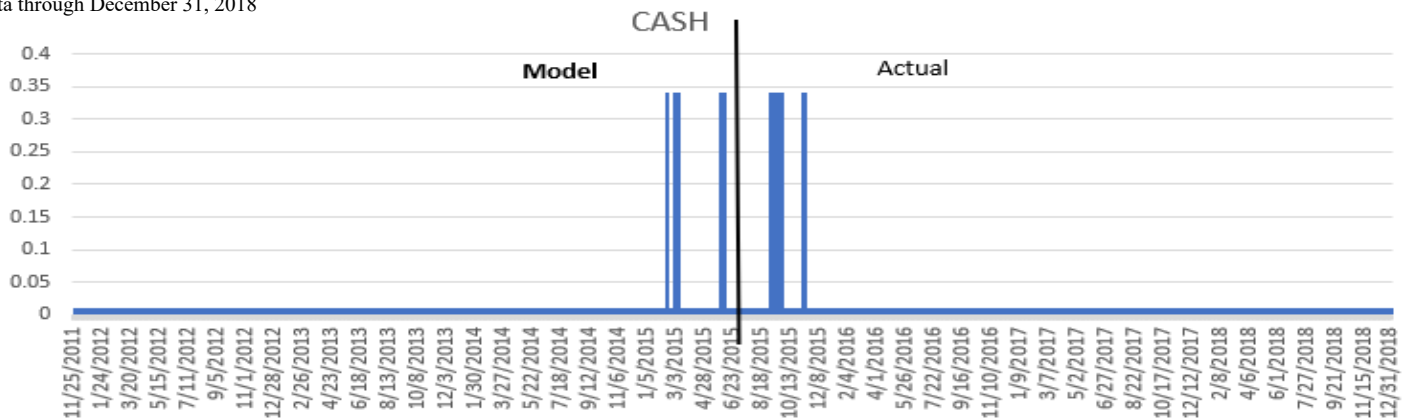
Portfolio inception date: 6/01/2015

All returns over 1 year are annualized.

Index: Bank of America Merrill Lynch Broad Market; the returns for the index shown include dividend and interest reinvestment.

## Historic Cash Allocation

Data through December 31, 2018



Note: All data prior to June 1, 2015 is based upon backtested, hypothetical results. Please see disclosure on back page.

Source: QID

## Tactical Fixed Income Allocation as of 12/31/2018

Convertible	24.75%
MLP	24.75%
Cash Equiv	1.0%
Municipal	24.75%
Treasury	24.75%
	0.0%
	0.0%
	0.0%
	0.0%

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DISCLOSURES

[Compliance Statement](#)

Quantitative Investment Decisions (“QID” or the “Advisor”) claims compliance with the Global Investment Performance Standards (GIPS®).

QID has been independently verified by ACA Compliance Group. From June 1, 2015, through December 31, 2016, the performance results shown in this fact sheet is that of a composite of client accounts according to the dictates of the Program. TIPS, International developed market, and emerging market debt asset classes were added to the portfolio in January, 2017.

A compliant presentation, including the performance data for the composite, may be obtained by contacting QID at 239.631.8912 or by emailing [info@qidllc.com](mailto:info@qidllc.com).

[Firm Definition](#)

Quantitative Investment Decisions 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 principal place of business is in Naples, FL. The Tactical Fixed Income strategy algorithm was initially developed and distributed as “signals” by QID’s founder, Ron Santangelo, starting in 2009.

On a quarterly basis, QID reviews a list of all accounts, under discretionary management by the firm, to ensure that only actual assets managed or sub-advised by QID are included in QID’s composite results. Accounts deemed to be non-discretionary, advisory only, hypothetical, or model in nature are excluded from the composite. Total firm assets comprise all discretionary accounts (whether fee-paying or not) for which QID has investment management responsibility, including assets managed by sub-advisors that QID has authority to select.

[Composite Description and Benchmark](#)

The Tactical Fixed Income strategy is a long-term growth strategy that invests in Exchange Traded Funds (ETFs) using a proprietary trading algorithm. The objective of the strategy is capital preservation, resulting in long-term appreciation over a market cycle. The Tactical Fixed Income strategy consists of ETFs representing major U.S. and international fixed income asset classes. Charts included in this fact sheet show the total return of the composite, including reinvestment of all dividends and interest. Returns are shown separately as gross (GR) and net (NR). Gross performance has been reduced by transaction costs. Net performance has been reduced by transaction and management fee. QID claims compliance with the Global Investment Performance Standards (GIPS®).

The benchmark for the Tactical Fixed Income strategy is the Bank of America Merrill Lynch Broad Market index. The returns for the index shown include dividend and interest reinvestment.

The strategy is constructed with widely available ETFs representing the various sectors, asset classes, and or international regions contained in the portfolio.

There is no guarantee that the price and yield performance of the index can be fully matched.

[Risks](#)

No investment strategy or risk management technique can guarantee returns or eliminate risk in any given market environment. Neither asset allocation or diversification can 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. QID’s actively managed portfolios may underperform their benchmark. 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. 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 past performance. Past performance is no guarantee of future results. Potential investors should consult with their financial advisor before investing in any investment product. Investment in equity strategies involves substantial risk and has the potential for partial or complete loss of funds invested.

[Hypothetical Back-Tested Performance and Analytics](#)

Backtested 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 backtested 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. Backtested 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. Backtested performance is developed with the benefit of hindsight and has inherent limitations.

Specifically, backtested 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.