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Volatility Target Model Portfolios

A Cutting-Edge, Innovative, Quantitative Investment Strategy

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George P. Jackson was named to Forbes' "Best-in-State Wealth Advisors" 2018 list out of over 300,000 advisors. The Ranking is based on an algorithm of qualitative criteria, mostly gained through telephone and in-person due diligence interviews, and quantitative data. Those advisors that are considered have a minimum of seven years' experience, and the algorithm weights factors like revenue trends, assets under management, compliance records, industry experience and those that encompass best practices in their practices and approach to working with clients. Portfolio performance is not a criteria due to varying client objectives and lack of audited data. Neither Forbes or SHOOK receive a fee in exchange for rankings.

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"I have not seen a market this volatile in my 66-year career"
April 5, 2018, John Clifton "Jack" Bogle (May 8, 1929 – January 16, 2019) was an American investor, business magnate and philanthropist. He was the founder and chief executive of The Vanguard Group Powerful words from a respected giant in investing.

Allianz Life's 2018 Market Perceptions Study found that (June 2018 survey, a survey taken before the huge volatility of the 4th quarter 2018):

- Nearly 40% of Americans said they were "anxious" about stock market volatility
- 42% feared a big market crash
- 44% predicted a major recession on the horizon
- 38% said "if the market experienced a significant drop causing them to lose a lot of money, there is no way they could rebuild their savings in time for retirement."

No doubt stock markets have changed since the invention of high frequency trading, computer trading, algorithmic trading, black box trading.

We have been working hard for our clients in developing investment strategies for today's stock market.

Volatility Target Model Portfolios – A Cutting-Edge, Innovative, Quantitative Investment Strategy

A volatility targeting approach uses dynamic asset allocation to achieve a stable level of volatility in all market environments by taking advantage of the negative relationship between volatility and return as well as the persistence of volatility. Volatility is negatively correlated with equity returns. As a result, a strategy which reduces volatility in periods when volatility is high and/or rising and which increases volatility in periods when volatility is low and/or falling is more likely to add value. In addition, returns of assets are not independent across time as large returns tend to be followed by large returns and small returns tend to be followed by small returns. In other words, periods of high and low volatility tend to persist—clustering together for extended periods of time.

With a buy-and-hold investment strategy, investors have to put up with volatility – and volatility can be extreme.

Our Volatility Target portfolios, using our proprietary algorithms, are designed to provide consistent annual portfolio volatility by adjusting the stock % of the portfolio based on (1) recent volatility and (2) the targeted volatility.

The portfolios will consist of a Large Cap US Stock ETF and a short-term US treasury ETF. Trading will occur monthly in each model portfolio.

Our new model portfolios are designed to provide consistency – consistency of volatility.

During the 16 years 2003-2018, the average S&P 500 index volatility was 18.2%. When volatility is low the portfolios will be allocated a larger % of US large cap stocks, when volatility is high, the % of stocks will be lowered. For the month of October 2008 the annualized stock market volatility was a whopping 89.8%. Last month, December 2018 annualized market volatility was 29.9%. In September 2017 volatility

was a low 5.0%. For calendar year 2008 volatility was 41.3%, for 2017 year was 6.7%. As you can see, and as you know, stock market volatility is all over the place.

Our Volatility Target Portfolios will have targeted volatility significantly lower than the 18.2% average volatility.

Our 3 New Model Portfolios have target volatility of just 3%, 6% and 10%. That is, we expect to achieve an annual volatility that's only 19%, 38% and 58% of the 18.2% stock market average.

Results of Backtest 2003-2019

Model Portfolio #	3VT	6VT	10VT	S&P 500 index
Target Volatility	3%	6%	10%	
Backtest Volatility	3.5%	7.0%	10.5%	18.2%
Maximum Drawdown	-5.2%	-10.5%	-21.6%	-55.2%
Compound Annual Growth Rate (CAGR)	4.4%	6.8%	8.8%	9.3%
CAGR of Model as a % of S&P 500 index CAGR	47%	73%	95%	100%
Backtest Volatility vs. S&P 500 index	19%	38%	58%	100%
Risk Adjusted Return, higher is better	126%	97%	84%	51%
Average Allocation to S&P 500 index ETF during the 16-year backtest	27%	52%	76%	100%
Minimum Allocation to S&P 500 index ETF during the 16-year backtest	3%	6%	10%	100%
Maximum Allocation to S&P 500 index ETF during the 16-year backtest	69%	100%	100%	100%

Volatility is the annual standard deviation.

Who are these model portfolios best suited for:

- The 40% of Americans who are anxious about stock market volatility

What type accounts should be used for these model portfolios?

- Due to frequent trading and the potential income tax impact of trading, it's best suited for qualified accounts, IRAs, etc.

Will the targeted volatility be constant every month?

- No. For example, the 10% target volatility portfolio has varied from month-to-month over the 16-year back-testing from a low of 2.3% to a high of 28.3%. However, on an annual basis, based on our back-testing, the annual volatility of the portfolios has been close to target volatility.

Volatility Targeting

A volatility targeting approach uses dynamic asset allocation to achieve a stable level of volatility in all market environments by taking advantage of the negative relationship between volatility and return as well as the persistence of volatility. Volatility is negatively correlated with equity returns, as evidenced by Exhibit 7. As a result, a strategy which reduces volatility in periods when volatility is high and/or rising and which increases volatility in periods when volatility is low and/or falling is more likely to add value. In addition, returns of assets are not independent across time as large returns tend to be followed by large returns and small returns tend to be followed by small returns. In other words, periods of high and low volatility tend to persist—clustering together for extended periods of time. This has been evidenced by the fact that the absolute value of market returns displays a positive and significant autocorrelation which decays slowly over time, as shown in Exhibit 8. This illustrates that future returns are partially dependent upon past returns; and that this dependence becomes weaker over time. To take advantage of these relationships—the negative correlation between volatility and return as well as the persistence of periods of high and low volatility—volatility targeting has become a popular alternative to strategies which utilize a simple fixed allocation between equities and bonds.

By selling equities while their risk-adjusted expected return is falling (while equity volatility is rising) and buying equities while their risk-adjusted expected return is rising (while equity volatility is falling), investors can increase risk-adjusted returns and smooth the overall volatility profile of the allocation.

Take a look at this 15-year daily chart – the top window (black line) is the S&P 500 index. The lower window (red line) is the VIX, a measure of stock market volatility. Notice the inverse correlation between returns and risk.

Disclosures

Additional Explanatory Notes and Disclosures:

1. This presentation is neither an offer to sell nor a solicitation of an offer to buy any securities.
2. Past performance is not indicative of future returns and the value of investments and the income derived from them can go down as well as up. Future returns are not guaranteed and a loss of principal may occur.
3. The material in this presentation is based on information from a variety of sources we consider reliable, but we do not represent that the information is accurate or complete. The material provided herein is for informational purposes only.
4. DISCLAIMER FOR HYPOTHETICAL RETURNS. All returns presented are hypothetical and back-tested. Hypothetical returns are before estimated advisory fees and transaction costs; all dividends are assumed to be reinvested annually. Actual Strategy returns from live portfolios may differ materially from hypothetical returns. There is no substitute for actual returns from a live portfolio. Back-testing is done by retroactively applying a hypothesis to the historical data to obtain returns (scientific method) or finding variables in historical data that correlate to returns and developing a hypothesis from the historical data (data mining) or applying any hypothesis to different time periods until favorable returns are discovered (data mining). Back-tested models are developed with the benefit of hindsight but might not have foresight of the future. Hypothetical returns do not reflect the macroeconomic risks of using the Strategy in a different time period or the financial risk of executing trades in a live portfolio which include the potential market impact on stock prices caused by buying or selling that could cause the model's buy or sell prices to differ from the friction-less trades of the back-tested model. Although the information in the table gives you some idea of the historic risks involved in investing in the Strategy, PAST HYPOTHETICAL PERFORMANCE IS NOT A GUARANTEE OF FUTURE RETURNS.
5. Opinions expressed are current opinions as of the date appearing in this material only.
6. References to market or composite indices, benchmarks or other measures of relative market performance over a specified period of time are provided for your information only. Reference to an index does not imply that the Jackson Wealth Management, LLC (JWM) portfolios will achieve returns, volatility or other results similar to the index. The composition of a benchmark index may not reflect the manner in which a JWM portfolios are constructed in relation to expected or achieved returns, investment holdings, portfolio guidelines, restrictions, sectors, correlations, concentrations, volatility or tracking error targets, all of which are subject to change over time.
7. Criteria for choosing the benchmarks for each Boston Harbor strategy are as follows:

The S&P 500 Total Return Index was chosen as the benchmark for the Volatility Target strategy based on the approximate equivalent risk between the benchmark and the strategy and because clients will generally use the Volatility Target portfolios as a substitute for or a complement to an all-equity portfolio.

8. The volatility of a benchmark index may be materially different from the individual performance attained by a specific investor. In addition, strategy holdings may differ significantly from the securities that comprise the index. The index has not been selected to represent an appropriate benchmark with which to compare an investor's performance, but rather is disclosed to allow for comparison of the investor's performance to that of certain well-known and widely recognized index. You cannot invest directly in an index.

9. The JWM Target Volatility portfolios use primarily the same algorithms with different target volatilities.
10. Performance results for the JWM Volatility Target strategies referred to herein and their respective benchmarks reflect total return figures. This means their performance includes the reinvestment of dividends, interest and other earnings.
11. Performance of each of the JWM Volatility Target strategies relative to its respective performance benchmark may have been impacted positively or negatively by economic and market conditions which affect either the benchmark or the JWM strategy to a greater degree. For example, in 2002 and 2008, the S&P 500 Total Return Index declined over 20%.
12. JWM's strategies may invest more heavily in stocks than their benchmarks so their performance relative to the benchmarks may be impacted by this difference.
13. Portfolio rebalancing does not occur. Weights of the investments is adjusted monthly based on current S&P 500 index volatility.
14. JWM's affiliate, George P Jackson, PA, CPA does provide tax advice to its clients. All investors are strongly urged to consult with their tax advisors regarding any potential investment.
15. This material is not intended to be used as a general guide to investing, or as a source of any specific investment recommendations, and makes no implied or express recommendations concerning the manner in which any client's account should or would be handled, as appropriate strategies depend upon the client's specific circumstances and investment objectives.
16. Please refer to JWM's ADV Part 2 for more information.
17. According to CFTC Rule 4.41, hypothetical or simulated performance results have certain limitations. Unlike an actual performance record, simulated results do not represent actual trading. Also, since the trades have not been executed, the results may have under- or over-compensated for the impact, if any, of certain market factors, such as lack of liquidity. No representation is being made that any account will or is likely to achieve profit or losses similar to those shown.
18. Trading frictions may not be negligible. The backtesting methodology introduces data snooping bias such that the best-performing strategy incorporates some luck and tends to overstate out-of-sample expectations. Backtesting methodology includes rebalancing the portfolio on the last trading day of each month. If actual trading occurs a day or two earlier or later may materially affect results.