## Lenwood Volatility Control Index

Quarterly Performance Report June 28, 2019



Index Methodologies, LLC

# INDEX METHODOLOGIES

## **Executive Summary**

- The U.S. Real Gross Domestic Product (GDP) for the first quarter of 2019 rose at an annual rate of 3.1%, in the third estimate, as reported by the Bureau of Economic Analysis on June 27, 2019,<sup>6</sup> confirming the second estimate earlier in the year. Fidelity Investments praised equity and bond market performance in the second quarter as "China trade tension escalated, providing an additional source of concern about the global growth slowdown." The Wall Street Journal estimates second quarter 2019 GDP at 1.6%<sup>5</sup>.
- U.S. equity and fixed income markets were strong in 2Q19 as "employment data remained broadly encouraging despite slowing in June...unemployment rate remained stable at a 49-year low of 3.6%"<sup>4</sup>, and "continued dovishness from the Federal Reserve."<sup>4</sup> This combination provided the perfect setting as "safehaven assets such as government bonds and gold registered solid returns during Q2, while equities and riskier bond categories extended their year-to-date gains."<sup>2</sup>
- For the quarter, U.S. equity markets' "gains came in April and June, which sandwiched May's losses amid U.S.-China trade-war fears and slowing global economic growth." The S&P 500 (including dividends) increased 4.3% for the quarter. Bonds enjoyed solid quarterly performance, returning 3.08% as measured by the Bloomberg Barclays U.S. Aggregate Bond Index.
- The Lenwood Volatility Control Index (LVCI) strategy, utilizing its monthly dynamic asset allocation and quantitative volatility control features, was still positioned conservatively in 2Q19 from the harsh fourth quarter 2018 downturn with 60%, 30% and 70% fixed income portfolio allocations in April, May and June, respectively. LVCI turned in a performance of 0.02% for the quarter, underperforming its benchmark's return of 3.71%.

Sources: LPL Research's "Market Insight Quarterly" as of July 2019<sup>1</sup>, Fidelity Investments' "Third Quarter 2019 Quarterly Market Update"<sup>2</sup>, JPMorgan "Market Insights: Guide to the Markets"<sup>3</sup> as of June 30, 2019, Schroder Investment Management's "Quarterly Markets Review – Q2 2019" <sup>4</sup>, WSJ.com <sup>5</sup>, U.S. Department of Commerce Bureau of Economic Analysis website <sup>6</sup>.

## LVCI Constituents for April 2019

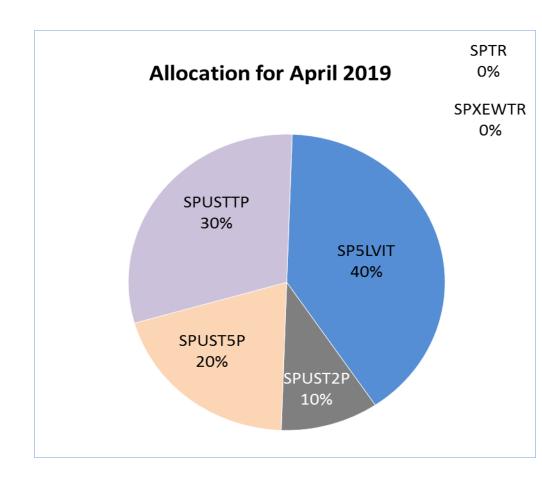


#### **Universe of LVCI Constituents**

Underlying Index	Bloomberg Ticker
S&P 500 Total Return Index	SPTR Index
S&P 500 Low Volatility Total Return Index	SP5LVIT Index
S&P 500 Equal Weight Total Return Index	SPXEWTR Index
S&P 2-Yr U.S. Treasury Note Futures Index ER	SPUST2P Index
S&P 5-Yr U.S Treasury Note Futures Index ER	SPUST5P Index
S&P 10-Yr U.S. Treasury Note Futures Index ER	SPUSTTP Index

#### **Top Four LVCI Constituents with Non-Zero Weight**

Rank of Relative Strength	Bloomberg Ticker
1	SP5LVIT Index
2	SPUSTTP Index
3	SPUST5P Index
4	SPUST2P Index



## LVCI Constituents for May 2019

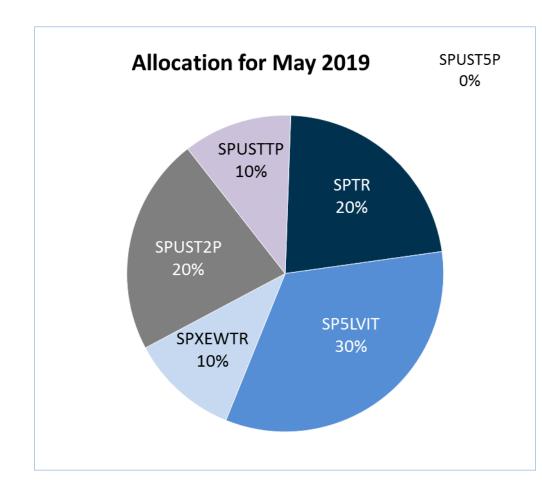


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S&P 10-Yr U.S. Treasury Note Futures Index ER	SPUSTTP Index

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## LVCI Constituents for June 2019

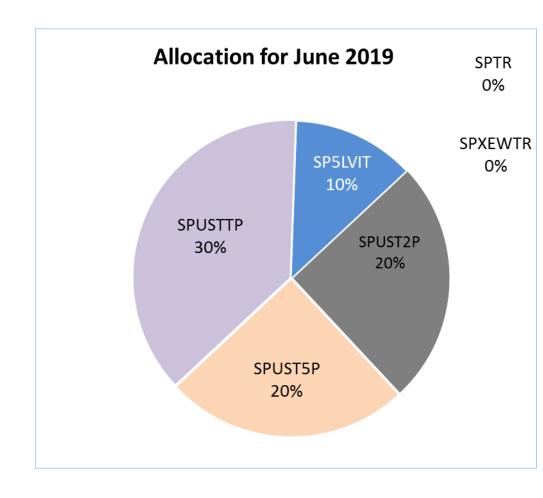


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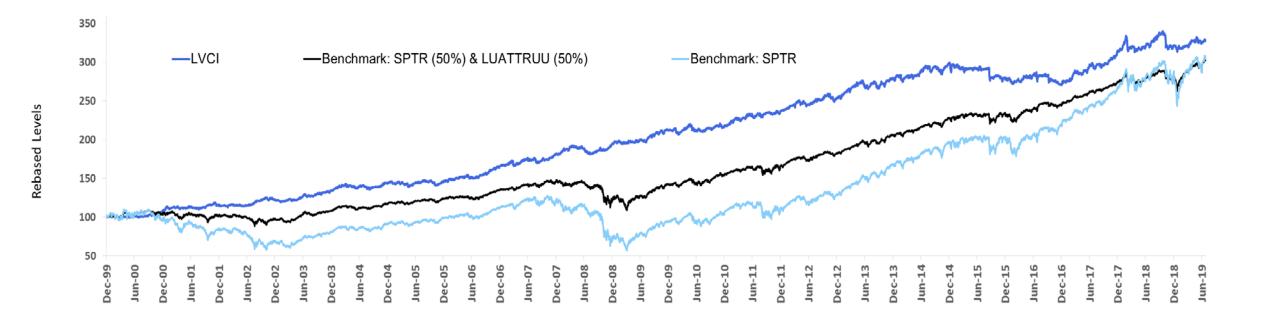


#### Historical Performance of LVCI vs. Benchmarks



(December 01, 1999 – Jun 28, 2019)\*

	Annualized Return	Standard Deviation	Sharpe Ratio	Crisis drawdown (Oct 2007 to Oct 2008)
LVCI	6.26%	6.02%	1.04	-5.99%
Benchmark: SPTR (50%) & BCEU1T (50%)	5.84%	8.96%	0.65	-20.93%
Benchmark: SPTR	5.90%	19.07%	0.31	-44.55%

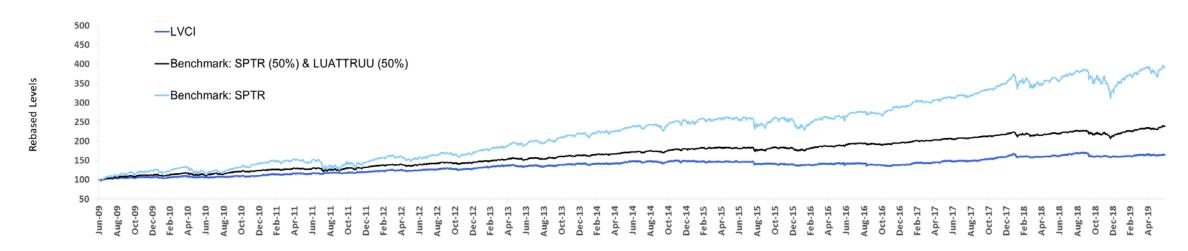


<sup>\*</sup>Simulated performance period: December 01, 1999 to May 27, 2014; Actual performance period: May 28, 2014 onwards

## 10 Years Performance of LVCI vs. Benchmarks



(Jun 30, 2009 – Jun 28, 2019)\*



Returns for the period ending June 28, 2019**						
MTD QTD YTD One year Since inception*						
LVCI	1.39%	0.02%	3.00%	2.52%	6.26%	
Benchmark: SPTR (50%) & LUATTRUU (50%)	3.96%	3.71%	11.81%	9.02%	5.84%	
Benchmark: SPTR	7.05%	4.30%	18.54%	10.51%	5.90%	

<sup>\*</sup>Simulated performance period: December 01, 1999 to May 27, 2014; Actual performance period: May 28, 2014 onwards

<sup>\*\*</sup>Returns for MTD, QTD, YTD and One year; Annualized returns for the period 'Since Inception'

## Performance: LVCI vs. Constituents



Historical Performance for the Period: December 01, 1999 – June 28, 2019*					
	Annualized Return	Standard Deviation	Sharpe Ratio	Crisis drawdown (Oct 2007 to Oct 2008)	
LVCI	6.26%	6.02%	1.04	-5.99%	
SPTR	5.90%	19.07%	0.31	-44.55%	
SP5LVIT	10.20%	14.02%	0.73	-31.38%	
SPXEWTR	9.26%	20.26%	0.46	-48.42%	
SPUST2P	1.28%	1.53%	0.84	-2.36%	
SPUST5P	2.91%	3.87%	0.75	-5.06%	
SPUSTTP	4.07%	5.98%	0.68	-5.95%	

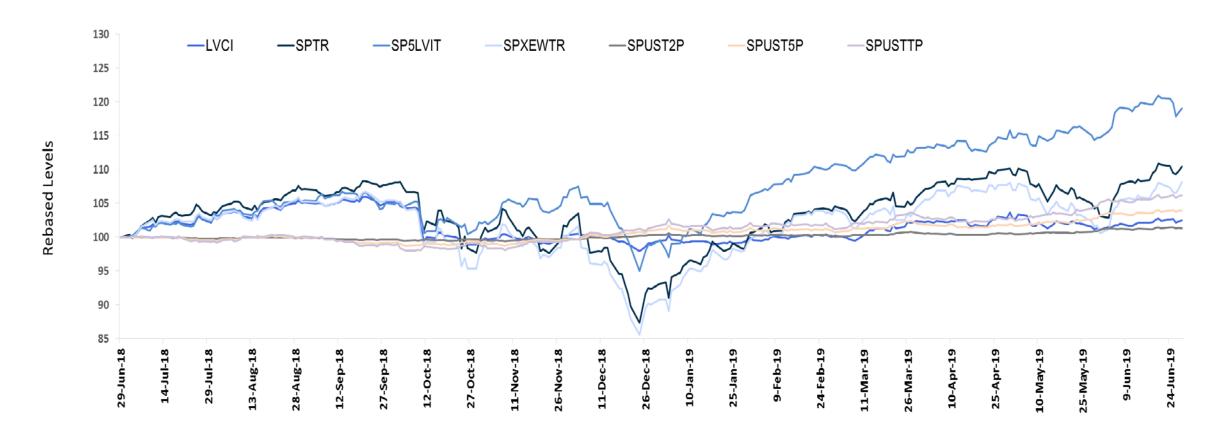
Returns for the period ending June 28, 2019**					
	MTD	QTD	YTD	One year	Since Inception*
LVCI	1.39%	0.02%	3.00%	2.52%	6.26%
SPTR	7.05%	4.30%	18.54%	10.51%	5.90%
SP5LVIT	3.76%	5.20%	19.53%	19.11%	10.20%
SPXEWTR	7.54%	3.72%	19.19%	8.29%	9.26%
SPUST2P	0.23%	0.72%	0.97%	1.32%	1.28%
SPUST5P	0.67%	1.83%	2.71%	3.91%	2.91%
SPUSTTP	0.96%	2.75%	4.33%	6.14%	4.07%

<sup>\*</sup>Simulated performance period: December 01, 1999 to May 27, 2014; Actual performance period: May 28, 2014 onwards

<sup>\*\*</sup>Returns for MTD, QTD, YTD and One year; Annualized returns for the period 'Since Inception'

## 1 Year Performance of LVCI vs. Constituents (June 29, 2018 – June 28, 2019)







### Disclaimer

Index Methodologies, LLC ("IM") owns all rights to the Lenwood Volatility Control Index<sup>™</sup>, including the index methodology that enables the Lenwood Volatility Control Index<sup>™</sup>. IM developed and maintains, and is solely responsible for, the methodology used by Lenwood Volatility Control Index<sup>™</sup>. IM does not sponsor, endorse, promote or sell any annuity contract or other investment product that provides or attempts to provide a return based on returns of the Lenwood Volatility Control Index<sup>™</sup>. Any decision to invest in such an annuity contract or other investment product should not be made in reliance on any statements set forth herein, but rather should only be made after carefully considering the risks detailed in the materials prepared by or on behalf of the issuer of such contract or product. "Lenwood Volatility Control Index <sup>™</sup>" and "Index Methodologies<sup>™</sup>" are trademarks of Index Methodologies, LLC.

## Performance



#### **Simulated Operating History**

The Index will be first calculated on a live basis on or around the Live Date and therefore lacks actual historical performance. The Calculation Agent and the Sponsor have retrospectively calculated the closing levels of the Index from the Base Date to but excluding the Live Date. However, because the Index will not be calculated before the Live Date, all such retrospective closing levels are simulated and must be considered hypothetical and illustrative only.

Simulated data prior to the Live Date may be constructed using certain procedures that vary from the procedures used to calculate the Index following its establishment and on the basis of certain assumptions that may not apply in the future. Although these assumptions are considered reasonable or necessary, the variations used in producing simulated historical data from those used to calculate the Index going forward could produce variations in returns of indeterminate direction and amount.

In particular, simulated history for the period from December 31, 1991 to one day prior to Live Date was constructed in two parts: from December 31, 1991 to December 1, 1999 bond futures with Bloomberg tickers TU1 Comdty, FV1 Comdty and TY1 comdty are used. To make the simulated history more representative, from December 2, 1999 to one day prior to Live Date, S&P excess return bond indices with Bloomberg tickers SPUST2P Index, SPUST5P Index, and SPUSTTP Index are used. December 1, 1999 is the earliest date for which S&P excess return indices are available.

To generate live Index Levels US Treasury Note Futures indices with Bloomberg tickers SPUST2P Index, SPUST5P Index, and SPUSTTP Index shall be used as the underlyings.

The actual performance of the Index may be materially different from the results presented in any Simulated Operating History relating to the Index. Past performance should not be considered indicative of future performance.

#### **Future Index Performance**

No assurance can be given that the strategies employed by the Calculation Agent and/or the Sponsor will be successful or that the return on the Index, as demonstrated by the Simulated Operating History, will continue in the future. The Simulated Operating History should not be considered indicative of future performance of the Index as markets are unpredictable.

There can be no assurance that the Index will generate positive returns or outperform any benchmark index or alternative strategy.

For the period using Bloomberg rolled futures, the following Bloomberg settings are used: Prices "Ratio", Adjusted "2", Days "Relative to First Notice".

## LVCI Methodology



Performance of Underlyings

Risk Adjusted Trend Scoring

Relative
Strength Scoring
and Cash
Allocation

Determination of Dynamic Participation Factor

Lenwood Volatility Control Index

Indices:

- 1. S&P 500 TR
- 2. S&P 500 Low Vol TR
- 3. S&P 500 EW TR
- 4. S&P 2-Yr U.S. Treasury Note Futures Index ER
- 5. S&P 5-Yr U.S. Treasury Note Futures Index ER
- 6. S&P 10-Yr U.S. Treasury Note Futures Index ER

Determination of allocation to cash:

If less than 3 RATS are negative, consider underlying for relative strength scoring. Else, assign zero weight to the underlying.

Calculation of realized volatility of a notional portfolio to determine dynamic participation factor

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RATS Calculation for varying periods of performance

Ranking relative strength and allocation:

Rank 1: 40%

Rank 2: 30% Rank 3: 20%

Rank 4: 10%

Volatility control overlay to determine dynamic participation factor and Lenwood Volatility Control Index levels