

# US Mega Cap

## Higher Returns, Lower Risk than the Market

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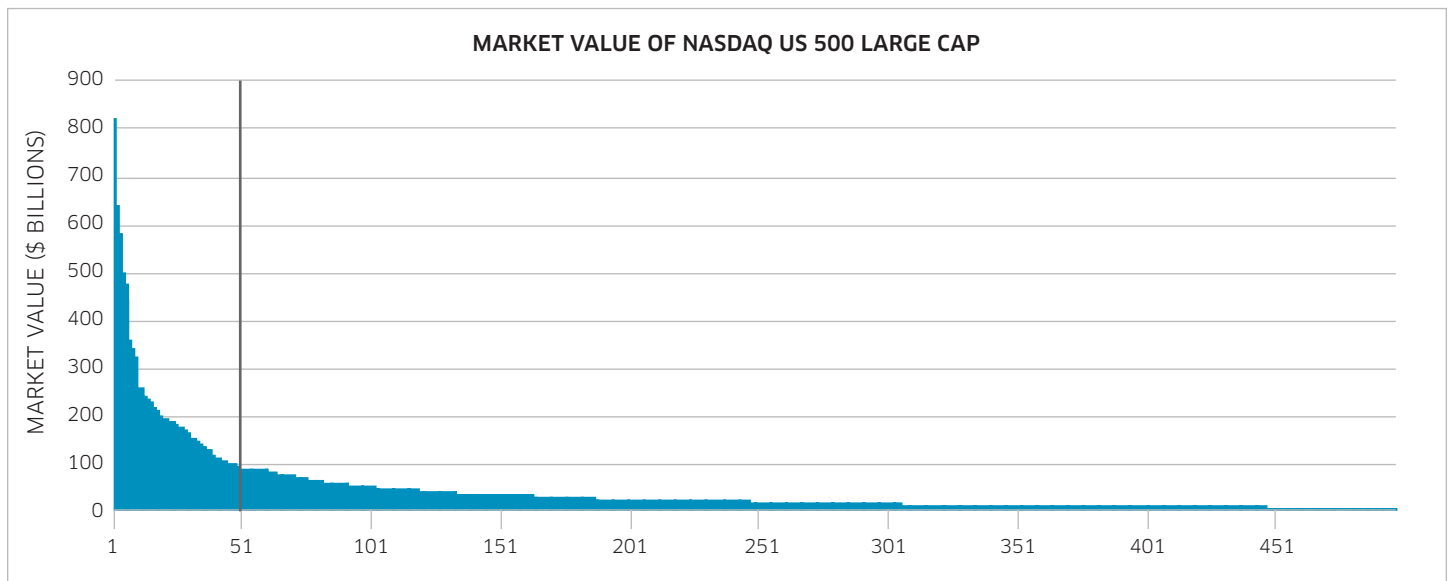
There are many ways in which investors can get exposure to the broad market, but, surprisingly, there are few ways in which investors can get pure exposure to the top-most names in the broad market, the mega cap stocks. Further, there are nearly no solutions where investors can get exposure to these mega cap securities with a weighting methodology that offers a volatility tilt on these names (low volatility securities get higher weight, high volatility securities get lower weight). The Nasdaq US Mega Cap Select Leaders Index offers this exact solution to investors. The following research will explain the case for mega cap stocks, then it will discuss the methodology of the Nasdaq US Mega Cap Select Leaders Index, and then it will analyze the performance of this index and show the reasons as to why this index and the product tied to it, Principal US Mega Cap Multi-Factor Index ETF (Nasdaq: USMC), can provide investors with a product that has more favorable metrics than other broad market benchmarks.

### The Case for Mega Cap Stocks

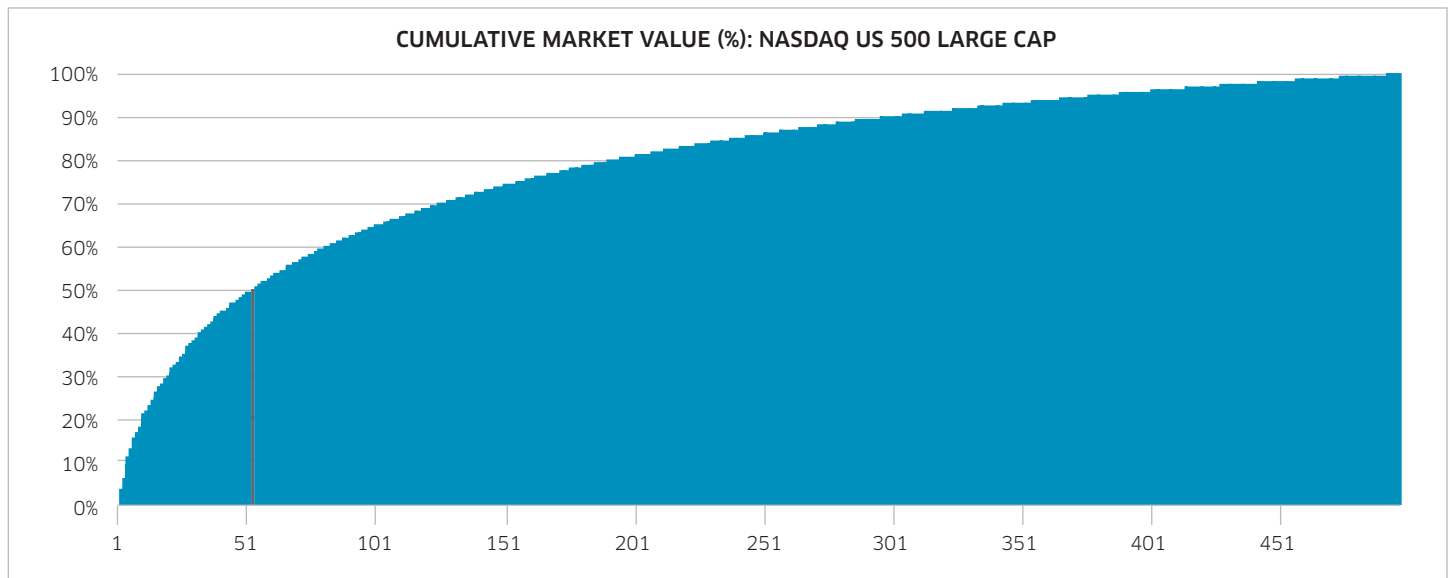
Investors often overlook what they are allocating their money to when they invest in the “market”. As the first chart below shows, the Nasdaq US 500 Large Cap Index, a representation of the broad market, is very top heavy in nature. The Nasdaq US 500 Large Cap Index is comprised of the 500 largest companies by market cap in the United States that are members of the Nasdaq Global Index (methodology can be found here: [https://indexes.nasdaqomx.com/docs/methodology\\_NasdaqUSSelectIndexFamily.pdf](https://indexes.nasdaqomx.com/docs/methodology_NasdaqUSSelectIndexFamily.pdf)). The market value of securities in the index seems to plateau after roughly the 50th security. The second chart below affirms this notion, as roughly 50% of the entire market value of the Nasdaq US 500 Large Cap Index is represented by only 53 securities. These top 50 or so securities are then the mega cap stocks and they put into question the definition of what the “market” really means.

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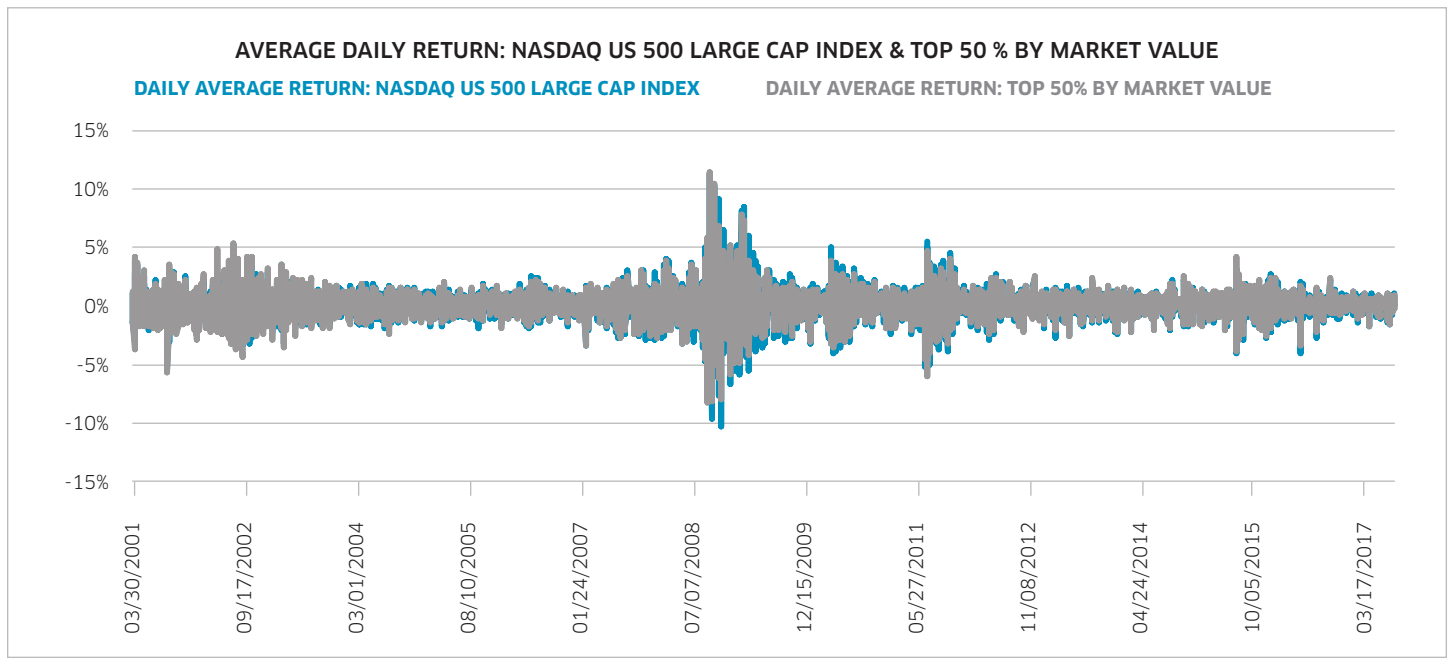
\*As of 9/15/2017



\*As of 9/15/2017

The chart below shows the daily average return between the Nasdaq US 500 Large Cap Index and the top 50% securities by market value in this index for roughly the last 17 years. This shows that this average daily return has been very close between these two return streams. Further, the first table below illustrates that the daily average returns between the Nasdaq US 500 Large Cap Index and the top 50% by market value of this index are highly correlated and the top 50% of market value has a beta of 0.872, which shows that the securities in the top 50% by market value move fairly in tandem with the market in general. In other words, since the beta is close to 1, this shows that the top 50% of this index by market value provides systematic beta exposure to the market. In addition to that, the second table below shows that the top 50% of the index by market value has lower volatility, which indicates that these securities have been able to achieve almost the same returns as the market but with lower volatility.

In other words, about one tenth of this index (about 50 securities out of 500) is able to achieve similar returns to the entire index combined and the top 50 or so securities have less average volatility than the average volatility of the entire index. This helps demonstrate that a pure exposure solution to only the mega cap securities (the top 50 or so securities from the market) can help explain the variance in the market with much less bias and volatility from the rest of the index. The analysis of the Nasdaq US Mega Cap Select Leaders Index below will illustrate these points in further detail.



\*Using components as of 9/15/2017 for Nasdaq US 500 Large Cap Index. Data from 3/30/2001 - 9/15/2017

DAILY AVERAGE RETURN BETWEEN NASDAQ US 500 LARGE CAP INDEX & TOP 50% BY MARKET VALUE	
Correlation	0.959
Beta	0.872

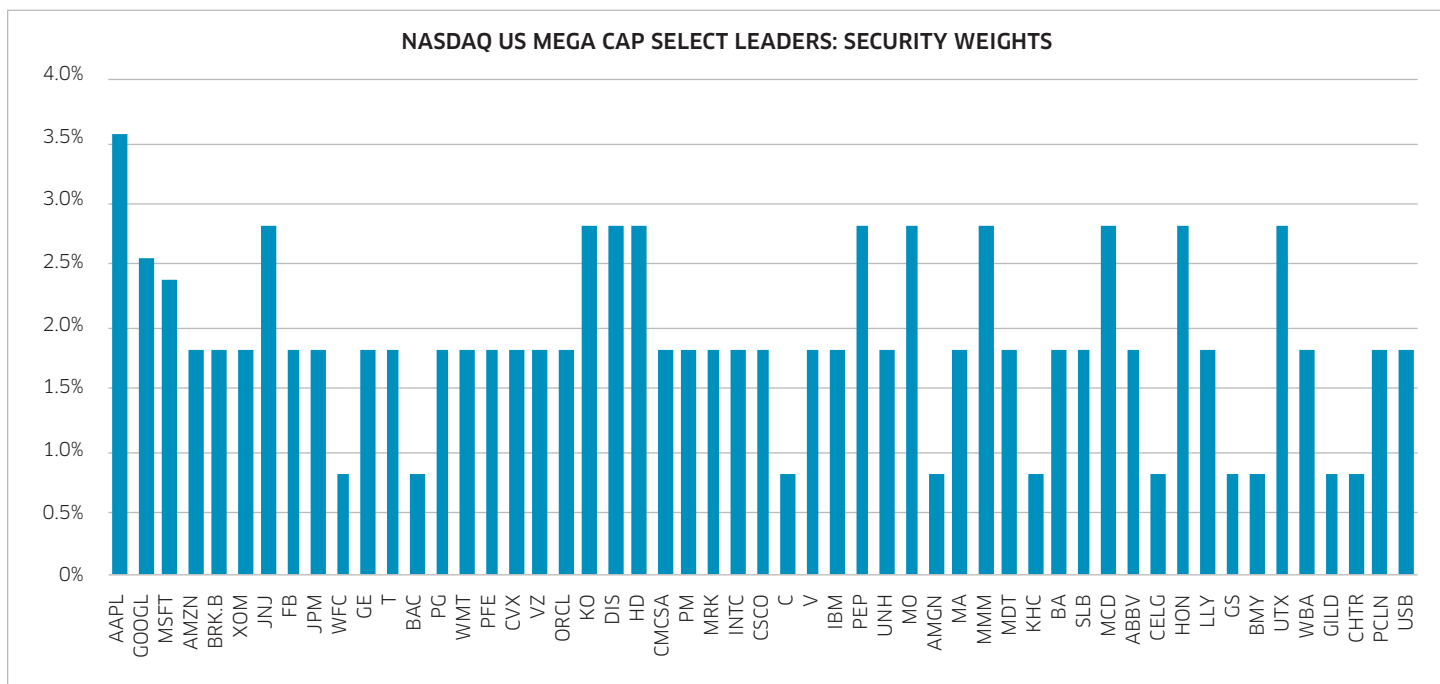
\*Using weights and components as of 9/15/2017 for Nasdaq US 500 Large Cap Index. Data from 3/30/2001 - 9/15/2017

AVERAGE VOLATILITY (2001-2017)	
Top 50% by Market Value	30.03%
Nasdaq US 500 Large Cap Index	35.01%

\*Using components as of 9/15/2017 for Nasdaq US 500 Large Cap Index. Data from 3/30/2001 - 9/15/2017

## Constructing the Nasdaq US Mega Cap Select Leaders Index

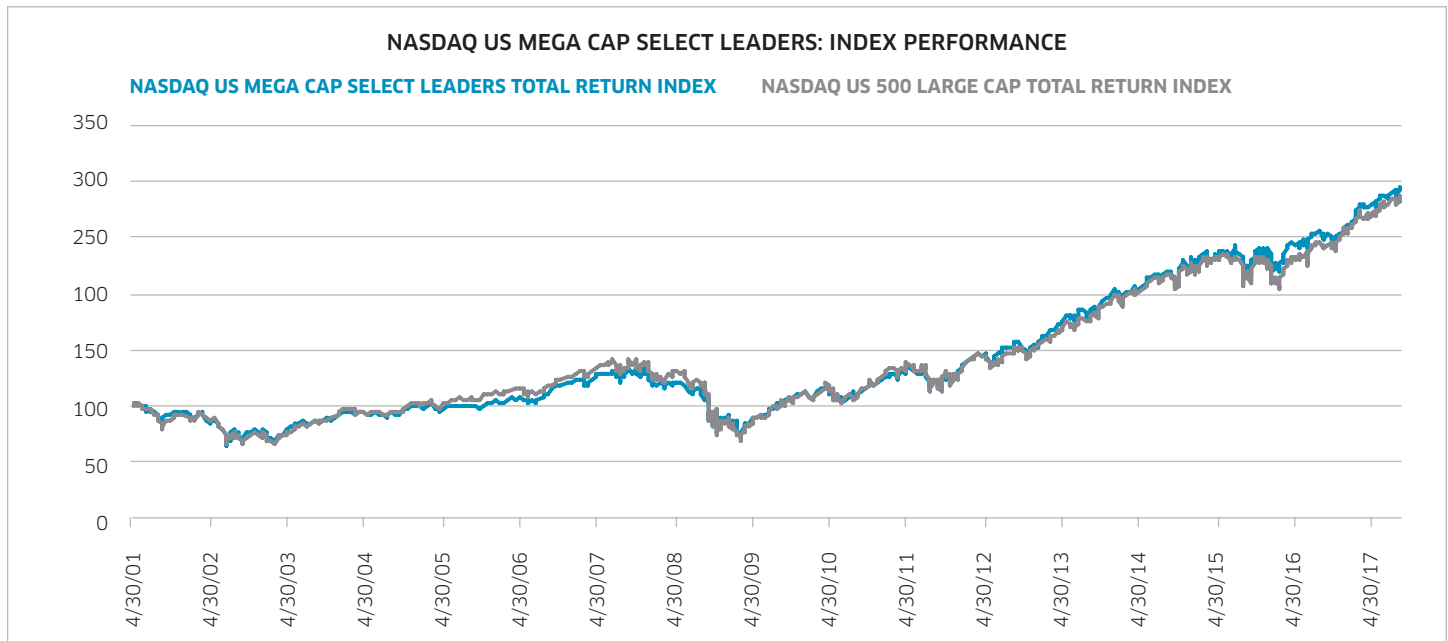
As mentioned above, the Nasdaq US Mega Cap Select Leaders Index (NQMGUSL) is designed to provide exposure to the largest US companies within the Nasdaq US 500 Large Cap Index with a tilt to lower volatility companies. In order to be eligible in the index, a security must be part of the Nasdaq US 500 Large Cap Index and it must be in the top 50th percentile of the Nasdaq US 500 Large Cap Index by aggregate company market cap. As stated in the methodology guide, the index employs a modified equal dollar weighting scheme. Securities that are in the top 10% by aggregate market cap maintain the aggregate market cap weight. Securities not in the top 10% by aggregate market cap are equally weighted. The equally weighted securities, however, are volatility adjusted such that the top 2 deciles by volatility (lowest volatility) receive a 1% higher weight than the equal weighted and the bottom 2 deciles by volatility (highest volatility) receive a 1% lower weight than the equal weighted. The middle 60% by volatility maintain the equal weight. The chart below of the security weights from the most recent rebalance illustrates this weighting methodology and the volatility tilt that is applied. The index rebalances semi-annually in April and October, using market data through the end of March and September, respectively.



\*Weights as of most recent rebalance in April 2017

## Index Performance

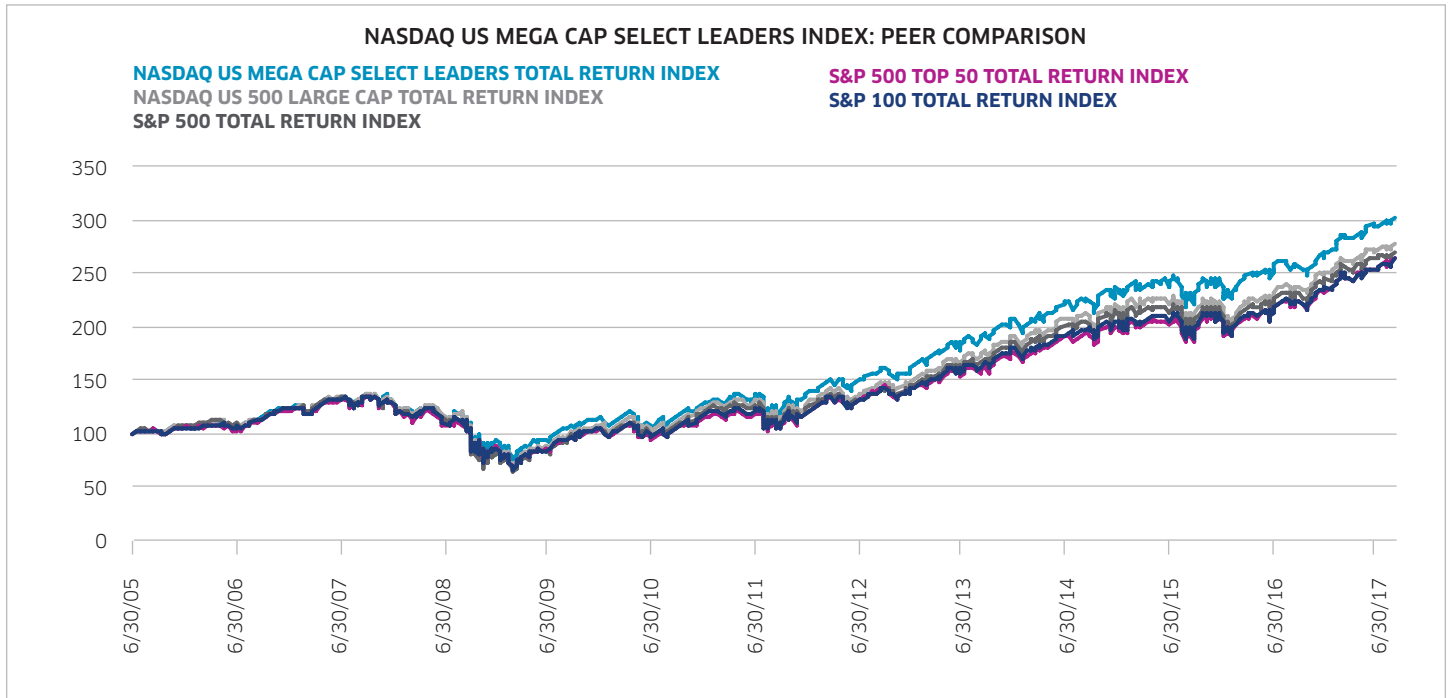
The performance analysis below will show and affirm the points made in the section above for the case for mega cap stocks. The chart below, which shows the performance of the Nasdaq US Mega Cap Select Leaders Index against the Nasdaq US 500 Large Cap Index, confirms the point made above, in that selecting the top 50<sup>th</sup> percentile by market value (about 50 or so securities) still leads to roughly the same performance as the benchmark itself. In fact, the Nasdaq US Mega Cap Select Leaders Index slightly outperformed the benchmark, without the bias and volatility of the other approximately 450 names in the benchmark.



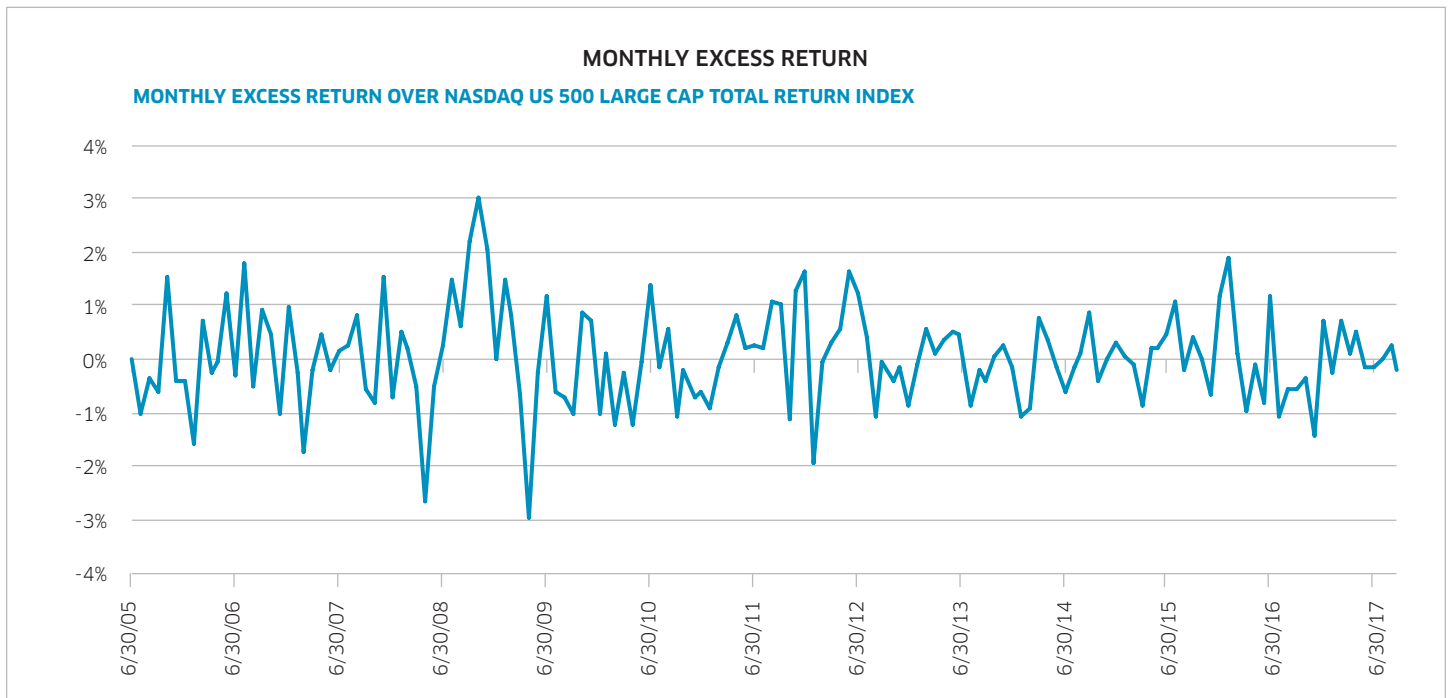
\*From 4/30/2001 - 9/15/2017

In looking at a peer comparison, although the return profile is similar, the Nasdaq US Mega Cap Select Leaders Index performs better than the following peers: S&P 500 Index, S&P 500 Top 50 Index, S&P 100 Index, and the Nasdaq US 500 Large Cap Index (benchmark index). The performance statistics table below, however, demonstrates the ways in which the Nasdaq US Mega Cap Select Leaders Index may outperform its peers not only by its return profile but also by other important measures. Due to the way in which the index is constructed, with lower volatility securities getting higher weight and higher volatility securities getting lower weight, the volatility of the index itself is lower than all of the other peer indexes, which has led to a higher Sharpe Ratio. The max drawdown is less than the other indexes and the Nasdaq US Mega Cap Select Leaders Index also has a better information ratio, which shows that it has been able to generate consistent excess returns over the benchmark through time (4/30/2001 - 9/15/2017). Further, even though it does not follow a market cap weighting scheme and only selects about 50 securities, it still has a beta of close to 0.9 and is 0.992 correlated with the benchmark, which reveals that the index closely aligns with the returns of the market. This validates the point made above that this index helps provide investors with systematic beta exposure to the market. In addition, while the up market capture ratio is lower than the other indexes, the down market capture ratio of 0.871 shows that the Nasdaq US Mega Cap Select Leaders Index has performed better than all of its peers in down markets. Further, since the Sortino Ratio (annualized return divided by the standard deviation of negative returns) of 0.697 of this index is much higher than the peer indexes, it helps illustrate that the Nasdaq US Mega Cap Select Leaders Index has performed better on a risk-adjusted basis than the other peer indexes in periods of downwards volatility. This interesting point highlights the fact that this index, which consists of mega cap securities, and the way in which it is weighted (low volatility tilt) is a “defensive” index for investors. This means that investors could be protected on the downside, as this index has shown to do so historically, should the market conditions reverse.

This performance and peer analysis has revealed that, in addition to the Nasdaq US Mega Cap Select Leaders Index performing better, it has been favorable based on other metrics including having a better overall volatility and downwards volatility profile.



\*From 6/30/2005 - 9/15/2017



\*From 6/30/2005 - 9/15/2017

<b>PERFORMANCE STATISTICS</b>	<b>NASDAQ US MEGA CAP SELECT LEADERS TOTAL RETURN INDEX</b>	<b>S&amp;P 500 TOTAL RETURN INDEX</b>	<b>S&amp;P 500 TOP 50 TOTAL RETURN INDEX</b>	<b>S&amp;P 100 TOTAL RETURN INDEX</b>	<b>NASDAQ US 500 LARGE CAP TOTAL RETURN INDEX</b>
Return	202.85%	171.65%	163.85%	163.32%	179.32%
Annualized Return	9.51%	8.53%	8.28%	8.26%	8.78%
Average Daily Return	0.04%	0.04%	0.04%	0.04%	0.04%
Volatility	16.96%	19.33%	18.50%	18.72%	19.06%
Sharpe Ratio	0.56	0.442	0.447	0.441	0.461
Sortino Ratio	0.697	0.537	0.552	0.540	0.560
Max Drawdown	-47.50%	-55.25%	-53.29%	-54.08%	-53.34%
Information Ratio	0.204	-0.397	-0.174	-0.252	--
Alpha	0.67%	-0.23%	-0.47%	-0.48%	--
Up Capture Ratio	0.888	1.008	0.943	0.965	--
Down Capture Ratio	0.871	1.012	0.943	0.967	--
Beta	0.899	1.012	1.027	0.986	--
Correlation	0.992	0.994	0.995	0.998	--

\*From 6/30/2005 - 9/15/2017. Nasdaq US 500 Large Cap Total Return Index was used as benchmark for performance analysis.

<b>ANNUALIZED RETURNS</b>	<b>NASDAQ US MEGA CAP SELECT LEADERS TOTAL RETURN INDEX</b>	<b>S&amp;P 500 TOTAL RETURN INDEX</b>	<b>S&amp;P 500 TOP 50 TOTAL RETURN INDEX</b>	<b>S&amp;P 100 TOTAL RETURN INDEX</b>	<b>NASDAQ US 500 LARGE CAP TOTAL RETURN INDEX</b>
1Y	17.60%	18.78%	18.98%	18.57%	18.76%
3Y	10.57%	10.29%	11.00%	10.22%	10.10%
5Y	13.56%	13.67%	13.05%	13.02%	13.49%
10Y	8.67%	7.66%	7.37%	7.26%	7.85%
Since Inception*	9.51%	8.53%	8.28%	8.26%	8.78%

\*From 6/30/2005 - 9/15/2017

## Conclusion

This piece has provided an alternate definition to what exactly the “market” really means. It has shown that similar performance as a broad market index can be achieved along with reduced volatility and far fewer securities in the index. The Nasdaq US Mega Cap Select Leaders Index selects securities in the top 50<sup>th</sup> percentile by market value from the Nasdaq US 500 Large Cap Index (about 50 securities) and weights them with a volatility tilt (higher weight to lower volatility securities and vice versa). The performance analysis included herein showed that this index achieved slightly better performance, with reduced volatility, better performance in down markets and on a risk-adjusted basis in periods of downwards volatility, similar beta to the broad market, higher excess returns than other peers and a very high positive correlation to the broad market. It has achieved this with approximately one tenth of the securities from the benchmark, thereby reducing the bias and volatility created from the other securities in the benchmark. In effect, these mega cap securities are an alternate to the “market” as their performance has historically driven the performance of the market itself due to the top-heavy nature of benchmarks.

The product tied to the Nasdaq US Mega Cap Select Leaders Index is the Principal US Mega Cap Multi-Factor Index ETF (Nasdaq: USMC).

## Footnotes:

1. All data from charts/tables are from Nasdaq, FactSet, or Bloomberg, unless otherwise stated.

## More Information

For more information, please visit [business.nasdaq.com/indexes](https://business.nasdaq.com/indexes).

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