

Global indicators as a key for improving performance

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EXECUTIVE SUMMARY

Over the last decade, the Smart Beta ETF industry has become one of the most exciting investment trends. With more than 1000 ETFs, managing above \$800B in the US alone, new tools must be constantly developed to improve performance, reduce volatility and control risk. We, at Alpha Vee, have been leading the development and refining unique dynamic strategies using fundamental global indicators. These indicators have been proven and have provided significant advantages for smart beta ETFs. The indicators, based on a large body of historical data, provide grading for the market as a whole as well as for individual sectors. When added to a solid multi-sector-multi-factor (MSMF) strategy, the result is compelling. In this paper we will review such an index and dissect its performance over the last 3 years, through various market up and down events.

SCOPE

Alpha Vee offers 4 white papers centered on controlling risks (market, sector and selection). This paper consolidates the lessons learned by applying the solutions previously suggested to a real-life example of a dynamic index. The tools presented here can be molded and adjusted as needed to match the risk profile desired.

THE INDICATORS

Alpha Vee indicators are fundamental oriented by design. The basic premise is that over a long period, the market “catches up” (reversion to the mean) with the real economic value of the underlying firms. Bubble markets, as well as panic markets, do exist, but their term is limited, and eventually a short-term correction, positive or negative, will occur.

The **Alpha Vee Market Indicator (AVMI)** evaluates thousands of companies daily from a fundamental point of view. After grading and filtering the companies based on their published P&L data, the algorithm evaluates and quantifies the trend. This trend is converted to a quality indicator. Market price ratios, as they relate to companies’ equity and cash flow, are evaluated in order to provide a value indicator. Both quality and value indicators form a powerful combination which determines the suitable strategy for the time.

The **Alpha Vee Sector Indicator (AVSI)**, is calculated for each market sector. Hundreds of companies in each sector are evaluated according to multi factors models which are relevant for the specific sectors. Factors such as capital expenditures, return on capital and profit margins are just some of the factors evaluated. The AVSI can be used to over or under weight the sector compared to a benchmark or just to select the sectors forecasted to outperform the market.

CASE STUDY

The above indicators were integrated into an index which selects US equities based on a Multi-Sector-Multi-Factor (MSMF) strategy.

The MSMF strategy is a heavily researched method even before the indicators are applied as it uses different factors for different sectors. This is made possible since the top down approach pre-defines the sector weights according to the benchmark weights. As a result, each sector now becomes a separate sandbox where stocks can be compared and selected based on factors which are relevant for that specific sector. For example, the ROA (Return of Assets) of a bank is not comparable with the ROA of an industrial company.

As mentioned previously, some of the indicators and strategies have been tested daily using real investable tools. In this paper, we shall present the behavior of a index over the last 3 years, including the last year when the index was “paper-traded” in real time.

Let's start by reviewing the total performance of the Alpha Vee Dynamic US Index over the last 3 years:

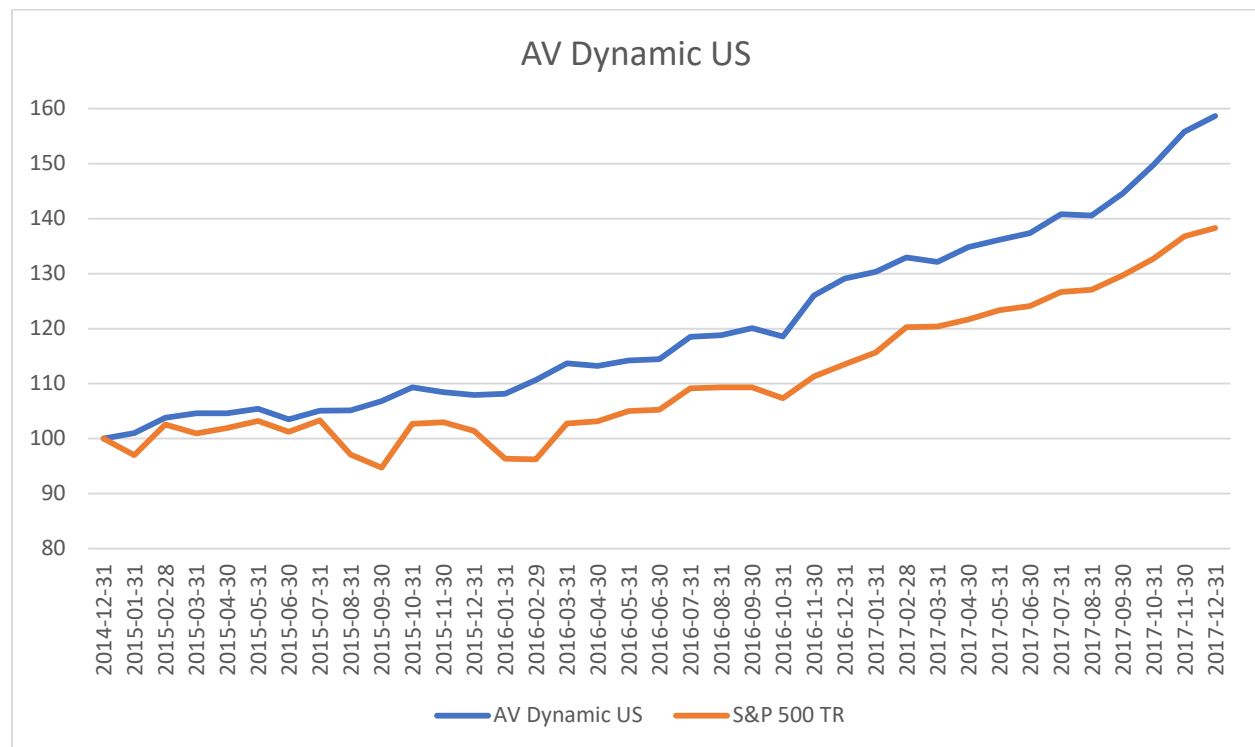


Figure 1- Three Years Index Performance

Figure 1 clearly demonstrates that the AV Dynamic US has achieved the extra performance while maintaining a lower standard deviation. This is not an easy fit, especially in this bull period. As an additional reference, here is the full set of numbers for this period (Table 1):

	AV Dynamic US	S&P 500 TR
CAGR	16.62%	11.40%
SD	5.74%	10.07%
Sharpe	2.66	1.09
Active Return	5.22%	0
Beta	0.34	1
Drawdown	-1.85%	-8.36%

Table 1 - AV Dynamic US Results

As stated previously, the AV Dynamic US index is utilizing 3 orthogonal components: A Market Indicator (AVMI), a Sector Indicator (AVSI) and a Multi Sector – Multi Factor (MSMF) strategy. Let us examine the unique contribution of each.

The Market Indicator

As explained earlier, the market indicator provides a daily reading of the quality and value of the market as a whole, based on the fundamentals and price of thousands of US companies. Obviously, the daily changes of the indicators are incremental. For the purpose of this strategy, a reading is performed quarterly. The readings, in a range of 0-100 are mapped into a strategy matrix (see Figure 2a) which based on the indicators selects the right strategy for the time. In this index, the strategies differ by the amount that is allocated to stocks vs. bonds. During bullish times, 100% is allocated to stocks, while in bearish times, 100% is allocated to bonds (in this index, the bond component has been chosen to be 7-10 years US government bonds). Trend signals imply trend allocations.

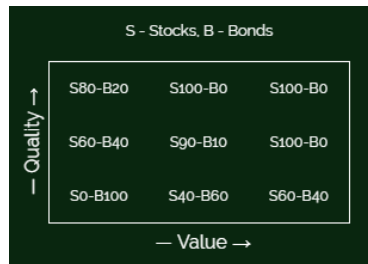


Figure 2a - The Strategy Matrix

If we examine the effect of the market indicator alone, we can detect significant contribution for decreased volatility, which in turn also helps to boost the performance. Figure 2 and table 2 capture the results. In order to isolate the contribution of the market indicator, we used the S&P 500 TR itself as the stock component.

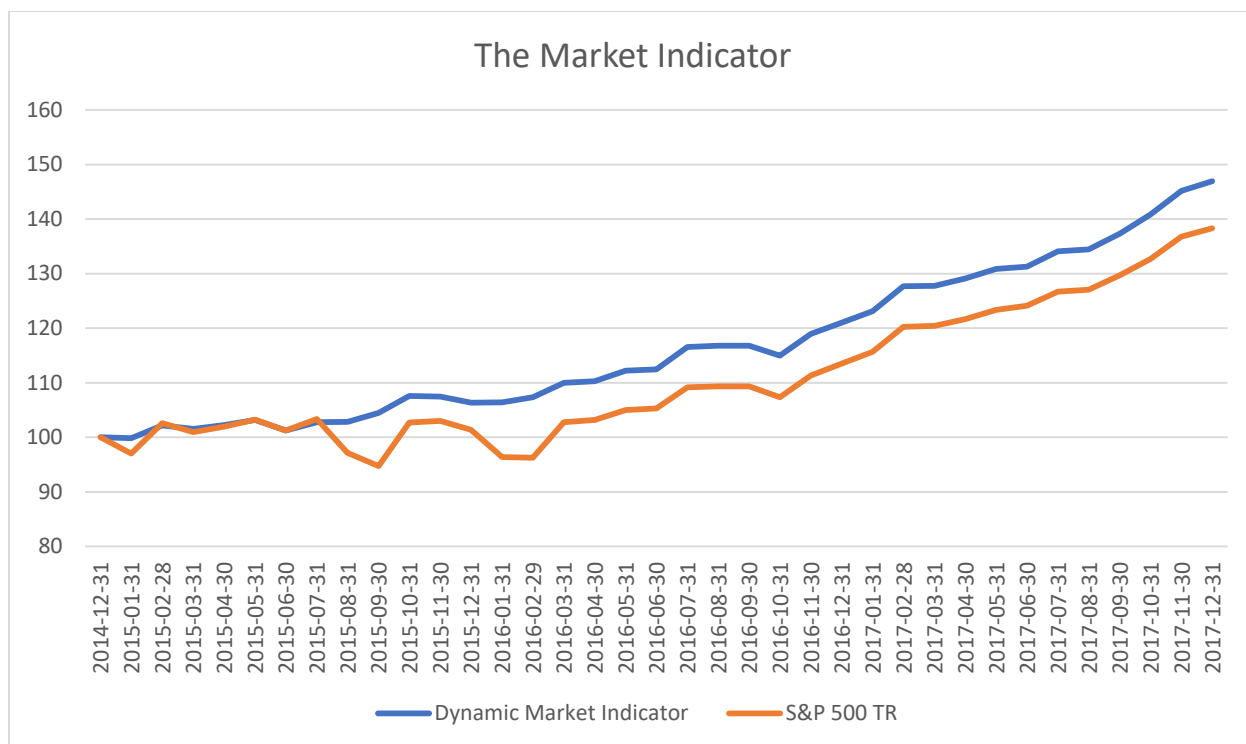


Figure 2 - The Market Indicator Performance

	Dynamic Market Indicator	S&P 500 TR
CAGR	13.66%	11.40%
SD	4.91%	10.07%
Sharpe	2.57	1.09
Active Return	2.26%	0
Beta	0.37	1
Drawdown	-1.87%	-8.36%

Table 2 – Market Indicator Results

Most of the contribution of the Market Indicator occurred in the period between August 2015 and January 2016 where the market was turbulent. The Market Indicator directed the index to a strategy with a smaller stock component hence improved the volatility. During good and bullish times, the market indicator cannot improve the performance per se but it does provide confidence in staying in the market despite the warnings of other types of indicators (2017 as a recent example).

The Sector Indicator

The Sector Indicator provides daily readings for the 10 main market sectors. The sectors with low grades are under-weighted (compared with the sector weight in the S&P 500) and the extra weight is divided between high graded sectors.

Looking at 2016 we can get some insight into how this indicator can generate active return for the index:

- The utilities sector was over weighted by the indicator in January and June 2016, contributing 0.68% and 1.18% active returns respectively to the index.
- The financial sector was over-weighted by 12-13% in Q4'16, yielding a total of 2% active return. At the same period, the healthcare sector was underweighted by ~10%, yielding 0.8% active return (by its exclusion).
- The total active return, achieved by the sector indicator for 2016 was almost 8%!

Figure 3 and table 3 show the whole picture. In order to isolate the effect of the sector indicator, we ran a long-only simulation, adjusted the sector weights according to the sector grades, and used a sector index for each sector, rather than picking individual stocks.

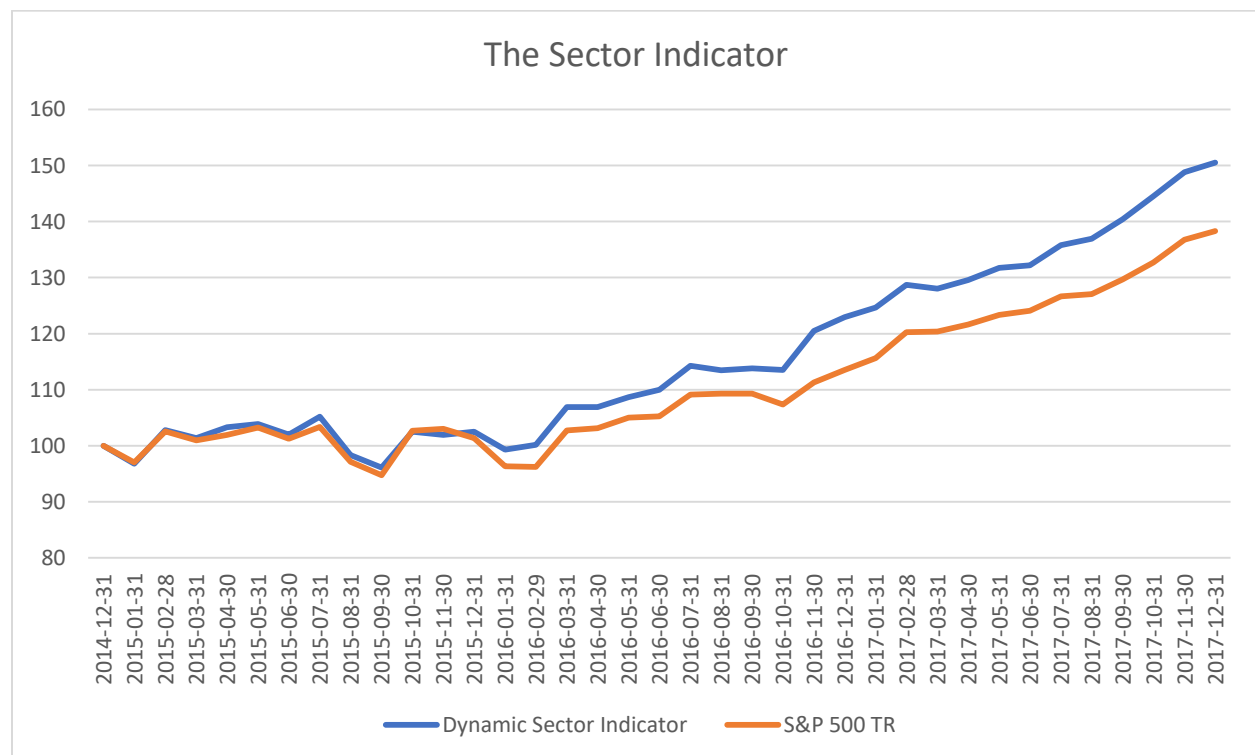


Figure 3 - The Sector Indicator Performance

	Dynamic Sector Indicator	S&P 500 TR
CAGR	14.59%	11.40%
SD	9.74%	10.07%
Sharpe	1.41	1.09
Active Return	3.19%	0
Beta	0.92	1
Drawdown	-8.59%	-8.36%

Table 3 – Sector Indicator Results

The Selection Strategy

Both indicators discussed above are integrated with the MSMF strategy which selects a total of 100 US mid and large cap stocks (\$2B and above) according to fundamental factors which are tailored for each sector. The selection strategy performed well but could not reduce the standard deviation compared to the benchmark. Table 4 and figure 4 show the results.

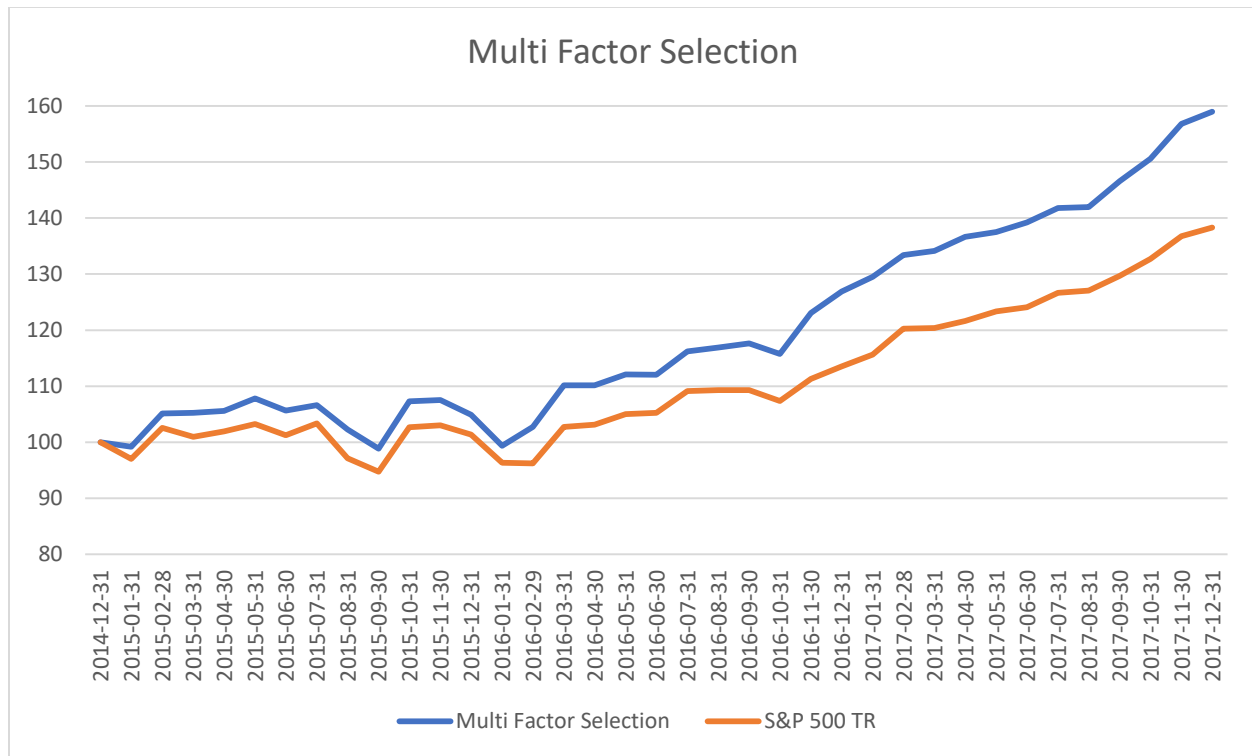


Figure 4 - Multi Factor Selection Performance

	Multi Factor Selection	S&P 500 TR
CAGR	16.69%	11.40%
SD	10.31%	10.07%
Sharpe	1.52	1.09
Active Return	5.29%	0
Beta	0.96	1
Drawdown	-8.34%	-8.36%

Table 4 – Multi Factor Selection Results

Figure 5 shows the full overlay of the separate components on top of the full 3-year index:

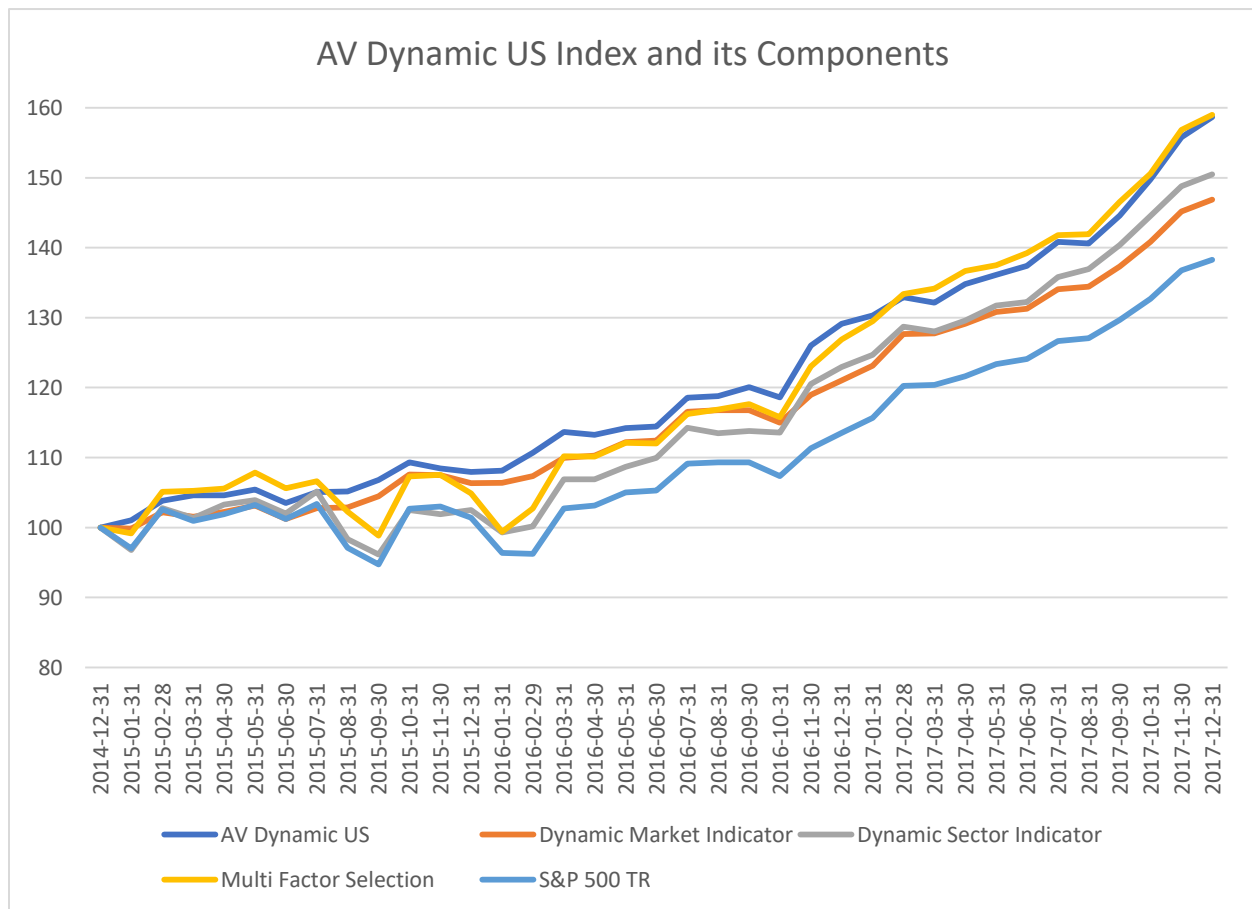


Figure 5- AV Dynamic US and its Components

SUMMARY

The index described in this paper is just one example of the ways in which market and sector indicators can be used to produce superior results in both performance and volatility. These indicators can be used in many additional and creative ways to tailor the index to the custom needs. Asset allocation of stocks and bonds can be switched to various amount of benchmark hedging, thus reducing the turnover. Instead of changing the weights, the strategy can be directed to select only the top sectors.

Sophisticated sector weights guard rails can be integrated as well. Stock selection can be adjusted to reduce volatility or support momentum. All these possibilities and many more are available from Alpha Vee, the leader in smart beta dynamic indices.

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With 40 years of experience in Mathematical Algorithms, Computer Science, management and a successful IPO, Moshik co-founded Alpha Vee to introduce deep data analysis to the world of equity investment.

Valery Katz is the director of research for Alpha Vee Solutions Ltd. Valery has 20 years of experience in Macro-Economic Research and Financial Markets. He specializes in Asset Allocation models and risk analysis.

Alpha Vee (founded 2010) is a provider of smart beta strategies, based in Israel with a wholly owned US subsidiary. For more information contact Alpha Vee Solutions at info@alphavee.com