ADAPTIVE WEALTH STRATEGIES US FACTOR INDEX

AUGUST 30, 2019

Overview

Our Adaptive Wealth Strategy US Factor Index employs a reversion to the mean process to dictate which investment theme we own at any given time. The underlying themes utilized have academically sound investment philosophies and significant historical advantages compared to traditional indexing. Over time, our concept uses minimum volatility, value, and momentum. The end goals are low tracking-error, minimal internal expenses, downside protection, and alpha generation.

Academic History of the Factors

The first factor, minimum volatility, was one of the earliest innovations in the investment profession. The starting framework, "Modern Portfolio Theory," was developed by Harry Markowitz in 1952. While 1952 is far from modern, the idea that risk and return are inherently linked as applicable today as it was over 60 years ago. The minimum volatility theme essentially recreates the Modern Portfolio Theory by maximizing the return for a similar amount of risk, and better downside protection than the overall market. We believe this factor helps to provide both stability and diversification inside our factor adaptation model.

The second factor, value, derives significance from the research of Eugene Fama and Kenneth French in their "Three Factor Model." This model suggested that value stocks tend to outperform growth stocks over time. While there are multiple ways of defining the value factor, we feel a balanced approach of earnings, book value, and dividends provides an intuitive and common sense way of screening for value. This factor also has a tendency to revert to the mean, which means there are times when value will both underperform and outperform. We believe that over time, just as the Fama and French model concludes, investors are rewarded for buying equities at discount prices. The implementation of this concept by Warren Buffet and Benjamin Graham since the mid-twentieth century also adds credibility to this theory.

The third factor in our strategy, momentum, has its roots in the behavioral side of investing. In 1997, Mark Carhart expanded on the research done by Fama and French, and added a fourth factor to complement their research: momentum. The easiest explanation is to say that stocks that have outperformed recently will tend to outperform in the future. We think of this as the herd mentality. Investor behavior tends to lead to buying the prior winners and avoiding the prior losers. This factor, much like value, tends to mean-revert and will both outperform and underperform during different cycles.

Index Construction – Why did we do it?

Since 1980, Carroll Financial has built our business by focusing on one thing: the best interest of the client. Founder and CEO Larry Carroll created and instilled the idea that, "The best interest of the client is the only interest that matters." As an independent firm, we have always taken pride in our investment management philosophy. We strive for customization, consistency, and simplicity. Over the years, we have delved into a multitude of products and strategies, striving to find what is best for our clients. Through those products, we've experienced capital gains distributions from mutual funds, large tracking-error from active management, and zero-alpha from purely passive vehicles. Despite those hurdles, and regardless of vehicle, our risk management philosophy and mean-reversion strategy of targeting longer trends in the market prevailed.

With the advent of factor-based ETFs, we recognized we could better capture our factor strategy by combining minimum volatility, value, and momentum. We have utilized three separate factors to replicate this strategy for many years and finally realized our large asset base created an advantage. We could turn what were once three separate positions into one by utilizing the ETF vehicle, thereby virtually eliminating capital gain issues when we needed to sell one factor for another. The Adaptive Wealth Strategies US Factor Index was born, and in turn the potential ability to be tax-efficient.

Our goal from the beginning has been to design a low-cost, tax-efficient, and alpha-generating strategy for our clients. The simplistic and common sense origins of our model has not only worked, but is easy to understand and discuss with clients. The performance and risk metrics speak for themselves. We did not over-engineer or design this to have the most impressive back test. We built this index with a rules-based approach that replicates what we have done in client portfolios for years. This is not something a Ph.D. created on a research desk; it was designed by advisors and portfolio managers to use inside real client accounts. The strategy was designed to be understood by both the advisor and the client. The development goal was for the best interest of our existing clients.

Index Methodology – How did we build it?

Over the past several years, we have witnessed the rapid development and launch of many "smart-beta factor strategies." We've looked under the hood at many of them and found the methodologies to be very complex and the initial goal hard to decipher. Some of them appear more like factor-soup than an actual common sense strategy. So to answer, "How did we build it?" We built the index with the client in mind, and replicated a strategy we were already using in client accounts.

We took the factors which we have already discussed: minimum volatility, value, and momentum, and simply looked at how they performed compared to each other. The end methodology will either own two factors at one time, equally weighted 50% / 50%; or all three with a weighting of 40% / 40% / 20%. Our methodology will look to eliminate or underweight the best performing factor over a specified trailing time period.

Why eliminate the best performing factor? This hits at the heart of our philosophy: mean-reversion. Factors are cyclical, and factor performance can become stretched. I'm sure we can all point to times when the momentum factor became too far stretched to the upside after the investment herd bought in. What happened? It mean-reverted after spending time at the top and came crashing down. The same can be said of value as well; its performance can become stretched. Our goal is to own the factors that are overly stretched on the downside and avoid the ones that are overly stretched on the upside. This provides the opportunity for the underperforming factors to appreciate and hopefully avoid the factor that is about to fall. While not foolproof, it is a common sense strategy that attempts to follow a basic investment principal, buy low and sell high. That is exactly what tried to build.

While thinking through the construction of the strategy, we also knew something we did not want to do. We did not want to re-optimize the portfolio to look like the market-cap weighted index. This means we did not overlay a sector-neutral strategy, place a limit on individual security position size, or other complex constraints. The goal was to let

the factor selection and the mean-reversion of the factors drive the return. We feel the simple solution can be an optimal solution.

Yes, we could have applied some of these constraints and tried to over-engineer the product, as many 'smart-beta' products are built. This over-engineering could have lowered the tracking error, however it would have also lowered the alpha. If the goal is to outperform something over time, we know it becomes more difficult to achieve with additional constraints. The strategy owns at a minimum two factors at any point in time. By always owning at least two, the strategy has avoided sector concentration that may occur from only owning one single factor.

Index Performance – Has it worked?

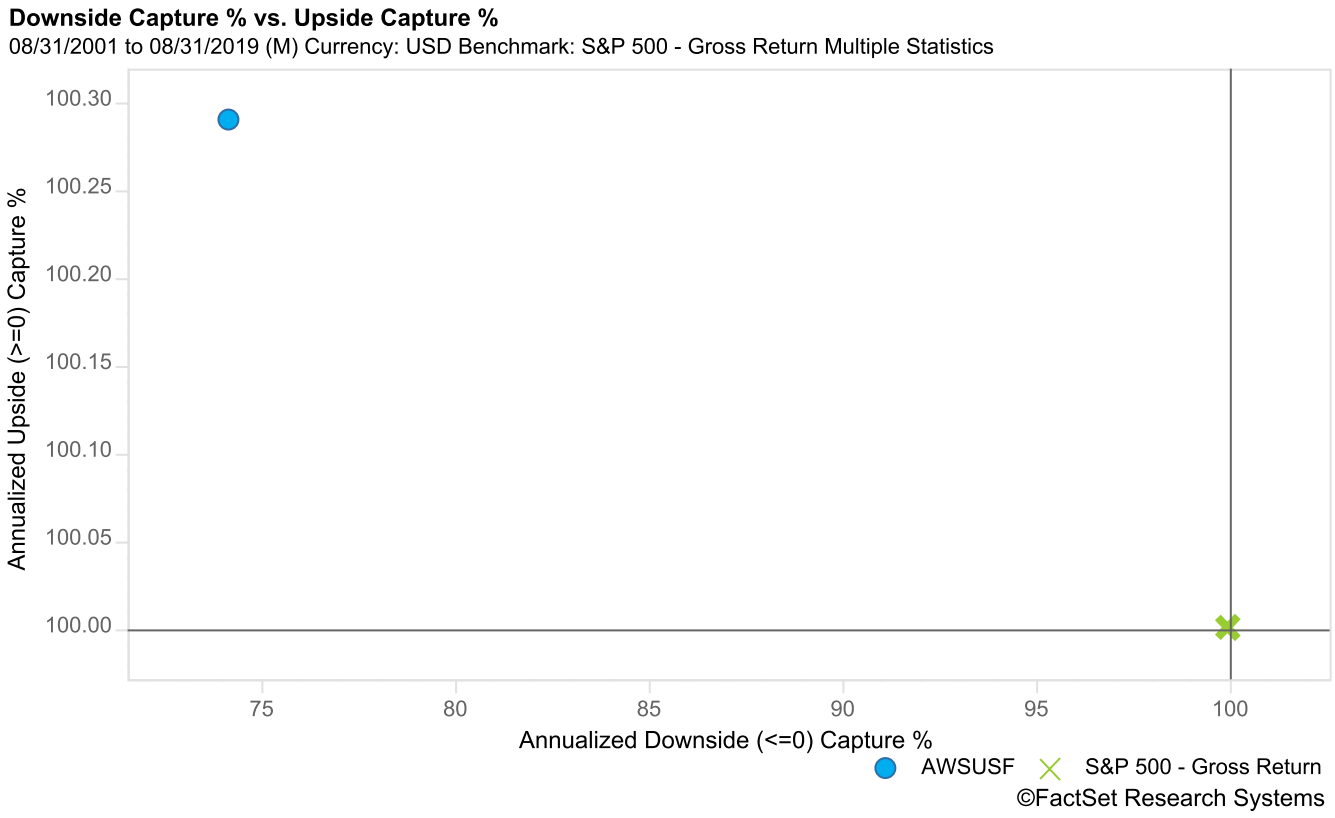
We can assuredly say that we would not have launched an index if it didn't work. By work, we also don't mean simply in a sterile laboratory back-test; we mean inside an actual client portfolio. We want to be clear, past performance is certainly not indicative of future returns. However, this is a common sense approach that learns from history, applies a layer of creativity, and can be adaptive to what the future may hold.

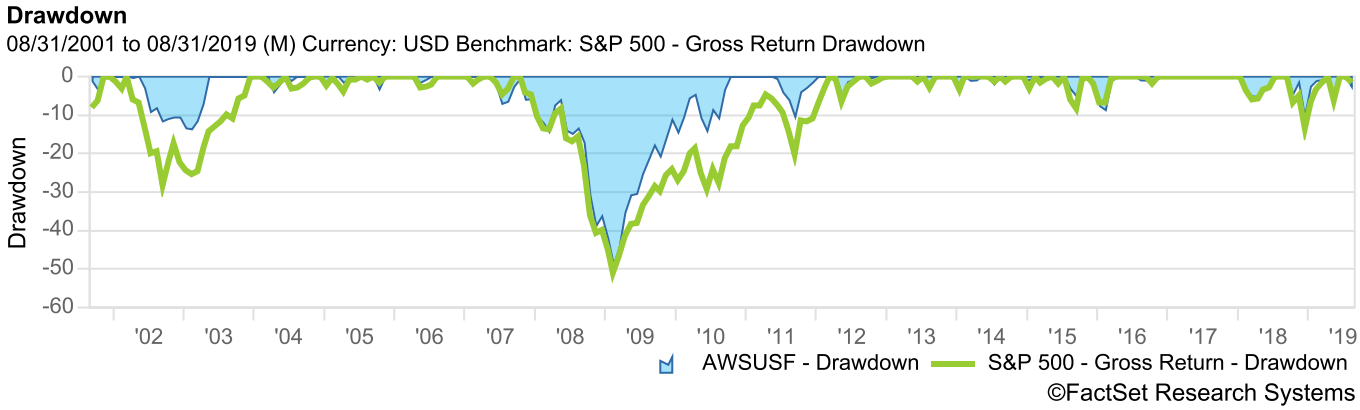
Below are the performance and other risk statistics on our Adaptive Wealth Strategies U.S. Factor Index. One key item we want to emphasize to advisors is the upside/downside capture ratio of 100.29% / 74.15%. This metric is can be very appealing to advisors as a risk management tool and to protect the relationship with the end client. From our experience, retail clients always focus more on the losses than on the gains. This strategy has the potential to mitigate downside losses while participating on the majority of the upside.

Multi-Horizon: Annualized Return

08/31/2001 to 08/31/2019 (M), Currency: USD, Benchmark: S&P 500 - Gross Return, Annualized Return

						Annualized Return					
Description	1 Month	QTD	1 Quarter	YTD	1 Year	2 Year	3 Year	4 Year	5 Year	10 Year	Entire Period
AWSUSF	-2.62	-1.32	4.02	12.69	1.03	8.39	12.73	11.74	10.76	15.03	12.26
S&P 500 - Gross Return	-1.58	-0.17	6.87	18.34	2.92	10.98	12.70	12.66	10.11	13.45	7.55





Description	# Returns	# Positive Returns	# Negative Returns	Average Upmarket Return	Average Downmarket Return	Best Return	Worst Return	Best Excess Return	Worst Excess Return	Downside (<0) Capture %	Annualized Downside (<0) Capture %	Annualized Upside (>0) Capture %
AWSUSF	216.00	148.00	68.00	2.90	-2.75	16.33	-16.61	7.12	-8.07	92.47	74.15	100.29
S&P 500 - Gross Return	216.00	145.00	71.00	2.89	-3.79	10.93	-16.79	--	--	100.00	100.00	100.00

Investment Use – How do we use it in a client portfolio?

For starters, we can tell you how we use it. This strategy serves as the core U.S. Large Cap Equity allocation in client portfolios. This would typically represent anywhere from 70-100% of the U.S. Equity allocation within an account. For smaller accounts, we feel this is a great strategy for the full allocation as it exhibits better downside protection than a standard passive index, while also generating a positive alpha. For larger accounts, we would typically use this as the heart of the U.S. Equity allocation, and satellite it with smaller positions that are more thematic and have higher tracking error to the benchmark. Whether it is a small-cap strategy, sector investment, or thematic allocation, we feel more confident in making those tactical decisions knowing that we have a large core allocation to our Adaptive US Factor Strategy.

Clearly, there are multiple ways advisors can use this strategy. A common implementation we have seen is using it as portion of the U.S. Equity allocation. If active managers are serving as the core of your portfolio, this can easily be paired with them with the goal of lowering tracking error. If you are using purely passive vehicles, the inclusion of this strategy has the potential to generate alpha and limit drawdowns. It can also be paired with other smart-beta strategies that blend factors differently or are only focused on single factors, as our adaptive factor strategy is not designed the same. This adaptation focuses on eliminating or reducing the best performing factor all while staying 100% invested in the market. It exhibits a 102.4% upside / 75.5% downside capture ratio, which certainly has the ability to keep up with purely passive vehicles while also significantly limiting the drawdowns. We would be happy to discuss our thoughts and illustrate how to include it in a current portfolio.

Index Architects – Who are the people behind the index?

The minds behind the index are Kristopher Carroll and Patrick Bobbins. Both of these individuals have worked at a Charlotte-based Registered Investment Advisor their whole careers. They both work with clients on a regular basis and are very familiar with the challenges that advisors face both on the investment front and on the client front. When talking with either of them, their passion for this profession can be clearly seen and heard. The care for the end client is at the forefront of what they do on a regular basis. They designed the index so that it could be used for client accounts as a tax-efficient, low cost investment vehicle.

Kristopher Carroll, CFA®, CFP® serves as the Chief Investment Officer and Financial Advisor at the advisory firm. Kris works closely with pre-retirees and retirees with a specific focus on retirement income planning. A Chartered Financial Analyst® and Certified Financial Planner® practitioner, Kris holds a M.S. in Financial Mathematics from the University of Chicago and MBA from the University of North Carolina at Chapel Hill. He is currently pursuing his doctorate in Financial and Retirement Income Planning from The American College. His research interests include the study of optimal asset allocation for portfolios in withdrawals and dynamic withdrawal strategies in retirement.

He has been quoted in The Wall Street Journal, The Charlotte Observer, Charlotte Business Journal, FiduciaryNews.com, and other online financial publications. Currently, he is writing his first book about creating simple and durable retirement income to last a lifetime.

Patrick Bobbins, CFA®, CIMA® serves as the Director of Investments & Research at the advisory firm. He deeply enjoys talking with clients and advisors about their investment portfolios and understanding the level of risk that is necessary in achieving their goals. Education and the mentality of being a lifelong learner is important to Patrick. In 2009, he graduated with honors from the University of North Carolina at Charlotte with a Bachelor Degree in Finance and minor in Economics. Patrick completed his master's degree from Wake Forest University, graduating in 2014 with an MBA. He has also completed the CFA® and CIMA® designations. He has also taken his passion for education back to the classroom where he has been an adjunct professor, teaching a Financial Management class at UNC Charlotte to both undergraduate and graduate students.

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