



# Adaptive Wealth Strategies

## Risk Managed High Yield Index

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### Overview

Our Adaptive Wealth Strategies Risk Managed High Yield Index employs two technical indicators to dictate the percentage equity exposure we own at any given time. The underlying indicators utilize trend-following, behavioral, and technical aspects that have academically sound investment philosophies and significant historical advantages designed with the goal of reducing risk. Our concept employs MACD and volatility as indicators to move between high yield and cash exposure. Both indicators must trigger for a change to occur in the strategy. The end goals of the strategy are to remain invested in high yield bonds as much as possible, achieve a low tracking-error, and provide significant downside protection, while still producing alpha generation.

### Academic History of the Indicators

The first indicator in our strategy, MACD (moving average advance decline), is a common momentum indicator developed by Gerald Appel in the late 1970s. In 1997, Mark Carhart expanded on research done by Eugene Fama and Kenneth French on their three-factor model of stock returns and added a fourth factor to their research: momentum. MACD is one of the shortest-term momentum indicators used in practice and is used in the index to provide a quick response when trends change. We think of momentum as the herd mentality. A price move higher, typically leads to additional price moves higher, and the converse is also true, lower prices tend to lead to lower prices. This means that a momentum indicator like the MACD can be used within a risk management strategy as an exit to avoid large downside moves and as an entry to capture large upside moves. All of our indicators utilized a standardized exit point, which will trigger a vote to exit high yield bonds when reached.

The second indicator in our strategy, volatility, is being measured by the CBOE® Volatility Index (VIX®). The VIX® has its origins in the research of Menachem Brenner and Dan Galai starting with a series of papers in 1989 that proposed the creation of a volatility index derived from futures and options pricing. In 1992, the CBOE® began using this work to calculate the VIX®. The VIX® rises with uncertainty in the market which can raise the probability of large downside moves. Within our strategy, the VIX® serves as a forward-looking indicator allowing us to remove risk when uncertainty becomes too high. The index has a standardized exit point, which will trigger a vote to exit high yield bonds when reached.

### Index Construction – Why did we do it?

Since 1980, Carroll Financial, the original RIA firm, 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 are now an index division of NorthCrest Asset Management, and we continue to 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, clients have 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.

We recognized we could enhance our high yield bond investments through tax efficiency by placing the strategy inside the an index-based vehicle. By moving from high yield bonds to cash, with the goal of reducing risk, the index-based vehicle virtually eliminates capital gains issues faced when we needed to trim equity exposure. And with that thought, the Adaptive Wealth Strategies Risk Managed High Yield Index was born.

Our goal from the beginning has been to design a low-cost, tax-efficient, risk management, and alpha-generating strategy for our clients. The simplistic and common-sense origins of our model have 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 it with really two main goals, remain invested as much as possible, and reduce drawdown risk. 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 driven with 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 “black-box risk models.” 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 technical-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 designed a strategy linked to common technical and behavioral indicators.

We took the indicators which we have already discussed: MACD, and volatility, and simply looked at how they collectively can confirm periods of heightened risk. Both of the indicators were statistically standardized and given z-scores for entry and exit triggers. The z-score methodology allows the strategy to be dynamic and adapt to new information and different market cycles. The end methodology gives each indicator an equal vote on exiting the equity markets. It takes both indicator votes to exit, and both votes to re-enter. Our methodology makes it harder to exit, thus likely reducing the potential for false signals.

Why give rely on both indicators? This hits at the heart of our philosophy: simplicity. Technical or behavior indicators do not work independently all the time, thus we look for a confirmation of signals to define an entry or exit of the high yield markets rather than rely on one overriding signal. We felt the combination of MACD on high yield and volatility on equities was a perfect marriage for detecting risk-on or risk-off environments. ***Bonds are higher in the capital structure compared to equities. Equities would need to sell-off first, (higher volatility), before bonds would be impacted. We look for higher volatility in tandem with a trend down in high yield bonds, as a confirmation to trigger the risk-off signal.*** Our goal is to rely on a combination of both votes to exit the high yield market, and two votes to re-enter. While not foolproof, it is a commonsense strategy that attempts to follow basic investment principals; remain invested and reduce risk if appropriate. That is exactly what we tried to build.

While thinking through the construction of the strategy, we also knew we did not want to overthink the high yield bond or cash exposure. The index rotates between a broad cap-weighted Solactive High Yield index for the high yield exposure, and short-term treasuries for the risk-off fixed income. The goal was to let the indicators be the

driver of potential alpha and not our choice of underlying high yield exposure. We feel the simple solution can be an optimal solution.

There is one last minor item to mention. When a signal is given to enter or exit the market, that signal is in affect for a minimum of ten days. The goal here is to avoid a whipsawing effect of trend changes. We've found that anything shorter triggers higher trading, which has the potential to drive costs higher.

## Index Performance – Has it worked?

We can assuredly say that we would not have launched an index if it did not work. By work, we also do not 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, we have utilized a version of this strategy for our high yield trading for several years. We took this to the next level and put hard rules in place in order to learn from history and applied a layer of creativity designed to make this dynamically responsive to future data.

To find the full index results of the Adaptive Wealth Strategies Risk Managed High Yield Index, please reference our website. While returns are certainly one area of focus, we always recommend looking through the lens of downside risk. One key item we want to emphasize to advisors is the historic monthly drawdown -11.6% vs. -31.8% for the high yield market. 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 in much of the upside.

## Investment Use in a Portfolio

For starters, we can tell you how we use it. This strategy serves as part of the core non-investment grade bond allocation in client portfolios. This would typically represent anywhere from 10-20% of the bond allocation within an account. We use this as part of our bond risk exposure that is looked at to sell first when risk reduction is required. Since this risk reduction is done inside an index based vehicle, the tax implications are significantly limited. We will also hold other non-investment grade bonds such as emerging market debt and floating rate that are more satellite positions and have higher tracking error to the benchmark. Whether it is a preferred equity, EM debt investment, or a non-agency bond allocation, we feel more confident in making those tactical decisions knowing that we have a risk management allocation to our Adaptive U.S. Risk Managed High Yield Index. 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 Managing Director of the Carolinas at Wealth Enhancement Group, the parent 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<sup>®</sup>, CIMA<sup>®</sup> serves as VP, Financial Advisor 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 pursuing 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 completed the CFA<sup>®</sup> and CIMA<sup>®</sup> 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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