ETF Research: The Quant Perspective

The world of research in the financial industry is undergoing a fundamental change. The promise of "big data" has helped foster a new era of innovation, as investors seek to harness this newfound potential to their advantage. Against this backdrop of innovation, Exchange-Traded Funds have been at the cutting-edge in developing new quantitative strategies that are revolutionizing the investment industry.

Through the marriage of transparent, inexpensive ETFs with rules-based indexes that employ alternative, non-market cap weighting schemes, investors now have the ability to achieve targeted exposures and superior risk-adjusted returns at a significantly lower cost. These so-called "smart-beta" ETFs are factor-based investment products, whose underlying constituents are weighted according to investment attributes considered important to risk and return, such as volatility or momentum. This smart-beta and alternative-indexing revolution that has taken root in the ETF landscape has quickly attracted a large following and steered billions of dollars away from higher-cost, underperforming active managers. Attesting to smart-beta's increasing appeal, BlackRock, in a recent August 2016 study, projected that smart-beta will grow from its current $300 billion in AUM to $1 trillion by 2020 and $2.4 trillion by 2025.

As quantitative practices become an increasingly integral part of the financial industry, it is now more important than ever to acquire an understanding of this discipline and be able to use it to your advantage. Let's start with the basics -

Quantitative analysis aims to use mathematical models and calculations to predict or anticipate certain behavior in financial markets. The primary goal of Quantitative Research is to develop an objective, **unbiased** method that removes human emotion from the equation.

Biases often cloud our judgment and prevent us from making rational decisions. For example, "buy low, sell high" is a mantra that is firmly ingrained in the psyche of investors. While this sounds like a simple strategy to follow, psychological biases and instincts often prevent us from acting in our own best interests. Falling stocking prices often compel investors to sell out of fear of further investment loss. Conversely, rising stock prices often prompt investors to buy for fear of missing out on subsequent investment gains. Despite our intentions, this creates a counterproductive pattern of "buying high and selling low."

Aside from emotions and psychological biases, we often fail to appreciate the true riskiness of our investments. Price momentum often captures far greater attention of investors than measures of investment and portfolio risk. Using a quantitative strategy to measure and monitor your portfolio's risk and return characteristics rather than relying on backward-looking processes can help you make more prudent investment decisions.

Despite their seemingly conflicting approaches, fundamental and quantitative analysis can be extremely complementary in practice. ETF Global's proprietary research models identify important connections between these two disciplines to help generate superior risk-adjusted returns. Developed for more than a decade, the ETF Global dynamic, quantitative research models integrate Fundamental Analysis, Behavioral Finance, Global Sentiment, Qualitative Evaluation and Risk Management.

There are several reasons why ETPs lend themselves well to quantitative research. First, ETPs are built like Mutual Funds but trade like stocks. However, as opposed to mutual funds which trade only once a day at NAV and disclose their holdings monthly, ETPs offer intra-day liquidity and holding transparency.

Assets in ETPs have skyrocketed in the last couple of years and that trend is likely to accelerate in coming years. This is due to a plethora of factors, including liquidity, transparency, and tax-efficiency. As transparent products, ETPs allow investors to monitor and understand the exposures they are subjected to in their investment. Driven by the unique creation and redemption process, portfolio turnover is typically lower than a traditional mutual fund and tends to minimize the effect of capital gain distributions.

As the whole active vs. passive debate continues to rage, one particular factor will dwarf all others in importance. That is of course, cost. With index funds beating a large portion of the active managers out there, investors are increasingly gravitating towards lower-cost passive investment options.

Due to that fact that many ETPs are driven by rules-based, quantitative algorithms, our objective, quantitative research models serve as natural complement to this investment class. Our consistent, disciplined research models, utilized across our suite of applications, integrate four key areas central to our research process:

1. **Fundamental Valuation**: A proprietary, multifactor model screens through fundamental data within the U.S. listed ETF universe; Including P/E, P/CF and P/B ratios, dividend yields and historical risk/return relationships.

2. **Behavioral Finance**: An analysis of behavioral factors involving the use of technical research and investor sentiment readings developed and refined over many years. Primarily focused on momentum, money flows and moving averages.

3. **Global Themes**: In depth review of macroeconomic conditions across the world relying on information from third party sources such as various NGOs. Focused on economic indicators, business cycle and industry/sector trends both domestically and internationally.

4. **Risk Management**: The cornerstone of our philosophy. The primary focus is to protect against surprises. In addition to analyzing the sponsors of ETFs, we also look at the management and trading characteristics of every ETF.

ETF Global tilts these factors and puts a higher weighting on the technical and sentiment scores. While Fundamental valuation and Behavioral Finance are often viewed as divergent approaches, research suggests important connections. For instance, the success of value investing largely depends upon the time it takes for asset prices to revert to their mean with that time horizon measured in years. This creates inefficiencies in the market that can be exploited in the near-term. Behavioral Finance can provide important clues about the transitional dynamics between an asset's fundamental value and short-term price swings. Our research models enable investors to unlock the potential of these connections and generate superior risk-adjusted returns.

It is important to note that because of the complexity of some ETP product structures, only equity-based ETFs are ranked by our quant model. Levered products cannot be scored in this model because they are based on derivatives that lead to sharp performance differentials versus their tracking index. This would create a skew in any quantitative modeling that would not allow for the scoring mechanism to work effectively.

Investors use our model to gain understanding of a product's strengths and weaknesses and incorporate these insights into their investment strategies. The most common usages of this quant model among money managers falls into the two categories below.

1) **Targeted Research –** An advantage of this approach is that it allows investors that are seeking exposure to certain assets classes, countries and geographic regions, or investment factors to streamline their research and portfolio construction process. By furnishing investors with a readily accessible and quantitatively tested list of funds to consider, our quant model expedites the process of researching funds and helps investors discover ETPs that achieve their targeted exposures. Our dynamic, multi-factor quant model is easily sortable and customizable. With our easy sortability, investors can pick out the highest scoring products within a given category and incorporate these funds into their investment decision making process or use this tool as a watch list for potential future ETP investments. This combination of quantitative scoring and easy customizability provides investors with a research tool that is unparalleled in its granularity and comprehensiveness.

2) **Trend Analysis** - Another way investors use this quantitative scoring is trend analysis. For instance, our forward-looking quant scores change daily and, accordingly, we produce a list of quant movers which can be sorted over different periods of time. Our quant movers list can be used to spot trends within certain sectors or product types and identify the changing fundamental and behavioral dynamics of a fund.

In today's ultra-competitive investment landscape, big data and quantitative methods offer a potential competitive advantage to those who are able to harness their power. ETF Global's robust, industry-leading ETF data in conjunction with its proprietary quant models seizes this potential and helps put investors in position to succeed amid this changing investment climate.

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