



Are You Smarter Than A Smart Beta?



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I searched for “smart beta” today using Google’s search engine and got back 148,000,000 results! Not surprising since the topic shows up in just about every investment magazine and journal I pick up these days. But what’s surprising is the term was nonexistent until a couple of years ago, and there is no consensus for the type of investment strategy it describes.

In an attempt to demystify the mystified, here is my take on smart beta. Smart beta is a marketing term. The term is typically used to describe an investment strategy that overweights companies with certain fundamental characteristics like high earnings, sales, or book value to price ratios. Fundamentally weighted indexes are one example.

To better understand smart beta, we have to look at the history of beta and factor investing.

Capital Asset Pricing Model (CAPM)

The term “beta” was introduced into finance literature by William Sharpe in 1964 as part of his Capital Asset Pricing Model (CAPM), a concept which helped him earn a Nobel Prize in 1990.

CAPM states that the rate of return of any security is related to that security’s market risk called beta. CAPM uses beta as a measure of risk relative to the market. The market has a beta of 1 and a company with a beta higher than the market has a higher expected return and risk relative to the market. The opposite is true for companies that have a beta less than 1. Although great in theory, CAPM didn’t always hold up and it was discovered that other company characteristics or factors besides market beta explained the variation in asset returns.

The Value Effect

The value effect is a CAPM anomaly. It refers to the tendency of value companies to outperform growth companies over time. Companies are grouped into either value or growth by scoring certain value ratios. The Earnings-to-Price (E/P) and Book-to-Price (B/P) ratios are two examples. Investment strategies based on the value effect have a long tradition in finance and can be traced as far back as Graham and Dodd.

Professor Sanjoy Basu first tested the notion that value-related variables might explain violations of CAPM. He found a significant positive relation between E/P ratios and U.S. stocks returns that could not be explained by CAPM. Soon researchers found other proxies for value that have a positive relation with returns such as B/P. The value effect in its many forms has been reproduced by numerous researchers for many different sample periods and for most major securities markets around the world.

The Size Effect

The size effect refers to the tendency of small market capitalization companies to outperform those of large market capitalization companies. Rolf Banz was the first to document this phenomenon for U.S. stocks. Banz was the first to document this phenomenon for U.S. stocks. Banz found that a company’s market capitalization has more explanatory power than a company’s beta in describing the cross section of returns. Indeed, Banz found little explanatory power for market betas. Like the value effect, the size effect has been reproduced and tested in markets around the world.

Three-Factor Model

Nobel Laureate Eugene Fama and Kenneth French developed a model in 1993 that combined Sharpe’s market beta with size and value to create the three-factor model. The three-factor model replaced CAPM as the gold standard of asset pricing models. It is widely used in investment management to quantify the three distinct risks in stock portfolios and indicates that a portfolio tilted towards small capitalization or value companies will outperform the market but with greater risk.



Eugene Fama



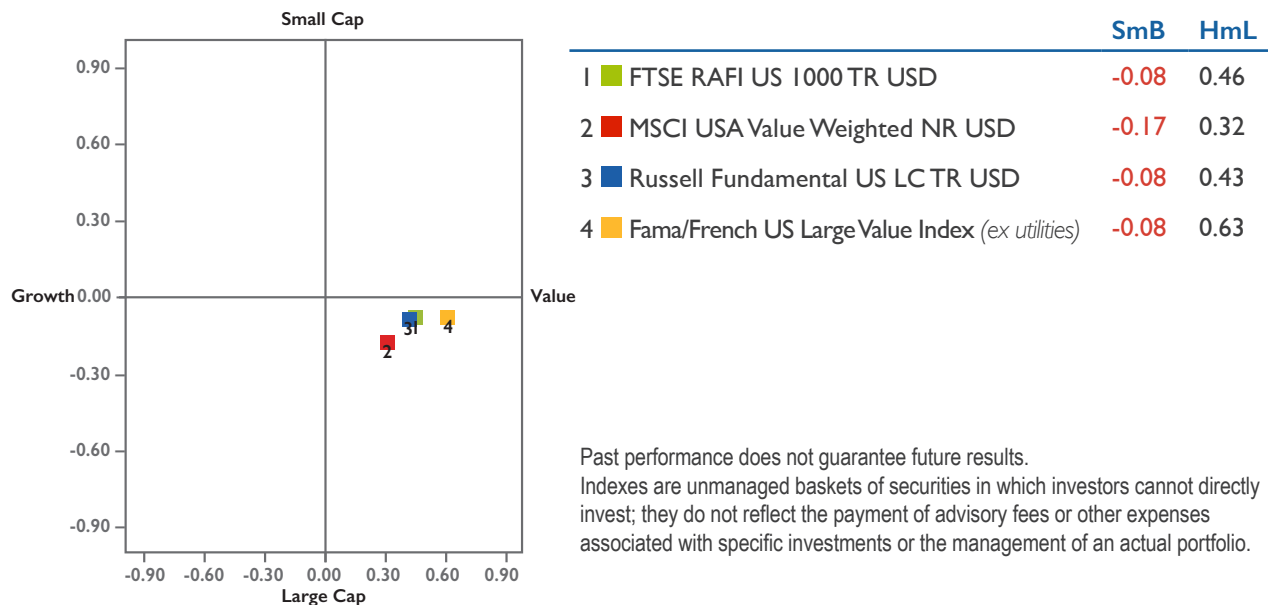
Kenneth French



William Sharpe

The Masquerade

Fast forward two decades and there are more factors in academic literature than models to fit them all. The overabundance of factors has helped to fuel the smart beta craze. The problem is that all factors are not created equal and what appears to be a new factor may just be another factor in disguise. For example, equal weighted strategies are just small cap tilts. To this point, Chow, Hsu, Kalesnit, and Little, after doing an analysis of available smart beta strategies, found that these strategies could be replicated using the three-factor model. In their words “an alternative beta portfolio represents a mapping to the market, value, and size factors” or in other words smart beta strategies are market, value, and small factor strategies in disguise. The three Fama/French factors span the investment opportunity set for the alternative betas. They can generally be linearly combined with one another (and/or cash) to mimic each other.



The chart above shows an example of what Chow, Hsu, Kalesnit, and Little describe in their paper. The chart shows the Fama/French three-factor regression output using monthly data from July 1996 through March 2014 for three U.S. large cap fundamental indexes and the Fama/French U.S. Large Value Index — the academic standard for U.S. large cap value. The three fundamental strategies plot close to the Fama/French index. Two of the three indexes have identical small cap exposure as the Fama/French index and all have similar value exposure but none provide as much value exposure as the Fama/French index. Before you pay a high price for smart beta, make sure it isn't value and/or small beta in disguise.

Laboratory Experiments

A downfall of many of the available smart beta strategies is that they are simulated in laboratories using backtesting and may not work well in the real world. Actual investment results may vary significantly from simulated results because of frictions in the real world, i.e., trading costs, taxes, and investor behavior, which impact real world returns. Take for example the process a structural engineer goes through when designing a building to withstand an earthquake. Certainly there is one design that is more structurally sound and better than the others. In the laboratory you can build all buildings the same way, but in the real world you cannot. You have an idea about what works and what doesn't. You work with real world limitations — such as placement of beams — and are still able to build a solid, robust structure. Laboratory experiments can get you only so far; you have to consider how experiments will work in the real world.

Take the MSCI Value Weighted Index as an example. It is derived by reweighting all of the constituents of the MSCI Investable Market Index using accounting data such as sales, book value, earnings, and cash earnings. More factors may seem like more precision in the laboratory but its restricting effects can result in high turnover, increased transaction costs, and reduced diversification. Furthermore, fundamental variables like earnings become stale quickly. It is important to incorporate price into investment design to take advantage of new information as prices change.

Price perception complicates trading in the real world. View on price will affect trading in actuality. It is important to understand how a manager perceives prices as price perception will have a huge effect on trading costs and performance. Here are a few questions to ask your portfolio manager the next time you meet: Do you view prices as correct or incorrect? How does your price perception impact your trading strategy? Are you a motivated or patient trader?

The Evolution Continues

The Fama/French factors may not be the final word. Momentum is gaining favor as a factor with academics and practitioners but they debate its real-world implications. And a working paper posted by Fama and French on the Social Science Research Network explores profitability and investment as two new factors. The availability of factors makes an investment manager's job much more difficult because combining more factors doesn't necessarily add value to the investment process. Knowing which factors to use and which not to use in the real world is important to adding value.

It's Nothing New

Smart beta is a new word for what others have been doing for years. We were fortunate to find Dimensional — a mutual fund provider built upon Fama and French's research — back in the early 1990's. Dimensional pioneered factor based investing over 30 years ago with their small cap and value strategies.

Loring Ward has been building portfolios for over 20 years using Dimensional's asset class funds. We start by investing in a globally diversified portfolio representing approximately 10,000 companies trading across roughly 45 countries and 35 currencies. We then overweight those companies that should have a higher expected rate of return over time to compensate investors for their higher risk, i.e., companies considered small cap and or value by academic standards. The strategy has survived and, on average, beaten its benchmarks since its inception. Before you get caught up in the smart beta craze, ask yourself does the strategy reflect how people invest and can it stand up against rigorous, scientific testing across markets and time?

All investments involve risk, including the loss of principal and cannot be guaranteed against loss by a bank, custodian, or any other financial institution.

Stock investing involves risks, including increased volatility (up and down movement in the value of your assets) and loss of principal.

The risks associated with investing in stocks and overweighting small company and value stocks potentially include increased volatility (up and down movement in the value of your assets) and loss of principal.

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