

## Investing in Quality: PowerShares High Quality Portfolio (SPHQ)

To someone like me who has a long-held belief in the efficacy of value investing, the idea of investing in “quality” seems counterintuitive. After all, what makes value investing provide excess returns if not the “yuck factor” that causes investors to underprice value stocks? On the surface, quality investing seems to be the opposite of value investing.

However, many famous investors include some notion of quality in their investing criteria, including some value investors. Warren Buffett has cited good returns on equity, consistent earnings power, and low debt as elements that he considers, and is famous for saying that “it is far better to buy a wonderful business at a fair price than to buy a fair business at a wonderful price.”

Over the past several years, academic researchers have been finding that quality matters, both as a stand-alone factor and in conjunction with other factors, particularly value. For example, in an influential paper entitled “[Quality Minus Junk](#),” AQR’s Asness, Frazzini and Pedersen (2014) found that “a quality minus junk (QMJ) factor that goes long high-quality stocks and shorts low-quality stocks earns significant risk-adjusted returns in the U.S. and across 24 countries.” Their definition of quality involves quite a number of attributes, including profitability, growth, safety, and payout. In a widely-cited [2012 paper](#), Novy-Marx found that a relatively simple measure of quality, gross profits to assets, provided “roughly the same power as book-to-market predicting the cross-section of average returns.” (Book-to-market is perhaps the most widely recognized value factor.) [Kozlov and Petajisto](#) (2013) describe high earnings quality as “one of the most robust long-term patterns documented in the literature (e.g., [Sloan](#), 1996, and [Fama and French](#), 2008).” Studying the period 1988 to 2012, they found that quality had a higher Sharpe ratio (0.69) than either value (0.56) or the market (0.25). Using a composite quality factor combining profitability, accruals, and leverage, they found that after controlling for market, size, and value (the Fama-French three-factor risk model), a long-short alpha of 7.8% per year was achieved. Impressive results.

Theories to explain why high-quality stocks offer investors excess risk-adjusted returns vary. Novy-Marx describes quality investing as “the other side of value” in that both value investors and quality investors seek to acquire assets undervalued by other investors. Value investors count on the fact that the poor profitability of value firms tends to mean-revert to some extent over time. Quality investors count on the superior profitability of quality firms to persist, and profit from the fact that investors tend to underappreciate, and underprice, high quality firms.

The growing popularity of quality as a factor is reflected in the success of several ETFs that use various measures of quality as the focus of their portfolio construction. Of those focused on the U.S. stock market, the largest and most liquid include:

- PowerShares S&P 500 High Quality Portfolio (SPHQ)
- iShares MSCI USA Quality Factor ETF (QUAL)
- Market Vectors Morningstar Wide Moat ETF (MOAT)

This paper will focus on SPHQ because, at least at present, it is my preferred quality factor play. While QUAL is the largest and most liquid of the three, it uses a sector-neutral index. Although in a sense that makes it a “purer” play on quality, in my opinion, by neutralizing the sector tilts that would otherwise result, the quality effect is somewhat diluted. MOAT takes its strategy from the Warren Buffet philosophy of buying companies with a “wide moat” that protects the corporation’s franchise value. This factor is a variation on quality, certainly, but I find that the underlying index upon which the ETF is based has not generated as much alpha (defined below) as that of SPHQ.

My methodology for analyzing an ETF focuses on its underlying benchmark index, which often has a much longer history than the live ETF performance record. (I use only passively-managed ETFs that adhere closely to their benchmark indexes.) By subtracting the expense ratio from the historical return of the index, I can create a set of pro-forma ETF returns that are an excellent representation of how the ETF would have performed back in time. This provides much more data with which to analyze the risks and evaluate the risk-adjusted returns of an ETF.

This methodology is also particularly handy when an ETF changes its benchmark index, as [SPHQ](#) is planning to do. As of March 18, 2016, the underlying index for SPHQ will change from the S&P 500 High Quality Rankings Index (Bloomberg: SPXQRUT) to the S&P 500 Quality Index (Bloomberg: SPXQUT). This means that the actual live performance history of SPHQ is of limited value in predicting how it will behave in the future—the past performance of the new index is much more valuable.

The “old” index is based upon the time-honored S&P Quality Rankings System which has been around since 1956. S&P’s [methodology document](#) does not offer much detail, but simply states that the Quality Rankings System “attempts to capture the growth and stability of earnings and the dividends record” over a 10 year period, adjusted “for changes in the rate of growth, stability within long-term trends and cyclicity.” Got that? The obfuscation probably indicates that the actual details of the methodology have evolved over the past 60 years.

The “new” index is much more transparent. The [methodology document](#) says that the new quality score “is calculated based on three fundamental measures, return on equity, accruals ratio and financial leverage ratio.” The three fundamental ratios are defined as follows:

- *Return on Equity (ROE). This is calculated as a company’s trailing 12-month earnings per share divided by its latest book value per share.*

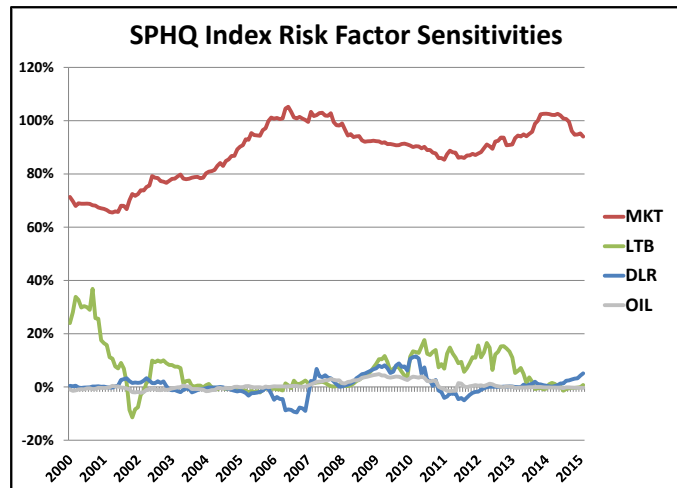
- *Accruals Ratio.* This is computed using the change of a company's net operating assets over the last year divided by its average net operating assets over the last two years.
- *Financial Leverage Ratio.* This is calculated as a company's latest total debt divided by its book value.

By the way, two of these three attributes, ROE and leverage, are the same attributes that QUAL uses in its definition of quality. The third QUAL attribute, earnings variability, makes it somewhat similar to the "old" S&P Quality Ranking. By using accruals as its third factor, the new SPHQ will be tied more closely to the work of [Sloan](#) (1996) among others, showing that investors systematically over-emphasize the accrual components of GAAP earnings and under-emphasize the cash components, which are much more sustainable. This may help explain why the historical alpha of the index (defined below) is so high.

My analysis of the risk-adjusted returns for SPHQ's new benchmark index starts by measuring the sensitivity of its returns to four risk factors that capture much of the risk common to most ETFs:

- Stock market risk (MKT), as measured by the S&P 500 Index
- Bond market risk (LTB), as measured by the 10 Year Treasury Benchmark Index
- Currency risk (DLR), as measured by the U.S. Dollar Index
- Commodity risk (OIL), as measured by the West Texas Intermediate Crude Oil Index

SPHQ's new index goes back to December 31, 1994, but I need some history in order to estimate its risk factor sensitivities (often called betas) using exponentially-weighted multiple regressions. Consequently, the graph at right starts on December 31, 2000. Of the four risk factors, equity market beta (labeled MKT in red) is its only consistently significant risk factor sensitivity. Its historical equity market sensitivity has generally been between 70% and 100% (or a beta of .7 to 1.0) which is about as I would have predicted. The other three risk factors are not consistently significant, but interest rate sensitivity (LTB) does pop up occasionally.

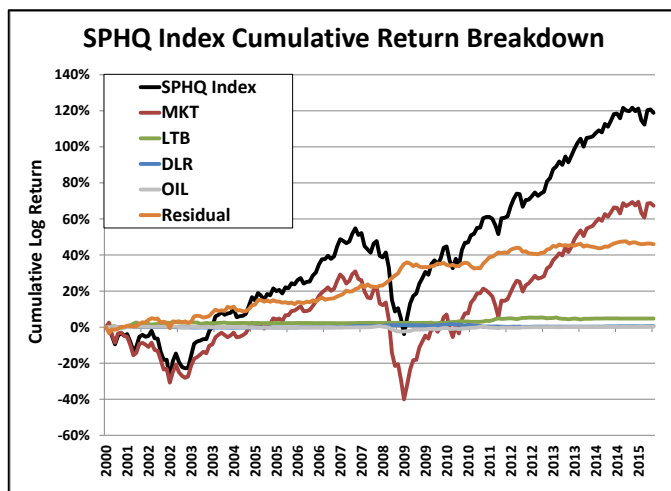


The next graph (below) tracks the cumulative return of SPHQ's new index (in black), and disaggregates it into return due to each of the four risk factor sensitivities and residual return, which is what I call "alpha." Most of the index's return is explained by its equity market sensitivity (red), as expected for an index with a MKT sensitivity of 70% to 100%. (To calculate the return from MKT sensitivity, I multiply the index's previous month-end MKT sensitivity

times the monthly price return of the S&P 500. I use the same methodology for the other three risk factors.) The residual return (orange) is the total return minus the return from the four risk factor sensitivities. Residual return, or alpha, is what I want to maximize in my portfolios.

SPHQ's new index has generated an average alpha of about 3.17% per year since 2000, with a standard deviation of 3.68%, and a return/risk ratio of 0.86.

Those are very impressive statistics for a single factor portfolio. Even if my estimates of MKT beta are too low, using a MKT beta of 1.00 would still result in an average alpha of 1.88% per year. Most ETFs, and their benchmark indexes, have no discernible alpha—their return is entirely explained by risk factor sensitivities. Both the power of and the persistence of the risk-adjusted excess return for SPHQ's new benchmark index are impressive.



To be sure, there is a risk that some of the historical alpha is a random artifact of the time period tested. Also, there is some risk that the construction of the index was influenced to some extent by “what worked” over this time period. Even if the good people at S&P were only following the academic literature, the academic researchers themselves are no doubt somewhat guilty of “data snooping,” since that is a bias that no one can completely escape. Academic researchers read the research of others and are thus influenced by that information. However, S&P is applying the same Quality Index methodology not only to the S&P 500, but also to 15 other headline indexes around the world, which somewhat reduces the risk that it was unduly influenced by “what worked” for the S&P 500 alone.

Also, based on my research, there seems to be no indication that the quality factor has become so popular that its valuation is stretched. (By comparison, for example, the low volatility factor seems to have been bid up to the point where some caution is warranted.) Finally, my research indicates that returns to the quality factor are positively associated with equity market volatility, which has been higher than average and may provide a bit of a boost to the return of the quality factor. Historically speaking, the later stages of bull markets have been good times to emphasize quality.

In short, now may be a good time to invest in quality, and SPHQ is a good way to do it.

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