

Xpert Spotlight



Thought Leadership, Exchange Traded Funds

Abby Woodham, Rob Bush, Eric Legunn

At DWS we are strong proponents of multifactor investing, and we are pleased to introduce an intuitive multifactor approach that views the market through the lens of an active manager. Any investor seeking high-quality stocks might prefer to access these companies at more reasonable valuations, hence, Xtrackers Russell 1000 U.S. QARP ETF.

Xpert Spotlight—Quality at a Reasonable Price (QARP)

Factor investing is an investment strategy that falls at the intersection between passive and active investment management. Typically, factor investors seek to gain exposure to various systematic historical drivers of stock performance, called “factors” while retaining the systematic, and often low-cost, features of passive investing. Common factors include: value, momentum, size, volatility and quality. This paper focuses on two of these factors - quality and value—which we have combined into a QARP ETF (QARP stands for “quality at a reasonable price”). This spotlight piece will discuss how we think about quality and value, and the merits of combining these factors into a single product, the Xtrackers Russell 1000 U.S. QARP ETF. It offers:

- A well-known benchmark of large-cap U.S. equities as its starting universe, the Russell 1000.
- An emphasis on stocks within that universe that score well on quality and value, with a double tilt towards the former.
- A completely transparent and rules-based approach that rebalances on strictly objective criteria.

What is quality?

Definitions for quality vary across the industry. Indeed it’s probably in this factor more than any other that we see different approaches. However, here at DWS, in partnership with FTSE Russell, we define quality in terms of profitability and leverage. Accordingly, this factor seeks to identify stocks that exhibit persistent, high-quality profitability, and low leverage. Within profitability, we use three metrics: return on assets (ROA), changes in asset turnover, and accruals. In terms of leverage, the level is measured by using a ratio of operating cash flow to total debt. We will now delve a bit deeper into each of the four metrics.

Let’s begin with profitability. The term “profitability” is not the same as “profit.” Profit is an absolute number calculated as total revenue minus total expenses on the income statement. Whereas, profitability measures profit relative to the size of a business. In this sense, profitability measures the efficiency of a business in terms of how well

Contributors

- Rob Bush, ETF Strategist
- Abby Woodham, ETF Strategist
- Eric Legunn, ETF Strategist

it can produce a return on investment. Therefore, when seeking out a high quality company, the quality factor aims to identify firms that are profitable rather than those that simply have large absolute profits.

We are able to gauge a firm's profitability by using the three aforementioned fundamental metrics. The first, is the most direct measure of profitability, and it is calculated by dividing net income by total assets. ROA measures how well a firm deploys its underlying assets to produce earnings, and it assesses a firm's overall level of profitability. All else equal, companies that exhibit higher ROA are considered more profitable than those with lower ROA. Historical data suggests that companies that exhibit high current levels of profitability also tend to exhibit future high levels of profitability. As such, the quality factor aims to overweight companies that exhibit high levels of ROA.

The second metric, change in asset turnover, is a way to understand not just profitability but also improvements in profitability. Asset turnover measures a company's sales relative to its asset base. In this sense, the ratio measures firm efficiency by indicating how many dollars of sales are generated per dollar of assets. Changes in this ratio provide insight into whether a company's profitability is either strengthening or weakening. An increasing ratio suggests a company is improving its efficiency, which should ultimately lead to improved profitability. Therefore, the quality factor seeks to overweight companies that exhibit improving asset turnover ratios.

The third metric, accruals, attempts to capture the historic and well-documented accruals anomaly—the negative relationship between accounting accruals and subsequent stock returns. This anomaly relates to the persistence of profitability. Academic evidence (see Sloan 1996)¹ indicates that earnings attributable to accruals (such as accounts receivable) exhibit lower persistence than earnings attributable to cash received. Accruals are an accounting construct that allow companies to keep track of non-cash-based accounts such as accounts receivable. Since they are non-cash, accruals are also arguably more subjective because they are susceptible to a higher level of manager discretion. In other words, misestimating accruals could decrease a company's earnings quality. Therefore, to identify firms that report high quality earnings, and to capture the seemingly persistent accruals anomaly, the quality factor underweights companies that exhibit higher levels of accruals.

Beyond profitability, the second component of the quality factor is leverage. Leverage is calculated by dividing operating cash flow by total debt. Historically, low levels of cash flow to debt have been shown to be related to the likelihood of business failure. Logically, companies that have higher leverage face a higher risk of default. In addition, historical data indicates that increased leverage is typically associated with lower future profitability. Accordingly, the quality factor tilts portfolios towards investing in companies that have lower levels of leverage.

Overall, the quality factor captures detailed information about companies and aims to enhance investor returns by tilting portfolios towards stocks that rank well from both a profitability and leverage standpoint. Funds like QARP seek out companies that earn more dollars of net income per dollar of assets, squeeze more sales from their assets this year than last, report high quality earnings, and use relatively less leverage.

Now that we understand how the quality factor works, let's move on to discussing the value factor, which works in tandem with the quality factor in the Xtrackers Russell 1000 U.S. QARP ETF to identify high-quality stocks that are reasonably priced.

What is value?

The very long run heritage of value investing is clearly a huge topic, and one that we don't propose to discuss in any depth here. It is well known that there are plenty of committed adherents who have observed, and capitalized, on the tendency for stocks that are "shunned" by the market to provide superior returns over the long run. The theory is that by systematically overweighting "bargain" stocks, and underweighting "glamor" stocks, value investors can earn a premium for holding relatively less exciting companies over time.

As with quality, there are a number of popular ways to define value. However, what most have in common is that they focus on the difference between the market's perception of a company's worth, and the accounts. So, for example, comparing the price of a stock to its cash flow per share will give a sense of the relative valuation that the market is putting on that cash flow, and the same is true of earnings, sales, or the book value of equity, to name a few often seen versions.

¹ Do Stock Prices Fully Reflect Information in Accruals and Cash Flows About Future Earnings?, Richard G. Sloan, University of Pennsylvania

QARP uses the same definition for value that we use throughout our factor suites, a simple, equal-weighted average of price to cash-flow, to earnings, and to sales. The idea is that, by combining three metrics, a purer value signal is achievable, reducing the potential for noise that would occur if only a single valuation metric is used.

Tilting towards the same factor

The methodology for QARP is essentially the same one that we employ for all of our multifactor ETFs.

1. Convert the raw Quality and Value scores into Z-scores and, from there, factor scores (effectively percentiles)
2. Multiply the starting market cap weight of a given stock in the Russell 1000 by the three factor scores, two Quality, and one Value (note the Quality score will be identical).
3. Rescale these unadjusted weights to add back up to 100% after applying the requisite exclusions and caps (based on the stock weights, and subject to narrowing, turnover and diversification constraints).

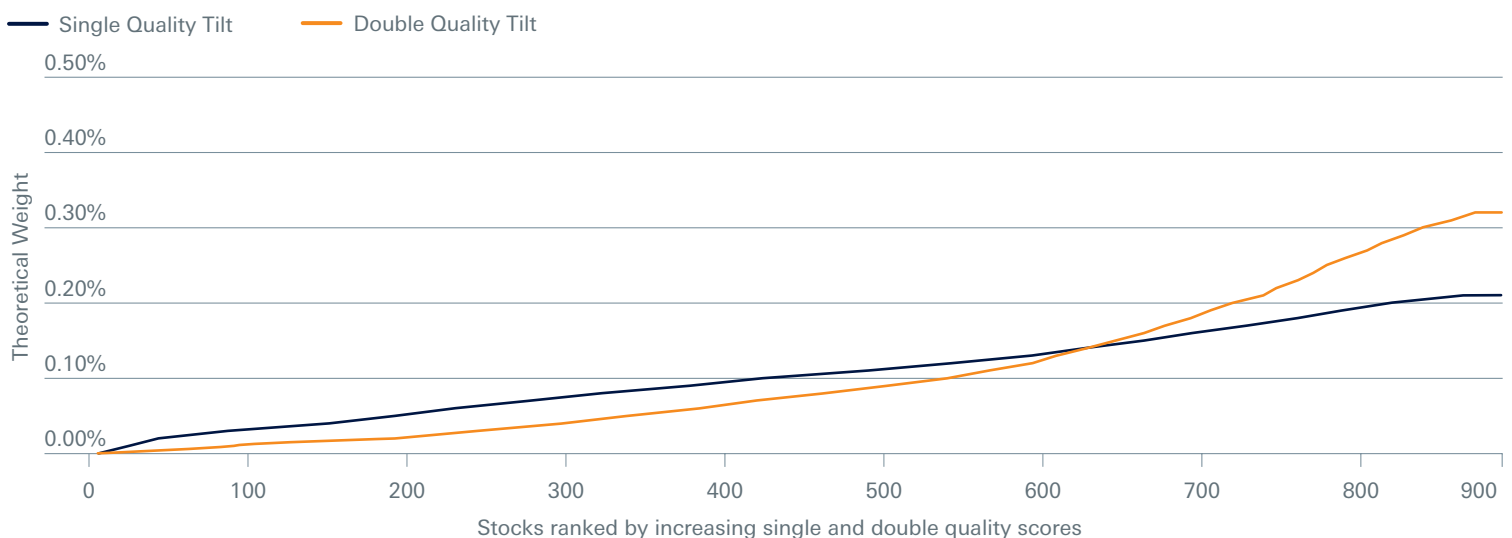
However, there's an interesting effect that comes into play when stocks are tilted by the same factor twice. And, while this may be slightly technical, it's an interesting feature that we think is worth explaining. Essentially, the effect

of applying a double tilt to Quality (which is a squared term), is that the impact goes from being linear, to being exponential. And the result of that is a more concentrated index in which Quality plays a key role.

Figure 1 demonstrates this visually. It shows two equally weighted indexes (we used equal weights both for simplicity, and to isolate the impact of the Quality weights rather than the starting market cap weights) that have had a single Quality tilt, and then a double Quality tilt applied. Note the interesting impact of this approach. In the single tilt world, the weights grow linearly. This is as one would expect because the weights are constant (it's an equally-weighted index), and the single Quality scores are approximate percentiles moving uniformly from 0 to 1.00.

However, the effect of the double, scores tilt becomes apparent in the curvature of the other line. Now the weighting has gone from being a percentile to a percentile squared and the impact is that the higher ranked scores from a Quality perspective will start to have an even stronger effect on the stocks' weightings as they increase. And the intuition for this is that, while in a factor world we ordinarily combine factors that are uncorrelated across stocks (see Figure 2 for an example of this), here of course one of our two factors is perfectly positively correlated with itself.

Figure 1: Hypothetical Example: The theoretical effect of single and double Quality tilts on an equally weighted index



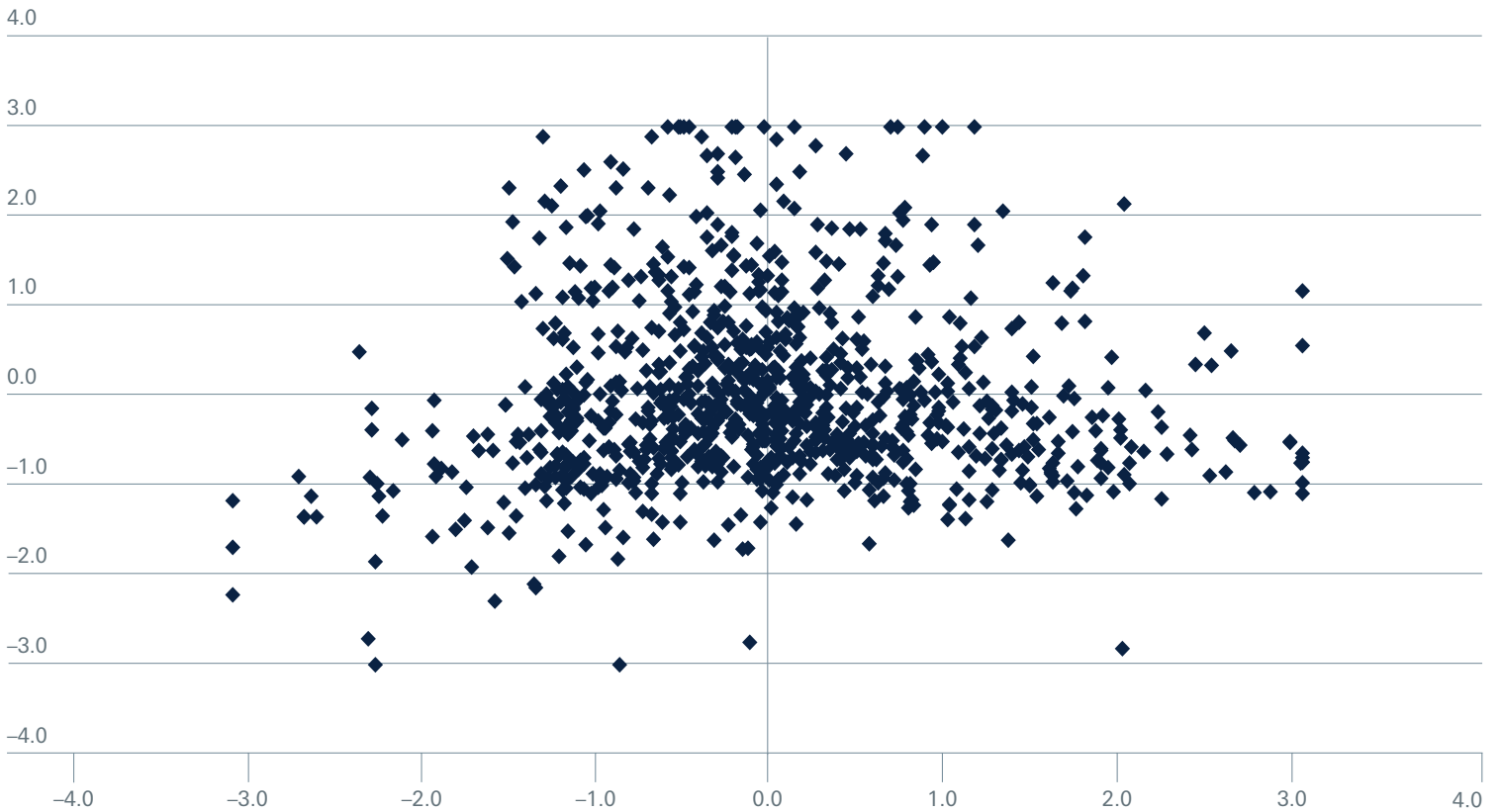
Source: FTSE Russell as of March 2018.

Getting to know QARP

Here at DWS we are advocates of factor investing and, particularly, of the sensible combining of multiple factors to create so-called multifactor solutions. With QARP, investors are able to:

- Access a basket of around 400 of the Russell 1000 stocks that score most heavily on Quality and Value
- Utilize FTSE Russell’s intuitive tilt methodology to put a double emphasis on Quality whilst retaining the ability to buy stocks that are relatively better priced from a valuation perspective, as determined by our methodology.

Figure 2: Scatterplot of Value Z-scores (X axis) and Quality Z-scores (Y axis)



Source: FTSE Russell as of March 2018.

The **Russell 1000 Index** tracks the performance of the 1,000 largest stocks in the Russell 3000 Index, which consists of the 3,000 largest U.S. companies as measured by market capitalization. (1) Z-score is a value from a standardized normal distribution which shows a data point's relationship to the mean (average) in a group of values. A Z-score of "0" is identical to the mean

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On 10/2/17 "Deutsche X-trackers" ETFs changed its name to "Xtrackers" ETFs. A complete list of the new names is available at www.Xtrackers.com. Xtrackers ETFs ("ETFs") are managed by DBX Advisors LLC (the "Adviser") and distributed by ALPS Distributors, Inc. ("ALPS"). The Adviser is a subsidiary of Deutsche Bank AG and is not affiliated with ALPS.

Xtrackers Russell 1000 U.S. QARP ETF (the "Fund") seeks investment results that correspond generally to the performance, before fees and expenses, of the Russell 1000 2Qual/Val 5% Capped Factor Index (the "Underlying Index").

Risk information: Investing involves risk, including possible loss of principal. Stocks may decline in value. Because the fund seeks to provide exposure to stocks based on the following multifactors—value and quality—its expected exposure to such investment factors will detract from performance in some market environments, as more fully explained in the fund's prospectus. This fund is non-diversified and can take larger positions in fewer issues, increasing its potential risk. Performance of the Fund may diverge from that of the Underlying Index due to operating expenses, transaction costs, cash flows, use of sampling strategies or operational inefficiencies. An investment in any fund should be considered only as a supplement to a complete investment program for those investors willing to accept the risks associated with that fund. Please read the prospectus for more information.

Carefully consider the fund's investment objectives, risk factors, charges and expenses before investing. This and other information can be found in the fund's prospectus, which may be obtained by calling 1-855-329-3837, or by viewing or downloading a prospectus from www.xtrackers.com. Read the prospectus carefully before investing.

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