Charles Schwab Investment Management

Methodology Distinctions Between Fundamental Index® and DFA Investment Approaches

Michael Savage, CFA, Managing Director and Client Portfolio Strategist, Charles Schwab & Company, Inc.

Due to their focus on an alternative way to select and weight securities in a portfolio, advisor clients often ask us whether or not the strategy employed by Dimensional Fund Advisors (DFA) differs from the Fundamental Index approach. We think it does. Here, we discuss some of those distinctions, including the following:

- **Overall investment philosophies relating to the price efficiency of equity markets**
- **Active vs. passive investment styles**
- **Implicit vs. explicit factor tilts**
- **Market capitalization weighting vs. other approaches**
- **Transparency of methodology, holdings and sources of returns**

The Fundamental Index methodology that underlies the Schwab Fundamental Index mutual funds and ETFs is part of the growing "strategic beta" sector of passive, broad-market equity strategies. Many such strategies, also known as "alternative beta" or "smart beta," use non-price measures (or "factors") to select and weight securities. Reflecting their significant growth in popularity, approximately $948 billion in assets were managed domestically using a variety of strategic beta strategies as of June 30, 2018,[1] with more than $159 billion specifically employing Fundamental Index strategies.[2]

At Schwab, we believe that Fundamental Index strategies, in conjunction with other active and passive strategies, can serve as an effective part of the foundation of a diversified portfolio through a rigorous approach focusing on non-price measures of company size. Investment advisory firm Dimensional Fund Advisors (DFA) offers investment products that appear to be similar to the Schwab Fundamental Index products because they both take an alternative approach to security selection and weighting. We believe, however, that there are significant distinctions and subtleties between the underlying methodologies that are important for investors to understand in order to properly evaluate the products in the context of an overall portfolio.

Overview of the Two Approaches

Fundamental Index

- The Fundamental Index methodology is based on the belief that markets are occasionally inefficient and that excess returns are possible by systematically trading against market-determined prices (i.e., contra-trading), which often significantly overvalues or undervalues securities.
- Fundamental Index strategies, including those used in the Schwab Fundamental Index mutual funds and ETFs, use non-price measures of company size—such as sales, cash flow and dividends plus buybacks—to select and weight securities in a broad-market index.
- Fundamental Index strategies are periodically recalculated and rebalanced to reflect their current fundamentally determined weights, resulting in a systematically contrarian approach with the potential to capture excess return due to market-driven pricing anomalies.
- The methodology is transparent and rules-based, with strict and consistent parameters related to the timing of recalculation and rebalancing.

Dimensional Fund Advisors (DFA)

- DFA was founded and operates on the research of University of Chicago economist and Nobel laureate Eugene Fama and others on the belief that while markets are generally efficient and reflect all available information, excess returns come from taking a higher level of risk, with certain return expectations based on specific factors.
- DFA seeks to “use the information in market prices, combined with fundamental data, to systematically identify differences in expected returns among securities.”[3]
- Like the Fundamental Index methodology, the DFA methodology tends to exhibit bias toward factors of size (tending to favor small size) and price (tending to favor value). DFA’s primary value metric is the current ratio of a company’s book value to its market value, although it uses other value metrics as well. In 2013, for example, the company introduced a “profitability” factor in some of its funds, seeking to improve returns by combining it with size and value factors.[4]
- DFA additionally touts its trading acumen as a market-maker for the 14,000 stock positions it holds as a significant source of higher returns,[5] although performance attributed to trading gains is not readily reported.

Comparison of Fundamental Index and DFA

	Fundamental Index	DFA
Market efficiency	Markets are occasionally NOT efficient	Markets are generally efficient
Passive strategy	Yes, it’s a rules based selection process	No
Excess returns	Come from trading against price weighting	Come from taking additional risk: Increased small cap and value exposure; Trading also contributes to performance
Transparency	More transparent	Less transparent
Rule based	Yes	No
Value tilt	Yes, but dynamic	Yes, but more purposeful

Historically, DFA funds have only been made available to a select group of “approved” independent investment advisors and other institutional investors, including retirement plans. This sales approach has appeal to many advisors in that their clients have access to quasi-exclusive investment products that they cannot generally purchase themselves. However, in 2015, John Hancock Investments launched a suite of multifactor ETFs managed by DFA and tracked against DFA-developed indexes. This has allowed individual investors to make direct purchases of DFA managed funds. Although stemming from a similar philosophy, these ETFs differ from DFA’s proprietary, advisor-only mutual funds in significant respects, as we note on page four.

Key distinctions between Fundamental Index and DFA methodologies

1. **The Fundamental Index methodology is rooted in the belief that markets are occasionally inefficient—sometimes significantly so—whereas the DFA methodology is based on the belief that markets are generally efficient.**

   This is a key philosophical difference between the two methodologies. DFA believes that "markets reflect the vast complex network of information, expectations and human behavior," and that those forces drive prices to fair value.[6] Over long periods, this may very well be true. However, Research Affiliates LLC, the creator of the Fundamental Index methodology, believes that significant pricing inefficiencies—often associated with asset or price bubbles—can exist for considerable periods of time before correcting. An example is the tech bubble leading up to early 2000, when seemingly unrealistic growth expectations and excessive investor demand drove technology company valuations well beyond their relative position in the broader economy. The Fundamental Index systematic methodology of "contra-trading" or "trading against price" attempts to capture these inefficiencies in the form of excess return.

2. **Although both Fundamental Index and DFA strategies tend to have a value bias, the extent of the value exposure resulting from the Fundamental Index methodology, relative to a comparable cap-weighted strategy, will vary depending upon the market's pricing of value and growth.**

   DFA's strategy allocation to value—or the extent of its value tilt as compared to a cap-weighted index—is a bit more constant, consistent with DFA's core belief that value exposure is a key driver of excess returns. While the Fundamental Index methodology tends to result in increased exposure to value stocks, the extent of the strategy's value tilt will vary depending on how markets price value versus growth. For example, when the market favors growth stocks, the comparative magnitude of the Fundamental Index value tilt tends to be relatively large. Conversely, when the market bids up value stocks, the comparative magnitude of the Fundamental Index value tilt tends to be smaller.

3. **DFA mutual funds are neither index funds nor are they passively managed; Funds based on the Fundamental Index methodology are index funds.**

   DFA funds are generally not managed to track a specific index; the advisor allows itself wide latitude to adjust its investment approach as it sees fit. Further, DFA considers themselves active managers. According to CEO David Booth, "We are trying to beat the market without forecasting in the usual sense."[7] Funds and ETFs based on Fundamental Index methodology, on the other hand, are considered passive in that they are managed to closely track the indexes. While the Fundamental Index methodology is a rules-based approach, it does share a similarity with actively managed strategies in that both look at fundamental company measures to determine stock selection.[8]

4. **The Fundamental Index methodology explicitly disregards the factor of price; the DFA methodology doesn't intentionally break that link.**

   The DFA methodology actually starts with a market capitalization orientation, and then tilts toward size, value, profitability and—in some cases—momentum. In addition, DFA's measurements of both value and momentum incorporate a link to stock price. The Fundamental Index methodology explicitly disregards market capitalization in selecting and weighting securities.

5. **The Fundamental Index methodology includes regular rebalancing; DFA's selection methodology and rebalance practices are somewhat opaque and fluid.**

   The Russell RAFI Index Series, to which the Schwab Fundamental Index products are managed, are recalculated annually utilizing a rules based weighting mechanism based on fundamental measures of company size – sales, cash flow and dividends plus buybacks. The resultant index changes are implemented in a systematic manner on a rolling quarterly basis.

   The DFA methodology is less transparent. When increasing its exposure to value, for example, the DFA methodology identifies a company's book value to its market value as a primary determinant, but also uses other value and profitability indicators, such as a company's earnings-to-book ratio, to influence portfolio weights in an undefined manner. DFA's 2013 announcement that it would incorporate profitability into its security-screening process is an example of the fluidity of its approach.

   In addition, DFA professes its trading acumen as a significant source of performance—specifically, a strategy in which it can opportunistically buy or sell securities—unlike an index fund, which typically buys or sells securities to coincide with changes in a related index.[9] However, DFA does not clearly identify the portion of fund performance attributable to such trading gains, and its flexible timing on trade activity indicates a lack of a systematic rebalancing schedule.

Distinctions between DFA Funds and John Hancock ETF's

In addition to the above distinctions between the Fundamental Index and DFA methodologies, there are also some subtle distinctions between DFA's traditional advisor-focused funds and the John Hancock Multifactor ETFs managed by DFA:

- Whereas the methodology behind the John Hancock ETFs incorporates many of DFA's views and tends to overweight factors related to size, value, profitability and momentum (and therefore a link to price), the newer John Hancock ETF's are available to retail investors and don't offer RIA's the beneficial exclusivity of DFA's proprietary, advisor-only funds. Further, as noted below, **subtle methodology differences could lead to a performance difference between** the John Hancock ETFs and DFA's proprietary funds.
- As previously noted, DFA employs the **discretionary use of timely trading strategies to augment returns** in its traditional advisor-focused funds, **but not to the John Hancock ETFs**. This is likely among the key differentiators that DFA cites in attempting to minimize advisor switching from its proprietary funds to the newer ETFs.

Charles Schwab Investment Management

As one of the nation's largest asset managers, our goal is to provide investors with a diverse selection of foundational products that aim to deliver consistent performance at a competitive cost.

Summary and Conclusion

- The fact that two different portfolios may appear similar does not always mean that they employ the same investment strategy or approach.
- As different investment methodologies such as Fundamental Index and DFA's approach continue to grow in popularity, it becomes more imperative than ever for investors to clearly understand the intricacies of various products and how they compare and contrast to one another.
- The Fundamental Index methodology, in our eyes, preserves the premise of a strategic beta approach, retaining many of the benefits of traditional passive investing—broad market exposure, diversification, liquidity, transparency, and low-cost access to equity markets.
- In employing an effective strategic beta strategy, we believe that the link with price should be eliminated with respect to security selection and weighting, and that a transparent, straightforward and rules-based approach should be applied to remove portfolio manager subjectivity.
- However, recognizing the value of diversification within a portfolio and that there are indeed differences between the Fundamental Index and DFA approaches, we acknowledge the potential diversification benefit of combining the two in a portfolio.

Investors should consider carefully information contained in the Fund's prospectus, or if available, the summary prospectus, including investment objectives, risks, charges and expenses. You can view and download a prospectus by visiting www.schwabfunds.com/schwabfunds_prospectus. Please read the prospectus carefully before investing.

Schwab is a registered trademark of Charles Schwab & Co., Inc. Fundamental Index is a registered trademark of Research Affiliates LLC.

The Schwab Fundamental Index Funds and ETFs are not in any way sponsored, endorsed, sold or promoted by Frank Russell Company (Russell), by the London Stock Exchange Group companies (LSEG), or by Research Affiliates LLC (RA) (collectively the Licensor Parties), and none of the Licensor Parties make any warranty or representation whatsoever, expressly or impliedly, either as to the results to be obtained from the use of the Russell RAFI Index Series (the Indexes) or otherwise. The Indexes are compiled and calculated by Russell in conjunction with RA. None of the Licensor Parties shall be liable (whether in negligence or otherwise) to any person for any error in the Indexes and none of the Licensor Parties shall be under any obligation to advise any person of any error therein. "Russell®" is a trademark of Russell. The trade names "Research Affiliates®", "Fundamental Index®" and "RAFI®" are registered trademarks of RA. Charles Schwab Investment Management, Inc. has obtained full license from Russell to use the Indexes. For full disclaimer please see the funds' statements of additional information.

Diversification, automatic investing and re-balancing strategies do not ensure a profit and do not protect against losses in declining markets.

This information is not meant to be investment advice. Investment comparisons are for illustrative purposes only and are not meant to be all-inclusive. To better understand the similarities and differences between investments, including investment objectives, risks, fees, and expenses, it is important to read each product's prospectus or offering document.

Investment returns and principal value will fluctuate and are subject to market volatility, so that an investor's shares, when redeemed or sold, may be worth more or less than their original cost. Unlike mutual funds, shares of ETFs are not individually redeemable directly with the ETF. Shares of ETFs are bought and sold at market price, which may be higher or lower than the net asset value (NAV). Brokerage commissions will reduce returns.

1 Source: Morningstar Direct, as of 06/30/2018.
2 Source: Research Affiliates, LLC, as of 03/31/2018.
3 An Introduction to Dimensional Fund Advisors, dimensional.com, April 2016.
4 InvestmentNews: "Sweeping changes under way at DFA," Jason Kephart; August 7, 2013.
5 Barrons: "A Different Dimension," Beverly Goodman; January 4, 2014.
6 Source: Dimensional's David Booth Interviews Eugene Fama (video), https://www.dimensonal.com/famafrench
7 Barrons: "A Different Dimension," Beverly Goodman; January 4, 2014.
8 This does not mean that products that are based on a Fundamental Index strategy are actively managed nor that they have an active component. Please refer to a fund's prospectus for its investment strategy.
9 Barrons: "A Different Dimension," Beverly Goodman; January 4, 2014.

Charles Schwab Investment Management, Inc. (CSIM) is the investment advisor for Schwab Funds and Schwab ETFs. Schwab Funds are distributed by Charles Schwab & Co., Inc. (Schwab), Member SIPC. Schwab ETFs are distributed by SEI Investments Distribution Co. (SIDCO). CSIM and Schwab, are separate but affiliated companies and subsidiaries of The Charles Schwab Corporation, and are not affiliated with SIDCO.