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FUNDAMENTAL INDEXING: WEIGHING THE DIFFERENCE

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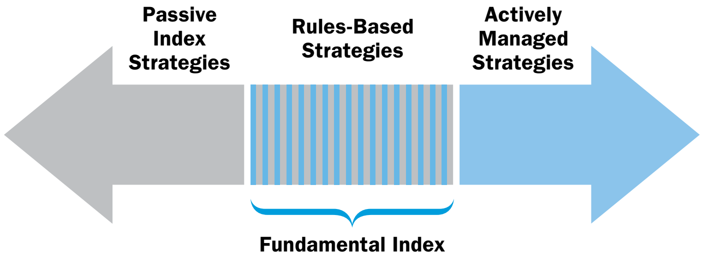
The popularity of index-based mutual funds and exchange traded funds (ETFs) in recent years is partly attributable to the fact that many actively managed mutual funds have had difficulty outperforming the market, especially when costs are factored in. The first ETF was launched in 1993, and at the end of 2012 there were more than 1,300 ETFs in the market, with nearly $1.4 trillion in assets under management. Along with the growth of ETFs has come increased innovation in ETF and mutual fund strategies. Most notable has been the evolution of **fundamentally weighted strategies.**

In this paper:

In this paper, we will discuss the growth of index-based ETF and mutual fund strategies and the need for investors to weigh the differences in construction methodologies and biases apparent in the various strategies. In addition, we will cover the following topics:

- Impact of the expansion of investment choices available to investors for gaining exposure to market segments
- Comparison of the different characteristics and index construction methodologies of traditional market-cap and fundamental index strategies
- Evaluation of the historical performance of fundamental strategies, demonstrating their ability to deliver better risk-adjusted returns than their market-cap equivalents
- Value of combining fundamental strategies with market-cap strategies to build more durable client portfolios



ETFs were originally designed to mimic the most popular indexes: S&P 500,® Russell 1000,® MSCI EAFE, etc. These indexes are market-cap weighted, meaning the company with the largest market capitalization has the largest weight in the index. Market-cap indexes tend to overweight overvalued stocks and underweight undervalued stocks. It's crucial that investors understand the biases in indexes and the types of environments in which they tend to outperform and underperform, which we will discuss in greater detail in this article.

Fundamental strategies—sometimes referred to as *alternative beta, strategy beta,* or *smart beta* because they provide broad-based market exposure (beta)—weight securities based on fundamental factors. Rather than merely providing the biggest weights to the largest companies, fundamental strategies weight securities based on factors such as adjusted sales, retained cash flow, and dividends plus buybacks. The several different fundamental strategies available in the market vary based on the factors they screen.

	Market Cap	Fundamental
Portfolio weighting	Cap weighting	Economic factors
Portfolio construction	Larger-cap and growth bias	Value tilt
Portfolio turnover	Reconstitution	Reconstitution and rebalancing
Tax efficient	Typically	Typically
Cost structure	Lowest cost	Low cost

In fact, fundamental index strategies screen securities in a fashion similar to that of many actively managed mutual funds and ETFs. But by following a rules-based discipline, fundamental strategies remove the emotions that often hurt active managers. The indexes are rebalanced at predetermined intervals. Traditional market-cap indexes adjust portfolio weights only when securities are added or deleted from the underlying index.

The Schwab Center for Financial Research believes that fundamental strategies can capture the positive attributes of both traditional passive strategies and actively managed mutual funds. Their unique construction process may provide investment opportunities different from those of market-cap-weighted strategies.

Here are some key findings from our research on fundamental strategies:

- Weighting securities based on economic factors, rather than merely on market cap, leads to a more sophisticated allocation of capital.
- Fundamental index strategies have delivered better risk-adjusted returns than their market-cap equivalents since inception.
- Fundamental index strategies have been able to outperform many actively managed mutual funds.[1]

Fundamental Indexing

Rob Arnott and his colleagues at Research Affiliates pioneered the use of fundamental indexing. Based on their research, Research Affiliates has shown cumulative outperformance since inception relative to traditional indexes.[2] Arnott states, "We believe these results are not mere accidents of history but are likely to persist into the future."[3]

[1] Morningstar Direct, Exhibit 3, March 1, 2011–March 31, 2013.
[2] Morningstar Direct, Exhibit 3, March 1, 2011–March 31, 2013.
[3] Robert D. Arnott, Jason C. Hsu, and Philip Moor, "Fundamental Indexation," *Financial Analysts Journal* 16.2, March–April 2005, 83–97.

Fundamental strategies represent an evolutionary step in indexing, moving beyond traditional market-cap indexing by applying logic and intelligence to index construction. While market-cap indexes and fundamental indexes may begin with the same basket of eligible securities, the differences in construction can lead to dramatically different results.

Market-cap vehicles are designed to provide cost-effective exposure to broad market indexes. Since actively managed mutual funds have had difficulty outperforming passive benchmarks over time, market-cap ETFs have generally been embraced by investors as *cheap beta*. Rather than paying higher fees for actively managed mutual funds, investors can better control their costs with market-cap ETFs.

The chart on the previous page compares **market-cap** and **fundamental** strategies. Fundamental index strategies, available in both indexed mutual funds and ETFs, can provide cost-effective and tax-efficient exposure to the markets. Fundamental index strategies have historically delivered excess return relative to the market (as defined by the S&P 500 Index).[4] Because fundamental index strategies screen and weight securities based on economic factors, they may have a value tilt. It is important to note, however, that they are not value indexes. Fundamental indexes tend to own value, growth, and core securities.

With the introduction of fundamental strategies, investors now have more options for owning market segments. They can select among traditional market-cap strategies, actively managed mutual funds, and fundamental index strategies. ETFs and index-based mutual funds allow investors to access virtually every segment of the market. ETFs tend to provide a more cost-effective structure, which has been particularly appealing to investors. The growth of ETFs has been fueled by a number of factors: product innovation, broader acceptance by investors, and the difficulties active managers have had in justifying their fees through outperformance.

With the growth of choices, investors need to understand the differences in strategies and the corresponding results. Exhibit 1 shows the top 10

EXHIBIT 1

Russell Fundamental U.S. Large Company Index

Company	Weight
ExxonMobil Corp.	4.82%
Chevron Corp.	2.51%
AT&T Inc.	1.97%
Bank of America	1.92%
Procter & Gamble	1.62%
General Electric Co.	1.62%
ConocoPhillips	1.61%
Microsoft Corp.	1.46%
Wal-Mart Stores Inc.	1.45%
Verizon Communications Inc.	1.41%
Total	**20.39%**

Russell 1000 Index

Company	Weight
ExxonMobil	2.63%
Apple Inc.	2.58%
General Electric Co.	1.53%
Chevron Corp.	1.46%
International Business Machines Corp.	1.45%
Johnson & Johnson	1.40%
Pfizer Inc.	1.35%
Microsoft Corp.	1.34%
AT&T Inc.	1.34%
Procter & Gamble Co.	1.32%
Total	**16.40%**

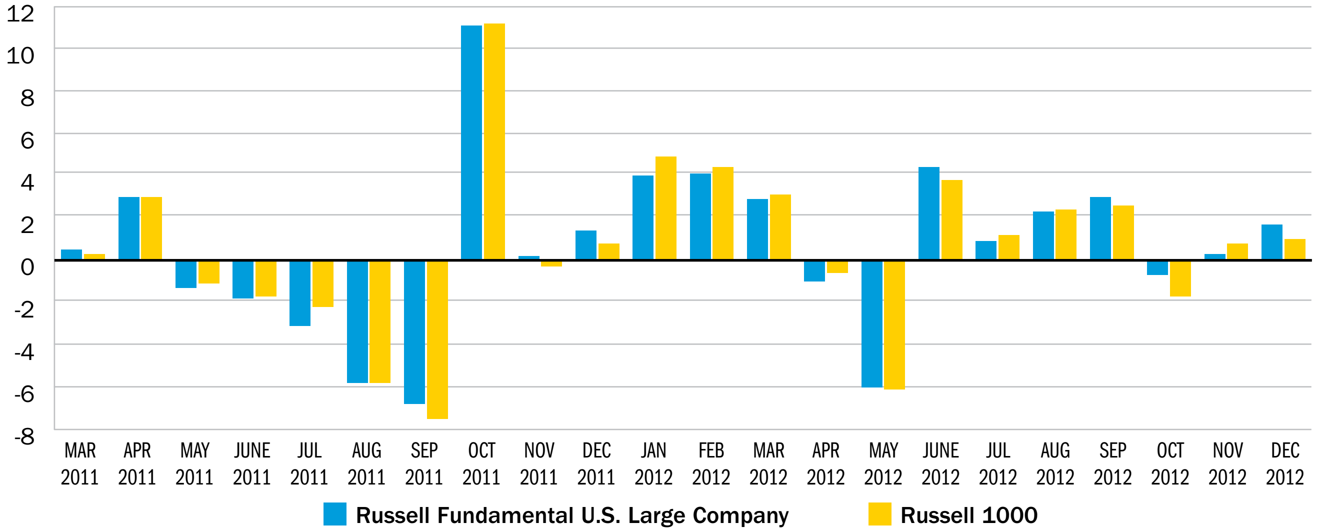
Source: Russell Investments and Research Affiliates (as of March 31, 2013). Holdings are subject to change without notice. For illustrative purpose only. Not a recommendation of any fund or security.

[4] Morningstar Direct, Exhibit 3, March 1, 2011–March 31, 2013.

EXHIBIT 2

Monthly Returns

Russell 1000 Index vs. Russell Fundamental U.S. Large Company Index



Source: Russell Investments and Schwab Center for Financial Research. Past performance is no guarantee of future results.

holdings in the Russell 1000 Index and the Russell Fundamental U.S. Large Company Index. While several of the companies are the same, the weights are different. Apple is the second-largest company in the Russell 1000 Index because it is the second-largest company by market capitalization. Conversely, Apple is not even represented in the top 10 holdings of the Russell Fundamental Index.

As noted on the previous page, several of the companies appear in both the Russell Fundamental U.S. Large Company and Russell 1000 indexes. Up until Q1 2013, Apple was the largest holding in the Russell 1000 Index. As of the end of Q1 2013, it was the 76th-largest holding in the Russell Fundamental Index. Through the first three quarters of 2012, Apple's price was up more than 65%. Most fundamental indexes and many active managers underweighted Apple, making it difficult for them to outperform market-cap-weighted indexes during that time. Apple has had a disproportionate impact on the market-cap indexes, exaggerating the rise and the subsequent fall. Based on the construction methodology, market-cap weighting should generally perform better in market environments that reward larger-cap stocks.

As you can see from Exhibits 2 and 3, the Russell 1000 Index and Russell Fundamental U.S. Large Company Index have experienced different results over time, and these differences are largely attributable to the ways the indexes are constructed. Therefore, we believe that investors should understand the nature of the index construction and the environments that should help a particular strategy outperform and underperform. Furthermore, we believe that there is merit to combining market-cap and fundamental index strategies.

The larger-cap bias of market-cap indexes means they are likely to outperform when the biggest companies are outperforming the overall market. As mentioned previously, when Apple outperformed the overall market, it provided an advantage to market-cap indexes. Fundamental indexes tend to outperform in value cycles and markets in which there is a broadening of leadership (meaning they are less dependent on the biggest companies). As illustrated below, academic research and research conducted by the Schwab Center for Financial Research has shown that fundamental indexes have outperformed their market-cap equivalents over time.

Exhibit 3 provides an analysis of the Russell 1000 Index and Russell Fundamental U.S. Large Company Index. As the data shows, the Russell Fundamental Large Company Index has delivered excess returns (12.15% versus 10.77%) with roughly the same amount of risk as the Russell 1000 Index (13.81% versus 13.82%). Past performance is no guarantee of future results.

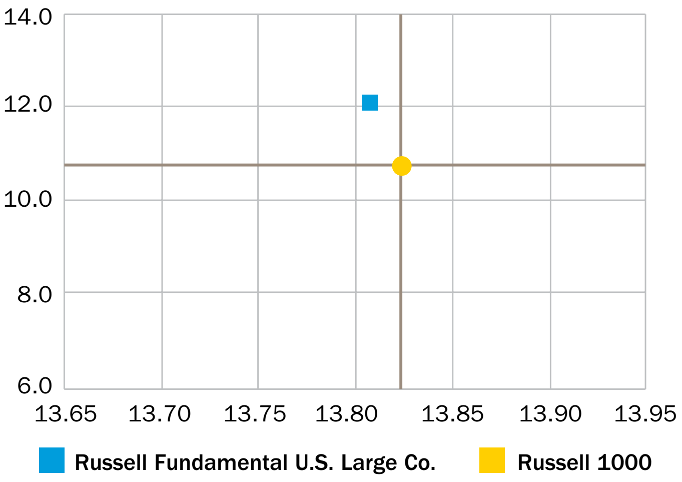
Conclusion

The Schwab Center for Financial Research believes that fundamental strategies represent an evolutionary step forward. While market-cap ETFs can provide cost-effective exposure to virtually every segment of the market, investors need to understand how they are constructed and the biases introduced through their construction methodology. Fundamental indexes begin with the same basket of securities, but they weight securities based on fundamental factors such as *adjusted sales, operating cash flows,* and *dividends plus buybacks.* The weightings, and corresponding results, can be substantially different.

With the growth of index-based ETF and mutual fund strategies, investors have many ways to gain exposure to market segments. Based on our research, fundamental strategies have delivered attractive risk-adjusted results relative to market-cap strategies over their limited existence. We believe that fundamental strategies may serve as an important complement to market-cap strategies.

EXHIBIT 3

Risk-Return 3/1/2011–3/31/2013



	Russell Fundamental U.S. Large Company	Russell 1000
Return	12.15	10.77
Std Dev	13.81	13.82
Beta	0.9913	1.0000
Alpha	1.35	0.00
Sharpe Ratio (arith)	0.8754	0.7743
Number of Observations	25.00	25.00

Source: Morningstar Direct.

Glossary of Terms

Alpha. A performance measure on a risk-adjusted basis. Alpha takes the volatility (risk) of a mutual fund or other type of investment and compares its risk-adjusted performance against a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

Beta. A measure of the volatility, or systematic risk, of a security or a portfolio compared with the market as a whole. Beta is used in the capital asset pricing model (CAPM), which calculates the expected return of an asset based on its beta and expected market returns.

Correlation. Correlation measures the relationship and movement of two or more securities. Correlations range between -1 and +1. Perfect positive correlation (a correlation of +1) implies that as one security moves, either up or down, the other security will move in lockstep in the same direction. Perfect negative correlation means that if one security moves in either direction, the security that is perfectly negatively correlated will move in the opposite direction. If the correlation is zero, the movements of the securities are said to have no correlation; they are completely random.

Fundamental indexing. A type of equity index in which components are chosen based on fundamental criteria as opposed to market capitalization. Fundamentally weighted indexes may be based on metrics such as adjusted sales, operating cash flow, and dividends plus buybacks. Proponents of these indexes claim that they are a more accurate aggregate measure of the market because market-capitalization figures tend to overweight companies that are richly valued while underweighting companies with low valuations. Fundamental indexes are sometimes referred to as *alternative beta* or *smart beta.*

Market-cap weighting. Most of the broadly used market indexes today are "cap-weighted" indexes, such as the S&P 500, Russell, and MSCI indexes. In a cap-weighted index, large price moves in the largest components can have a dramatic effect on the value of the index. Some investors believe that this overweighting toward the larger companies gives a distorted view of the market.

MSCI EAFE Index. The MSCI EAFE Index is recognized as the pre-eminent benchmark in the U.S. for measuring international equity performance. It comprises the MSCI country indexes that represent developed markets outside of North America: Europe, Australasia, and the Far East.

Russell 1000 Index. The Russell 1000 Index measures the performance of the large-cap segment of the U.S. equity universe. It is a subset of the Russell 3000 Index and includes approximately 1,000 of the largest securities based on a combination of their market cap and current index membership. The Russell 1000 represents approximately 92% of the U.S. market.

Russell Fundamental U.S. Large Company Index. The Russell Fundamental U.S. Large Company Index measures the performance of the large-company segment by fundamental scores. The fundamental overall company scores are created using as the universe the members of the Russell 3000 Index.

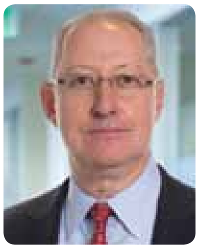
S&P 500 Index. The S&P 500 has been widely regarded as the benchmark of the large-cap U.S. equities market since the index was first published in 1957. The index includes 500 leading companies in leading industries of the U.S. economy based on market capitalization, capturing 75% coverage of U.S. equities.

Sharpe ratio. The Sharpe ratio tells us whether a portfolio's returns are due to smart investment decisions or excess risk. This measurement is very useful because although one portfolio or fund can reap higher returns than its peers, it is only a good investment if those higher returns do not come with too much additional risk. The greater a portfolio's Sharpe ratio, the better its risk-adjusted performance has been. A negative Sharpe ratio indicates that a riskless asset would perform better than the security being analyzed.

Standard deviation. Standard deviation is a statistical measurement that sheds light on historical volatility. For example, a volatile portfolio will have a higher standard deviation than a less volatile portfolio. A large dispersion tells us how much the return on the fund is deviating from the expected normal returns.

For more information

Contact Schwab Investment Solutions at (877) 824-5615 or InvestmentSolutions@schwab.com to learn more.



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Anthony Davidow is responsible for providing Schwab's point of view on asset allocation and portfolio construction. He is also responsible for providing research and analysis on alternative beta strategies and how investors should incorporate them in their portfolios.

Before joining Schwab, Davidow was a managing director, portfolio strategist, and head of the ETF Knowledge Center for Guggenheim Investments. Before joining Guggenheim, Davidow was executive vice president and head of distribution for IndexIQ. Previously, he spent 15 years at Morgan Stanley, where he served as managing director and head of sales and training for the Consulting Services Group. While at Morgan Stanley, he worked with many of the firm's largest clients in developing and implementing asset allocation strategies, incorporating active and passive strategies, and using alternative investments as risk management tools.

Davidow has authored several white papers and strategy pieces and spoken at industry conferences on a range of topics, including "The Merits of Core-Satellite Investing," "Asset Allocation and Manager Selection: Adaptive Allocation," "Alpha-Beta Separation," "Alternative Weighting Strategies," "The Role and Use of Alternative Investments," and "Currency as an Asset Class."

Davidow holds a B.B.A. degree in finance and investments from Bernard M. Baruch College and has earned the Certified Investment Management Analyst (CIMA®) designation from the Investment Management Consultant's Association (IMCA) and the Wharton School of the University of Pennsylvania. He sits on the board of directors for IMCA. He holds Series 7, 24, and 63 registrations.

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