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Better Together: Fundamental & Market-Cap Indexes

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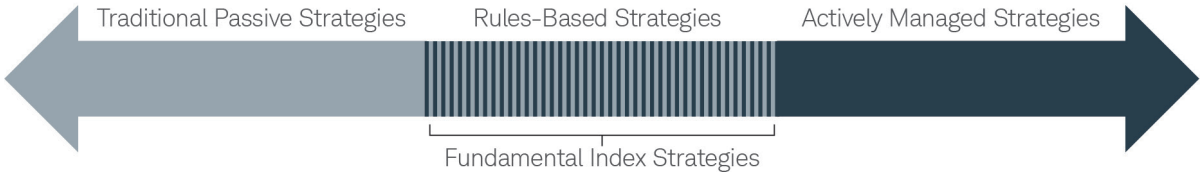
In this paper

We discuss why we believe that fundamental and market-cap indexes are better together. We also address the following:

- Why now is a good time for fundamental indexing.
- Why we favor fundamental indexing rather than other types of smart beta strategies.
- The benefits of combining fundamental and market-cap indexing.

Fundamental Index Strategies Are Designed to Capture Positive Attributes of Active and Passive Investing



The Schwab Center for Financial Research has conducted proprietary research on fundamental index strategies, which has helped us develop a unique point-of-view on how to incorporate them into portfolios. We believe that fundamental indexing captures many of the positive attributes of traditional market-cap indexes and active management, and can serve as a complement to both of them. Fundamental indexing is a form of "smart beta" (also known as "strategic beta") representing an evolutionary step forward in indexing.

Why is now a good time for fundamental indexing?

As we enter the ninth year of this historic bull market, valuations are becoming stretched, and certain securities are trading at elevated price-to-earnings (P/E) ratios. In particular, the FANG stocks (Facebook, Amazon, Netflix, and Google), which have been driving the markets higher, now have lofty valuations.

Index Comparison: Market-Cap and Fundamental

As of December 31, 2017	Rank in Russell 1000® Index	Rank in Russell RAFI™ US Large Company Index	Foward P/E Ratio
Facebook	4	174	27.7
Amazon	3	114	133.3
Netflix	68	-	94.3
Google (Alphabet)	9	66	26.6
Russell 1000 Index	-	-	22.6
Russell RAFI Index	-	-	20.5

Source: Schwab Center for Financial Research with data provided by Morningstar Direct. Data as of December 31, 2017. For illustrative purposes only. Not a recommendation or guarantee that any company is or has been profitable.

As of December 31, 2017, Amazon and Netflix had forward P/E ratios of 133.3 and 94.3, respectively. These are expensive valuations—which by no means suggests they aren't good companies. But it will be challenging for them to continue their torrid growth given high expectations. We believe that in the latter stages of this bull market, companies with more realistic valuations may do better.

If we look at the market more broadly, growth dramatically outperformed value in 2017. In fact, growth has dominated for much of this bull market. However, as savvy investors begin to focus more on valuations, value seems poised to dominate in the latter stages of this bull run. The gap between value and growth has been widening since 2009, with growth outperforming value by over 16% in 2017. The Russell 1000® Growth Index finished at 30.21%, while the Russell 1000® Value Index finished at 13.66%. (please see chart on the next page).

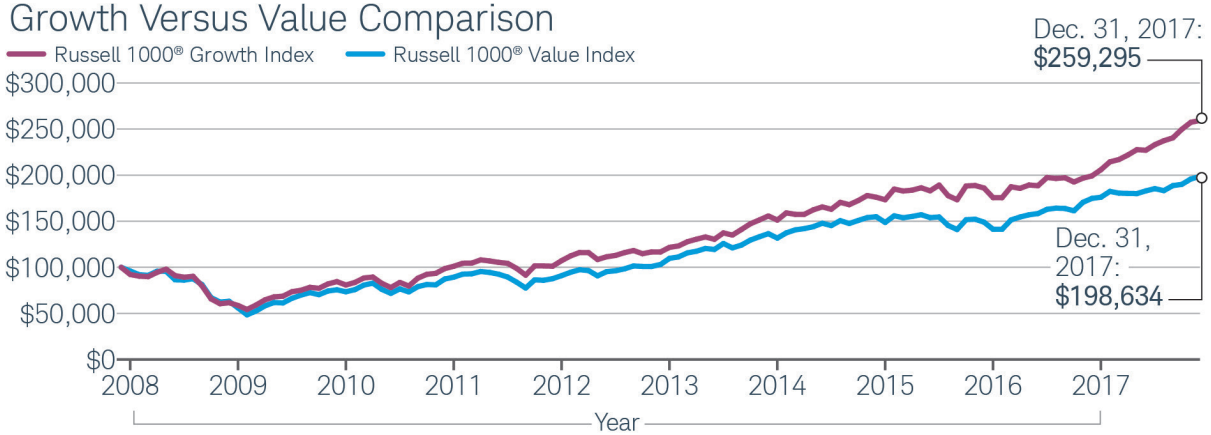
Fundamental indexing employs a disciplined approach to evaluating economic measures such as adjusted sales, cash flows, and dividends + buybacks. Fundamental indexing tilts toward value, and consequently it lagged in 2017. We believe that markets exhibit a natural *mean reversion* over time, and therefore strategies that lag during one time period often become the dominant strategies during the next period, since markets tend to overprice and underprice securities. We believe that this could be a key inflection point and we could begin to see a reversal in the coming year.

Why do we favor fundamental indexing?

Although the market has been flooded with new smart beta strategies, we don't believe that all strategies are created equal, and not all of them will preform as expected. Some strategies are academically rigorous and make intuitive sense. Unfortunately, others are merely backtests and likely will fall short in a "live" environment.

Many firms use hypothetical ("back-tested") data as an illustration of how a strategy may have performed over time had it existed during the time period tested. While there can be value for firms using back-tested data to evaluate a new strategy, there are also limitations, including the fact that the data is analyzed with the benefit of hindsight and doesn't include the

Growth Versus Value Comparison



Source: Morningstar Direct and Schwab Center for Financial Research. This chart represents hypothetical investments and is for illustrative purposes only. Data is from January 1, 2008 – December 31, 2017. Indexes are unmanaged, do not incur fees or expenses, and cannot be invested in directly. **Past performance is no guarantee of future results.**

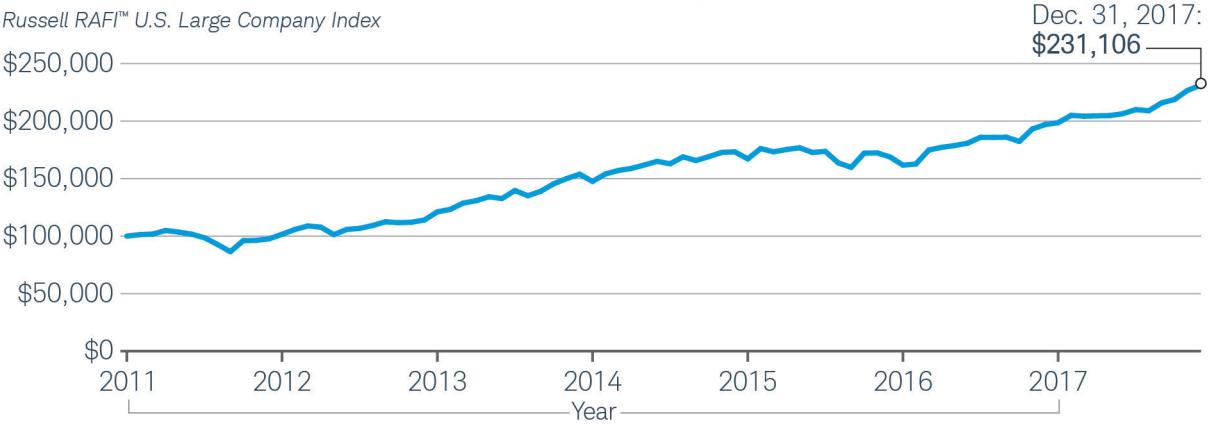
impact of buying and selling securities, or the effect of fees or expenses. Back-tested data is not representative of any actual investment and results of a live strategy may differ significantly.

We have favored the rigor of Research Affiliates' RAFI™ strategies for quite some time. We appreciate how carefully Research Affiliates has thought through the implementation of the strategies. We also value the access and expertise of FTSE Russell in creating the underlying indexes. Last, we've seen these strategies perform over a full market cycle—through good times and bad.

Based on Morningstar's data from December 2017, there are currently 845 different strategic beta strategies with $876 billion in AUM. Some of these strategies seek to exploit known factors, such as value, size, quality, momentum, and low volatility, while others provide back-tested results that show compelling track records. Only time will tell if these different approaches deliver comparable results in the future.

The newest trend in smart beta strategies is the introduction of multi-factor strategies, which incorporate known factors in a single structure. Multi-factor strategies are offered in both a static weighting methodology and a dynamic weighting methodology. Many of these strategies rely on back-tested data or relatively short track records.

Performance of the Russell RAFI™ U.S. Large Company Index



February 24, 2011- December 31, 2017	Starting Value	Ending Value	Annualized Return	Cumulative Return	Standard Deviation
	$100,000	$231,106	13.00%	131.11%	17.21

Source: Morningstar Direct and Schwab Center for Financial Research. This chart represents a hypothetical investment and is for illustrative purposes only. Data is from February 24, 2011 – December 31, 2017. The date of inception for the Russell RAFI™ U.S. Large Company Index is February 24, 2011. See disclosures for more information about the market index used. Indexes are unmanaged, do not incur fees or expenses, and cannot be invested in directly. **Past performance is no guarantee of future results.**

With the extraordinary growth of strategic beta strategies, advisors can use single-strategy products to build portfolios or use multi-factor strategies, which may have an additional layer of diversification. Multi-factor strategies claim to provide better outcomes, but they often come at a much higher price. Only time will tell whether the additional fees and complexity of multi-factor strategies deliver on the promise of better outcomes.

What are the benefits of combining fundamental and market-cap indexing?

Market-cap strategies provide cost-effective exposure to the various asset classes. Since these strategies are essentially the benchmark, they exhibit little or no tracking error, and typically represent the lowest cost solution.

Fundamental indexing often exhibits high tracking error, but it offers reward potential over the long run in the form of excess return, or alpha. While fundamental indexing is often less expensive than active managers, it typically has a price premium relative to market-cap strategies.

Market-cap and fundamental are both index-based strategies, but they will perform very differently over time because of their different weighting methodologies. Market environments like those of 2015 and 2017 will reward market-cap indexes due to the impact of momentum from FANG and similar stocks. However, as investors pay more attention to valuations, fundamental index strategies may flourish again in 2018 as they did in 2016.

Sample of Individual Strategies	Expense Ratio
US Large Cap Fund - Market Cap weighted	0.03%
US Large Cap Fund - Fundamentally weighted	0.25%

Sample of Combined Strategies	Blended Expense Ratio
60% Fundamentally weighted & 40% Market Cap weighted	0.16%

Source: Schwab Center for Financial Research. For illustrative purposes only.

For more in-depth information on this topic, see our paper The Elegance of Indexing, in which we articulate our unique approach to combining fundamental and market-cap strategies. We define the role of each strategy in a portfolio and suggest the appropriate combination across various asset classes.

Why cost matters

As noted, market-cap strategies are typically available at very cost-effective levels. You can own a broad basket of stocks for as little as three basis points, or 0.03%. While smart beta strategies are typically more expensive, their cost has come down in recent years due to competitive pressures.

For example, If you were to combine the two sample strategies outlined in the chart to the left, the fee for a 60/40 blend (60% fundamentally weighted and 40% market-cap) would be a mere 16 basis points. The fee on average for an active equity mutual fund is 75 basis points, according to Morningstar research. The difference in fees could lead to more of the investment remaining in the portfolio.

Conclusion

As the secular bull market enters its ninth year, we believe that fundamental indexing may be poised to outperform its market-cap equivalent. Valuations appear stretched, and certain securities have experienced incredible multi-year run-ups. We could begin to see a late-cycle reversal in market leadership.

Market-cap indexes tend to overweight overvalued stocks and underweight undervalued stocks. As a result, these indexes have benefited from momentum in recent years and the 'unleashing of animal spirits' in 2017. As we begin to focus on valuations in the late stages of this bull run, fundamental strategies appear to be well positioned for growth, since they focus on economic factors rather than overweighting the popular stocks.

We believe that combining fundamental and market-cap indexing provides an additional layer of diversification and the potential for alpha in a cost-effective manner.

Anthony B. Davidow, CIMA®

Vice President, Alternative Beta and Asset Allocation Strategist

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 can incorporate them in their portfolios. Davidow is also a member of the firm's Asset Allocation Council and Alternative Investment Product Council.

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 spoken at numerous industry conferences on a range of topics, including: "Asset Allocation and Manager Selection" "Alpha-Beta Separation," "Democratizing Alternative Investments," "An Evolutionary Approach to Portfolio Construction," and "The Case for Global Asset Allocation" among others. In 2017, he was awarded the Steven L. Kessler Writing Award for "Strategic Beta Strategies: An Evaluation of Different Approaches"; and in 2015, he received the Steven L. Kessler Writing Award (Honorable Distinction) for "Alternative Beta Strategies".

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 served on the Board of Directors for IMCA from 2009 to 2015, and currently serves as the Chair, Investment & Wealth Monitor, Editorial Advisory Board. He holds FINRA Series 7, 24, and 63 registrations.

Index definitions

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 1000 of the largest securities based on a combination of their market cap and current Index membership. The Russell 1000 Index represents approximately 92% of the U.S. market. The Russell 1000 Index is constructed to provide a comprehensive and unbiased barometer for the large-cap segment and is completely reconstituted annually to ensure new and growing equities are reflected.

Russell 1000® Growth Index - The Russell 1000 Growth Index measures the performance of the large-cap growth segment of the U.S. equity universe. It includes those Russell 1000 Index companies with higher price-to-book ratios and higher forecasted growth values. The Russell 1000 Growth Index is constructed to provide a comprehensive and unbiased barometer for the large-cap growth segment. The Index is completely reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect growth characteristics.

Russell 1000® Value Index - The Russell 1000 Value Index measures the performance of the large-cap value segment of the U.S. equity universe. It includes those Russell 1000 Index companies with lower price-to-book ratios and lower expected growth values. The Russell 1000 Value Index is constructed to provide a comprehensive and unbiased barometer for the large-cap value segment. The Index is completely reconstituted annually to ensure new and growing equities are included and that the represented companies continue to reflect value characteristics.

Russell RAFI™ US Large Company Index - Ranks companies in the Russell 3000® Index by fundamental measures of size and tracks the performance of those companies whose fundamental scores are in the top 87.5% of the Russell 3000® Index.

Important disclosures

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The type of investment strategies mentioned may not be suitable for everyone. Each investor needs to review a security transaction for their own particular situation. All expressions of opinion are subject to change without notice in reaction to shifting market conditions. Data presented here are obtained from what are considered reliable sources; however, their accuracy, completeness, and reliability cannot be guaranteed.

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