
Fundamental Index[®] Methodology

Expect more from your beta



Fundamental Index ETFs

Broad Market

PRF PowerShares FTSE RAFI US 1000 Portfolio

PRFZ PowerShares FTSE RAFI US 1500 Small-Mid Portfolio

International

PAF PowerShares FTSE RAFI Asia Pacific ex-Japan Portfolio

PXF PowerShares FTSE RAFI Developed Markets ex-U.S. Portfolio

PDN PowerShares FTSE RAFI Developed Markets ex-U.S. Small-Mid Portfolio

PXH PowerShares FTSE RAFI Emerging Markets Portfolio

"The point of fundamental indexing (Fundamental Index strategies) isn't to cherry-pick specific measures that have historically worked well, it's to build a portfolio that broadly represents the overall economy. Fundamental Index Strategies' main source of added value comes from contra-trading against the fads, bubbles, crashes and shifting expectations in the market – selling the most popular and trendy stocks while buying the feared and loathed companies."

Robert Arnott
Chairman, Research Affiliates®

Shares are not FDIC insured, may lose value and have no bank guarantee.

Market-Cap Weighting

The Problem

Potential Flaws of Cap-Weighted Indexes

- Incorporate analysts' optimistic growth projections
- Fully participate in market speculation
- Display substantial growth bias
- Overweights overvalued stocks and underweights undervalued stocks leading to a drag on performance.

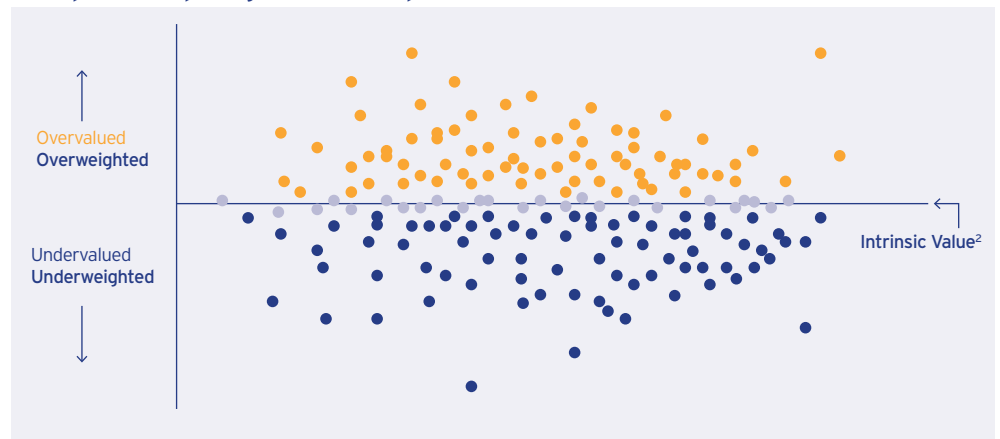
Until recently there has been little advancement in index-construction methods. The Dow Jones Industrial Average, which was first published in 1896, is based on elementary information that existed well before the Model T and the Wright brothers' famous flight at Kitty Hawk. The origins of the S&P 500 and market-cap-weighted indexes date back to 1923, long before zip codes, television, car radios or computers. Today's traditional benchmark indexes, including those from Standard & Poor's and Frank Russell Co., still typically use market-cap-weighting structures that embody this traditional investment approach.

When originally designed, cap-weighted indexes were based on the latest technology available. Today, however, we can pinpoint several potential problems inherent in cap-weighted indexes.

Overweights overvalued stocks

The cap-weighted structure forces an investor to overweight overvalued companies and underweight undervalued companies. This creates a significant growth bias and investment approach contrary to sound investment principles.¹

Example of a Cap-Weighted Price Dispersion Pattern



Source: Research Affiliates®, LLC

For illustrative purposes only.

Incorporates market speculation

Market-cap-weighted indexes allow the market to dictate the weight a stock receives in an index. This is problematic because market speculation can cause significant mispricing of stocks, which, in turn, results in what we believe to be improper weights in the index. A good example of this phenomenon occurred during the 1999 to 2000 "tech bubble" when Internet companies' inflated market caps resulted in index weights far in excess of mainline, established companies. These imbalances may be less likely to occur in indexes weighted by their fundamentals.

Mirrors volatility of stock prices

Market-cap-weighted indexes tend to mirror the volatility of stock prices. The market price of a stock can be significantly inflated by multiple factors, such as earnings projections, news and speculation. We believe this causes cap-weighted indexes to poorly translate the underlying economic size and strength of the companies that make up the overall market.

¹ Source: Research Affiliates, "Research Affiliates Fundamental Index®," 2011

² Managers believe intrinsic value represents the inherent business value of portfolio holdings during a two- to three-year investment horizon based on their estimates of future cash flow. Intrinsic value estimates are independent of market price, and, as a result, market price may never reflect intrinsic value estimates, especially for an entire portfolio.

Fundamental Index Strategies

The Solution

Benefits of Fundamental Index Strategies

- Severs the link between price and portfolio weight
- Use fundamental variables that don't depend on the fluctuations of market valuation
- May be less influenced by market bubbles
- Reduce the performance drag created by overweighting overvalued securities and underweighting undervalued securities
- Provide an alternative to traditional market-cap-weighted indexes

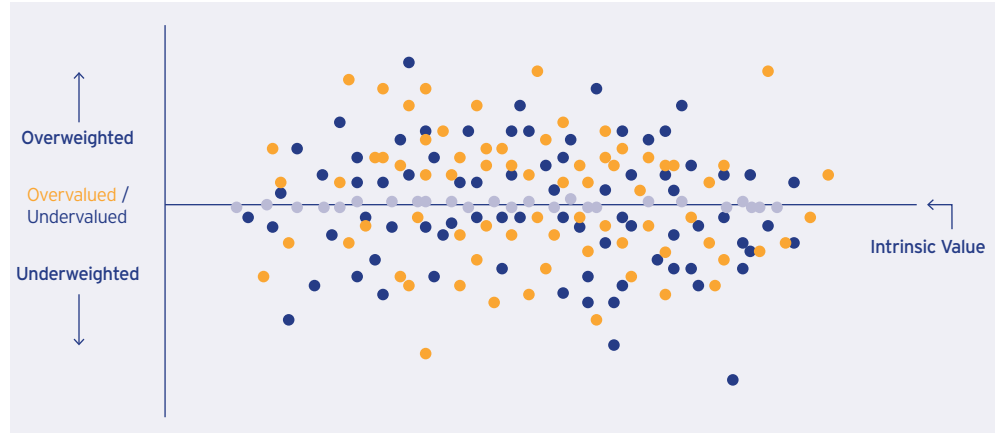
The Fundamental Index Methodology

Fundamental Index methodology, the non-capitalization method for creating and weighting an index of securities, is the patented proprietary intellectual property of Research Affiliates®, LLC.

The unprecedented advances in technology during the last 20 years have significantly increased our knowledge and understanding of the financial markets. Today, relatively new indexes have emerged that provide a more accurate measure of the marketplace.

Fundamental Index strategies select and weight stocks in an index according to the financial size of a company, not its market cap.

Example of a Fundamental Index Price Dispersion Pattern



Source: Research Affiliates, LLC

For illustrative purposes only.

Weight by fundamentals

Unlike traditional benchmark indexes, the FTSE RAFI® Index series uses a weighting structure that embodies four fundamental measures of size: sales, cash flow, book value and dividends. Fundamental Index strategies were created for use in the sophisticated investment approaches used by many investment professionals today.

These more advanced portfolio management techniques demand refined investment strategies, such as Fundamental Index strategies, that provide the full use of robust financial technology in seeking to deliver the best portfolio performance and efficiency possible.

Ignore market speculation

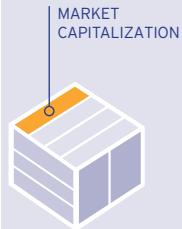
By breaking the link between price and portfolio weight, Fundamental Index strategies do not allow the market to dictate the weight a stock receives in an index. By creating an index weighted by fundamental factors – sales, cash flow, book value and dividends – the Fundamental Index strategy tends to avoid market bubbles and other market effects of irrational exuberance.

The Fundamental Index methodology relies on portfolio weights derived from multiple firm fundamentals (cash flow, book value, sales and dividends), rather than the vagaries of market valuation.

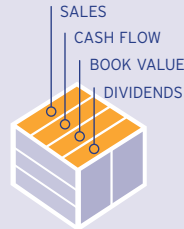
Anchored on Fundamentals

Company Valuation: Wall Street vs. Main Street

Wall Street



Main Street



See page 7 for a more complete illustration of the Fundamental Index methodology.

The PowerShares Fundamental Index portfolios are designed to track the FTSE RAFI Index series. Companies included in the index series are identified and weighted based on the following four fundamental measures of size: sales, cash flow, book value and dividends. Index constituents are re-weighted annually within each index based on their fundamental size as determined by these four fundamental measures. The result is an index that reflects each company's current economic footprint.

Sales: A company's five-year average sales.

Cash Flow: A company's five-year average cash flow.

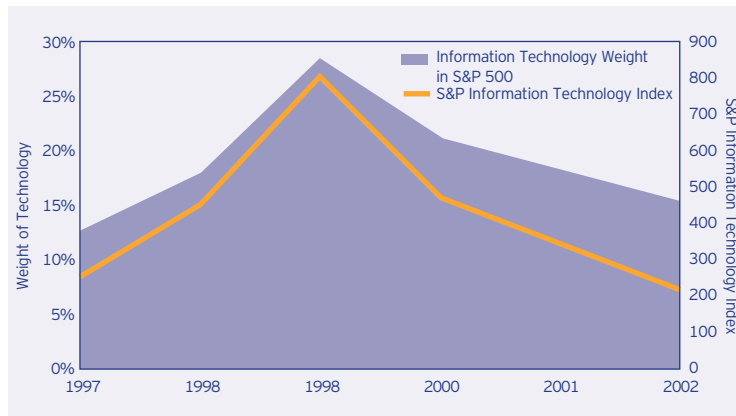
Book Value: A company's latest available book value.

Dividends: A company's five-year average dividend distribution.

Portfolios Anchored by Fundamentals

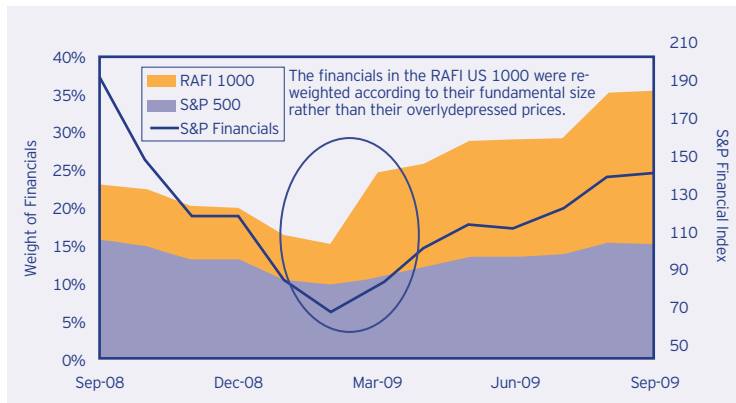
RAFI strategies provided an anchor from which to contra-trade¹ in each of the last two market dislocations and prevented "abandoning the losers" during the credit crisis between September 2008 and September 2009.

The Tech Bubble



Source: Invesco PowerShares
Data 12/31/1997 through 12/31/2002

The Collapse and Rebound of Financial Stocks



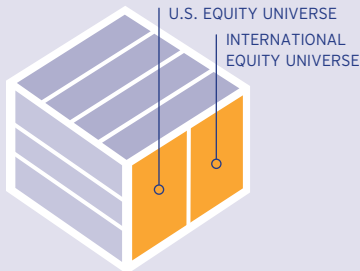
Source: Research Affiliates, LLC
Data 09/30/2008 through 09/30/2009

¹ The annual reconstitution back to a company's fundamental scale as defined by a composite of sales, cash flow, book value and dividends. This reconstitution forces the portfolio to trim stocks whose prices have recently outperformed their fundamentals and add to those stocks that have recently underperformed their business' economic footprints.

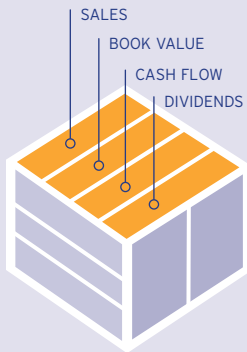
Index Methodology

Fundamental Index Methodology

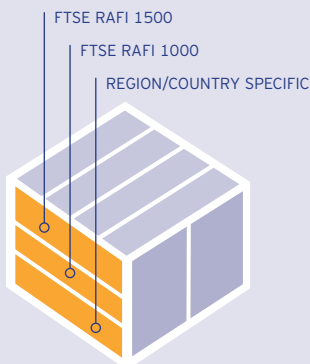
1. Define universe



2. Rank stocks according to the four fundamental factors of company size to determine largest 2,500 U.S.-listed companies and the largest regional and country-specific equities.



3. Companies are identified and assigned their appropriate weight relative to each index.



Fundamental Index methodology – U.S. application

The Fundamental Index methodology is applied in the domestic markets by ranking all publicly listed U.S. companies according to four fundamental measures of company size: sales, cash flow, book value and dividends.

Stocks ranked 1 to 1,000 are included in the FTSE RAFI US 1000 Index, which underlies the broad-market, large-cap PowerShares FTSE RAFI US 1000 Portfolio. The stocks are weighted according to their Fundamental Index rank.

Stocks ranked 1,001 to 2,500 are included in the FTSE RAFI US 1500 Index, which underlies the broad-market, mid- and small-cap PowerShares FTSE RAFI US 1500 Small-Mid Portfolio. The stocks are weighted according to their Fundamental Index rank.

Fundamental Index methodology – International application

The Fundamental Index methodology is applied in the international markets by ranking thousands of securities from more than 40 countries according to four fundamental measures of company size: sales, cash flow, book value and dividends.

The stocks with the highest Fundamental Index rank are selected for their appropriate index and weighted according to their rank.

Research Affiliates

Research Affiliates, LLC was formed by Robert D. Arnott in 2002 to engage in quantitative investment research designed to create innovative investment products. Over his 25-year career, Arnott has endeavored to bridge two disparate worlds: investment research and the practical marketplace.

A widely published writer and contributor to leading financial journals, he has authored and edited innumerable articles, publications and books. In recognition of his achievements as a financial writer, Arnott has received five awards from the Financial Analysts Journal and two Bernstein-Fabozzi/Jacobs-Levy awards from the Journal of Portfolio Management and Institutional Investor magazine for best articles of the year. Arnott graduated summa cum laude from the University of California, Santa Barbara, in 1977 in economics, applied mathematics and computer science.

