

Russell Fundamental Index[®] Series

A diversified approach to smart beta

Sponsored by: Russell Indexes

OCTOBER 21, 2014

Today's presenters



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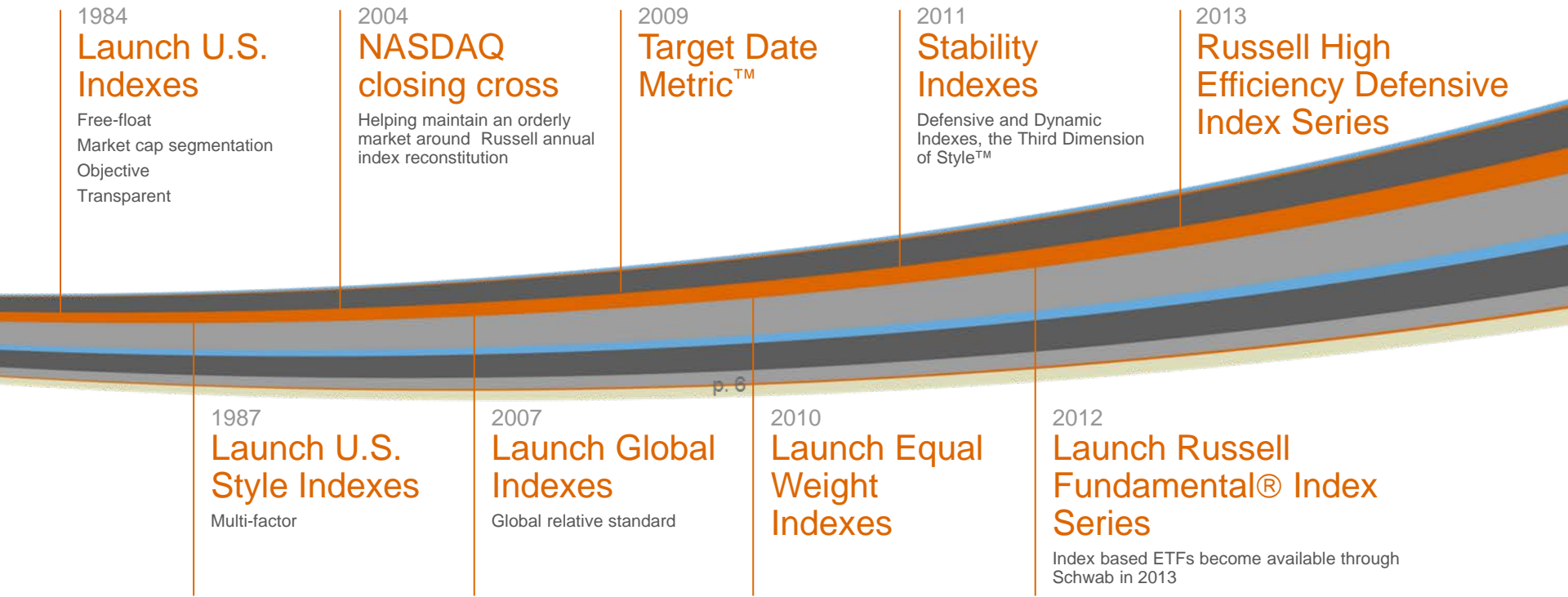
Schwab

Russell Indexes

The growth of smart beta



A history of index innovation



Russell Indexes Leadership

\$5.2
trillion in institutional assets benchmarked to Russell Indexes

75%
of actively managed, institutional U.S. Equity assets are benchmarked to Russell Indexes

30
Years of index innovation

Source (Innovation): Russell Investments as of June 30, 2014

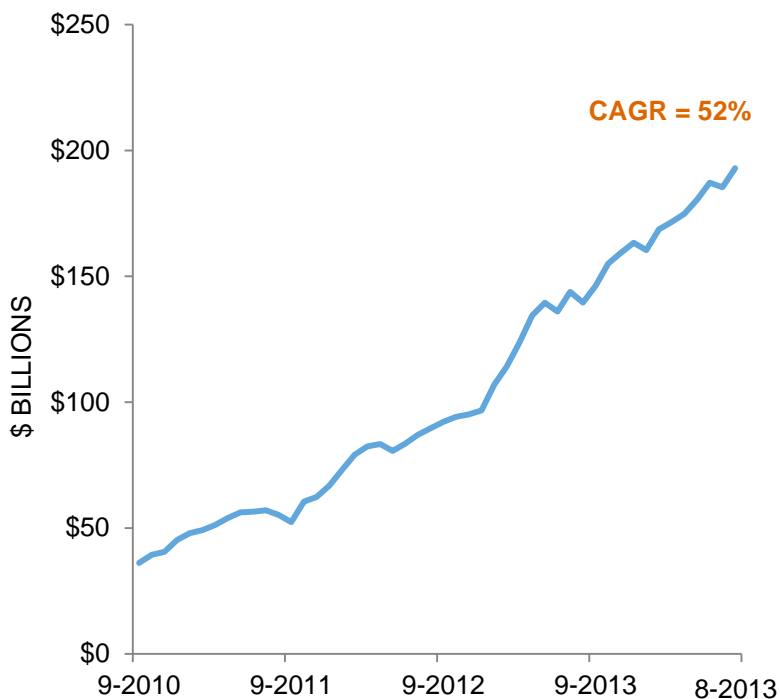
Source (Leadership): Compiled Russell Product & Market Research using data from Morningstar Direct database as of December 31, 2013. Assets by benchmarked to Passive Products identified by Russell in the Russell Annual Passive Client Survey.

Smart Beta Indexes

Adoption growing across client channels

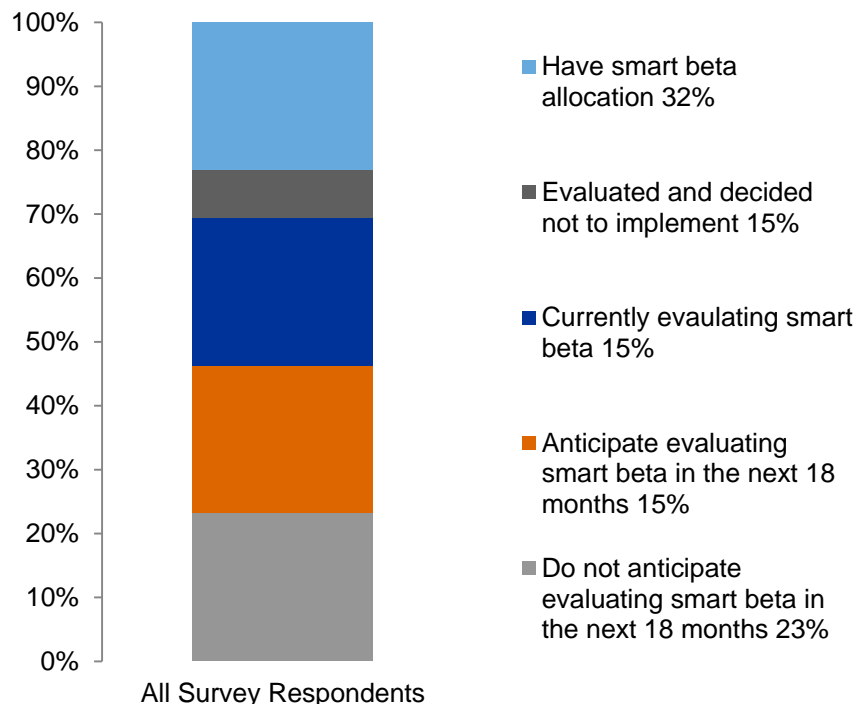
Retail and Advisors

Smart Beta ETF assets growing rapidly¹



Institutional Asset Owners

Nearly 50% are using or evaluating Smart Beta²

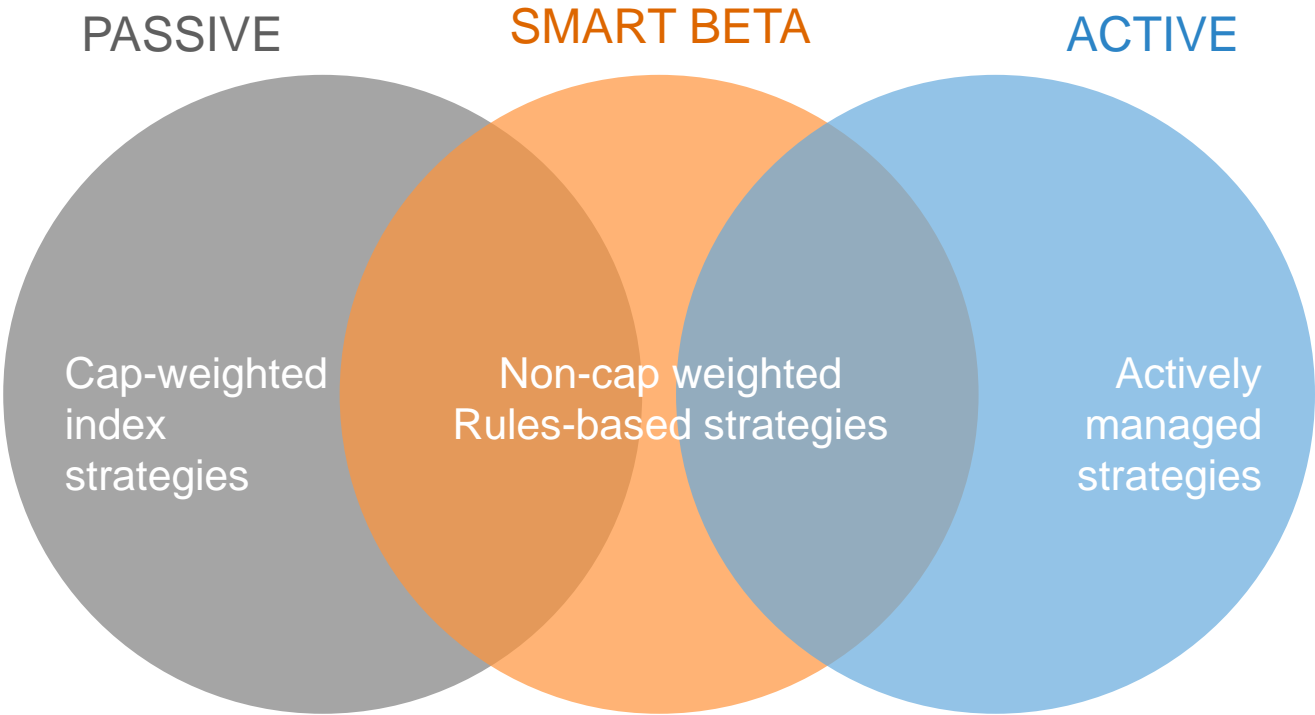


¹ Morningstar Direct, as of June 30, 2014. Includes Factor, Fundamental, Alternative Weight and Dividend ETFs domiciled in the US.

² Russell Indexes, April 2014. Russell Indexes Global Smart Beta Survey.

Smart Beta Indexes

An expanding range of investment tools



A Smart Beta Taxonomy

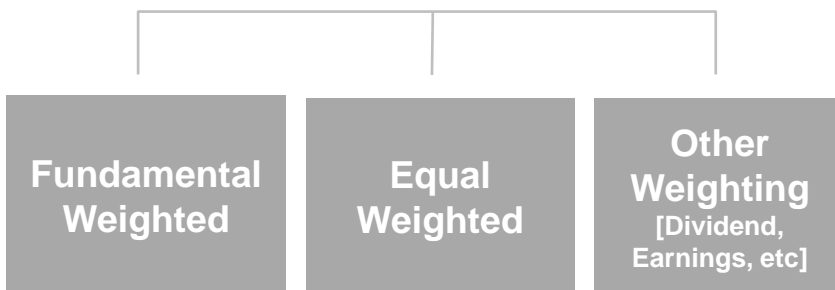
Navigating the growing list of smart beta options

Smart Beta

Transparent, rules-based indexes designed to provide exposure to factors, market segments or systematic strategies.

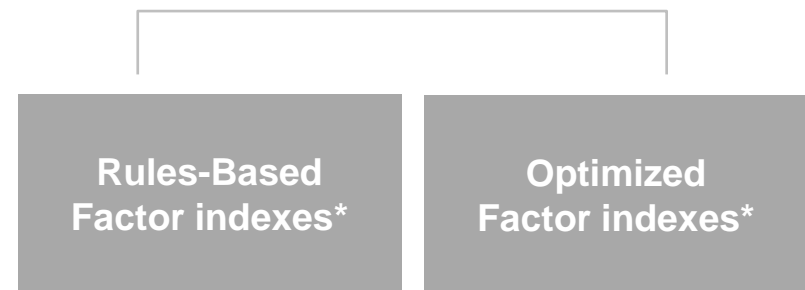
Strategy indexes

Broad based market exposure through a specified, non-market cap weighted, systematic strategy



Factor indexes

Consistent, targeted factor exposure through a specified non-market cap weighted, systematic strategy



*Rules-Based Factor indexes use actual descriptive fundamental variables, whereas Optimized Factor indexes often use predicative variables and constraints

Fundamental Index[®] Strategy Adoption Growing

The largest single smart beta solution

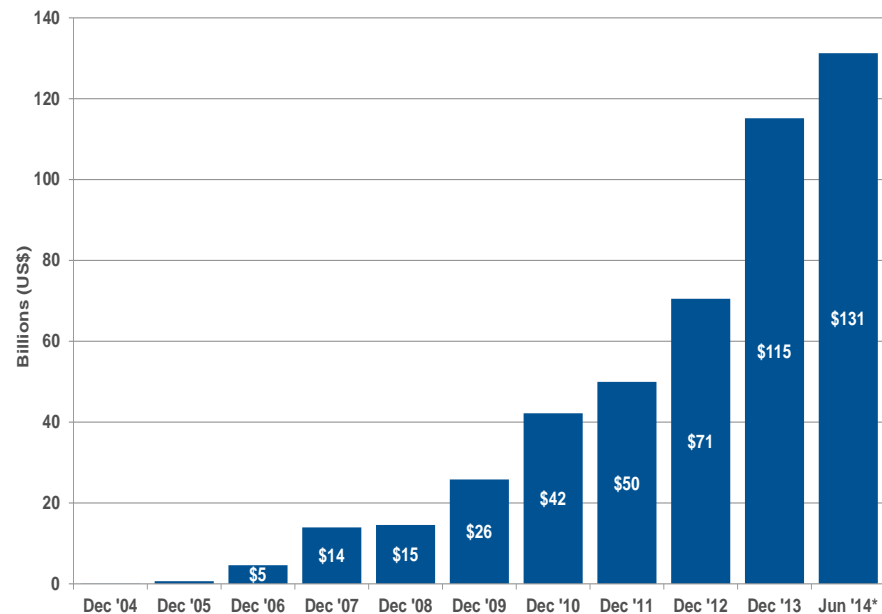
Retail Investors and Advisors

- › Fundamental Index mutual funds and ETFs have reached \$14.9 billion in AUM⁴
- › Fundamentally weighted ETFs anticipated to grow 34% annually over next three years¹

Institutional Investment Consultants

- › Aon Hewitt, *“We find the superior risk-adjusted performance cannot be attributed easily to luck.”*²
- › Tower Watson recommends clients invest up to half of their passive assets in fundamental indexes³

Research Affiliates Fundamental Index Assets*



¹ Cogent Research. January 2014. Smart Beta ETFs Poised for Growth Among Institutions

² Aon Hewitt in collaboration with Cass Business School. Part 2: An evaluation of alternative equity indices.

³ Professional Pensions. February 9, 2010. Comments from Senior investment consultant Philip Tindall.

⁴ Morningstar Direct., as of August 31, 2014. Includes U.S. domiciled mutual funds and ETFs tracking a Research Affiliate Fundamental Index.

*December 2013 data based on estimates.. Includes RAFI and Enhanced RAFI assets managed or sub-advised by Research Affiliates and RAFI licensees.

Russell Fundamental Indexes



Russell Fundamental Index Approach

Address inherit challenges and preserve advantages

Investment Strategy Challenges

- 1 Market cap indexes use price as the weighting anchor; tend to overweight overpriced stocks and underweight underpriced stocks
- 2 Market cap indexes and active investment disciplines can be subject to behavioral biases resulting in performance drag¹
- 3 Some alternative weighting approaches can neutralize many of the advantages of passive index investing

Fundamental Index Approach

- 1 Break the link with price; anchor weighting on non-price, fundamental measures of realize company size
- 2 Remove behavioral bias; implement methodology via a transparent, disciplined, rules-based index
- 3 Construct indexes that preserves advantages:
 - › Broad market representation
 - › Lower implementation costs
 - › Large investment capacity

Russell Fundamental Indexes have historically achieved excess returns over cap weighting²

- › Approximately 2% in developed markets
- › Greater in less efficient markets

¹ Vanguard Research, July 2013. Only 18% of active managers over the 15 year period 12/31/12 outperformed their respective style benchmark.

² Based on Research Affiliates historical simulated data using CRSP, Compustat, Worldscope and Datastream on universes of U.S. equities and international equities, 1962 -2011, and Russell Fundamental Index live production data from 2011 – June 2014. .

Russell Fundamental Indexes

Index Construction Matters

Russell Global Index Universe

[Russell 3000® Index and Russell Global ex-U.S. Index]

Apply liquidity screen

Fundamental Factors

Retained operating
cash flow (%)

Adjusted
sales (%)

Dividends +
buybacks (%)

Fundamental Factor score: Trailing five-year accounting data for each Fundamental factor for every company

A composite Fundamental score is calculated by equal weighting each Fundamental factor score

Rank highest to lowest by Fundamental score weight and drop the bottom 2%

Large Company = top 87.5% Small Company = bottom 12.5%

Apply investment capacity screen

Russell Fundamental Index

Russell Fundamental Index Factors

Factors can impact Fundamental Index efficiency

Adjusted Sales

Retained Cash Flow

Dividends + Buybacks

Fundamental metrics should not be correlated with price

- › Pricing errors are uncorrelated (and cancel)

Fundamental metrics must be objective, stable measures of relative size

- › Widely acceptable measures of company size and widely available
- › Less susceptible to gaming
- › Not predictive of size or value

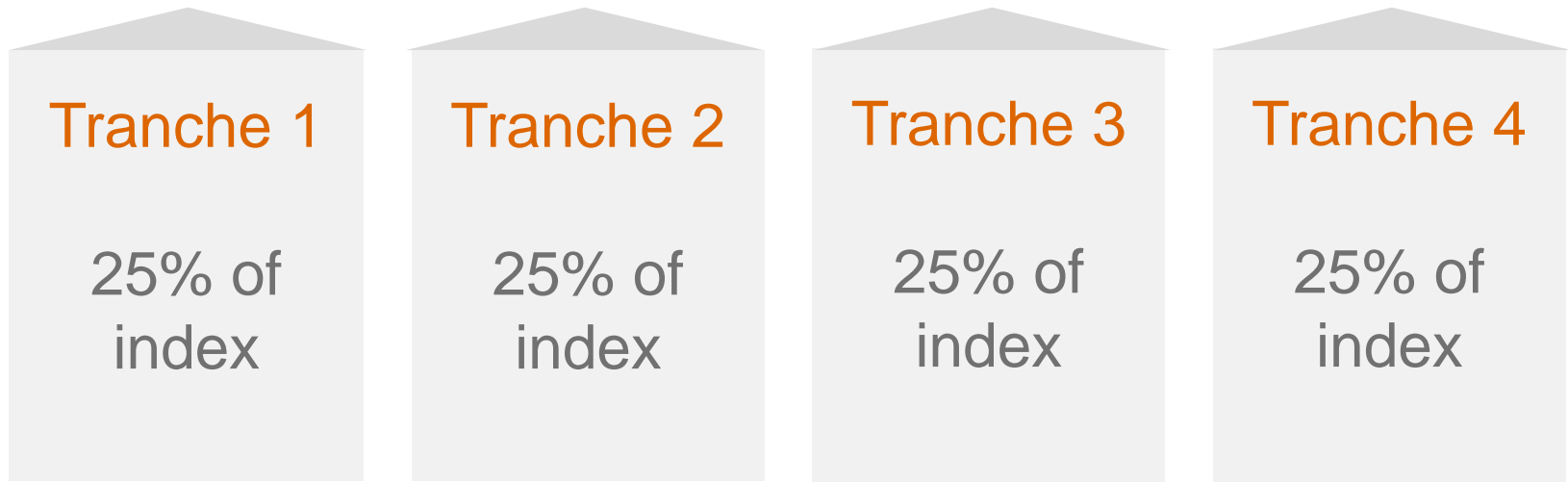
Mitigate single factor bias

- › Any individual factor has an inherent bias
- › A composite of three fundamental factors has a more robust risk/return profile than a single factor

Russell Fundamental Indexes

Innovative annual rebalancing & reconstitution

- › Fundamental weights recalculated annually, implemented quarterly
- › Minimizes single, annual entry point risk
- › Increases capacity



Fundamental Indexes – Performance across markets

July 1, 1996 – August 31, 2014

	Annualized Return %	Annualized Std Dev ¹ %	Annualized Value Add ² %	Rolling 3-Year Batting Avg ³ %
Russell Fundamental U.S. Large Company Index	11.17	15.23	2.74	90%
Russell 1000® Index	8.42	15.93		
Russell Fundamental Asia Pacific Index	6.71	17.89	3.03	91%
Russell Asia Pacific Index	3.68	18.67		
Russell Fundamental Global Index	10.82	15.89	3.22	89%
Russell Global Index	7.59	16.43		
Russell Fundamental Europe Index	11.13	19.45	3.15	78%
Russell Europe Index	7.99	18.84		
Russell Fundamental U.S. Small Company Index	13.97	18.92	5.60	96%
Russell 2000® Index	8.37	20.45		
Russell Fundamental Emerging Markets Index	12.27	24.53	5.39	96%
Russell Emerging Markets Index	6.88	24.26	—	—

¹ Annualized Standard Deviation: Standard deviation is applied to the annual rate of return of an investment to measure the investment's volatility. Standard deviation is also known as historical volatility and is used by investors as a gauge for the amount of expected volatility.

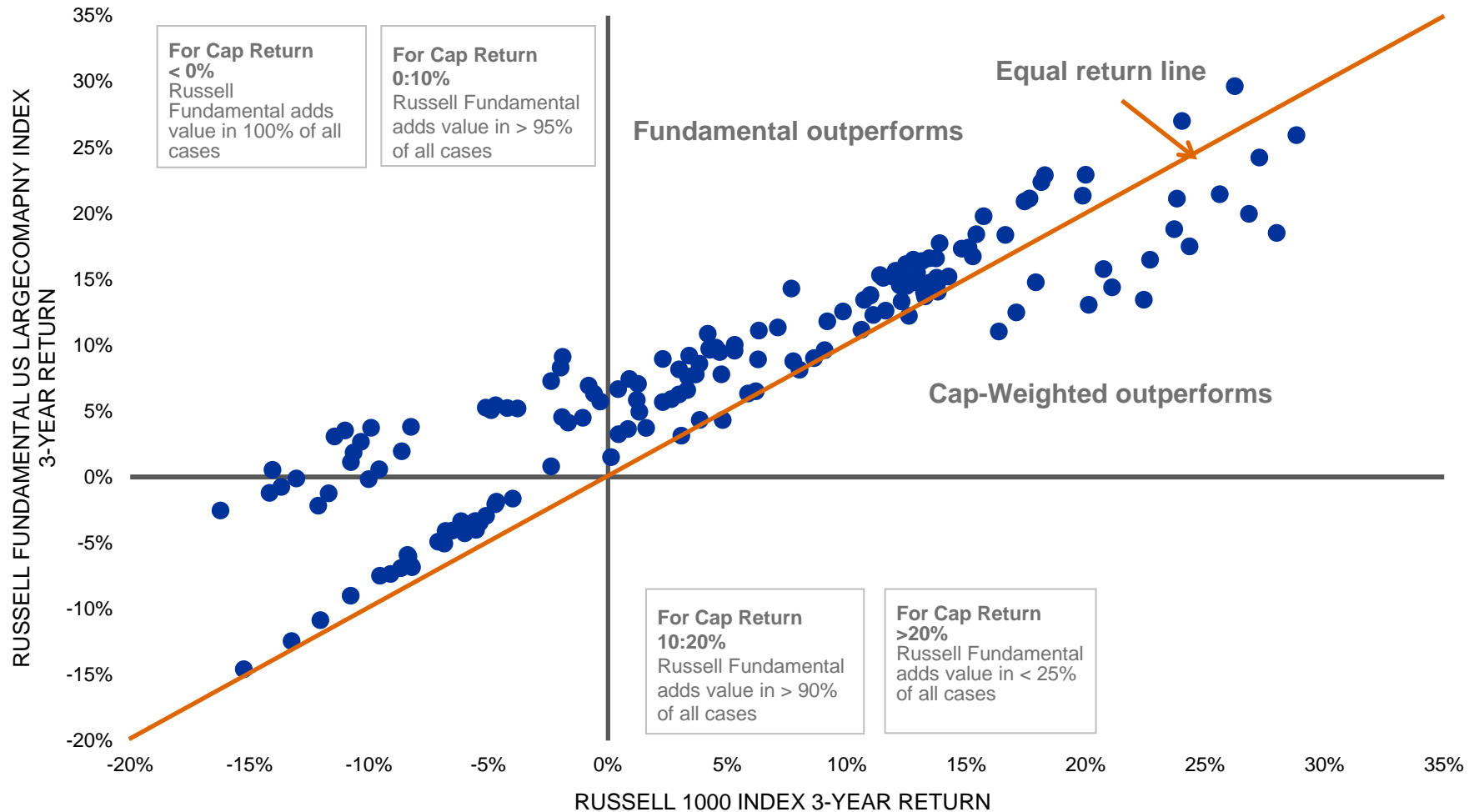
² Annualized Value Add: The percentage return over the annualized return for the comparison index. For example, Russell Fundamental U.S. Large Company Index provides a 2.78% annualized return value add over the annualized return for the Russell 1000 Index.

³ Percentage 3-year wins annualized out performance of the Fundamental Index versus the traditional cap-weighted index The Russell Fundamental U.S. Large Company index outperformed the Russell 1000 Index 90% of the time over a three year period.

Source: Data as of July 31, 1996 – June 30, 2014. Research Affiliates, LLC. based on data from Russell and Bloomberg. Source: The Russell Fundamental U.S. Large Company Index launched January 31, 2011. Returns prior to launch date were constructed for research purposes. Historical back-tested returns were calculated using the same Russell methodology, however, application to the performance calculation may vary due to data sources, corporate actions, and the availability of historical data with respect to certain securities.

Performance across market environments

U.S. Equities – July 1, 1996 to August 31, 2014



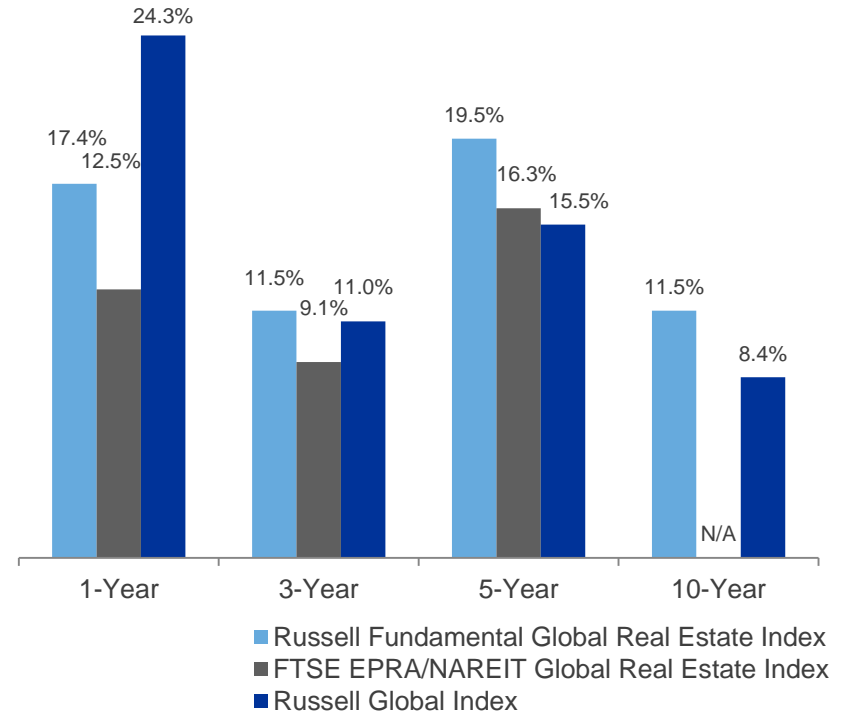
Source: Russell Investments. Data as of July 1 1996 – August 31, 2014.

Russell Fundamental Index[®] methodology

Now applied to the universe of global listed real estate securities

- › Same Russell Fundamental Index methodology
- › Same investment thesis: Listed real estate securities also exhibit “noise” in market price
- › Historically, the Russell Fundamental Global Real Estate Index Series has delivered:
 - › Higher absolute and risk adjusted returns¹
 - › Broad market exposure across property type, liquidity, comparable yield, and lower costs
- › Real estate strong market attributes:
- › Income properties, diversification and growth

Annualized Performance
As of June 30, 2014



¹ Based on Research Affiliates historical simulated data using CRSP, Computstat, Worldscope and Datastream, on universe of U.S. equities 1962-2011 and International equities 1984 – 2011. Returns provided for each Russell Index may include data for periods prior to when each Russell Index was in live production. Historical returns for these Russell Indexes prior to the live production date are calculated using the same Russell methodology; however, application to the performance calculation may vary due to data sources, corporate actions and the availability of historical data with respect to certain securities. Past performance of a back tested model is not a guarantee that the model will produce similar results in the future. Please contact the Russell Index Client Service Team for further detail.

² “Does Valuation-Indifferent Indexing Work for the Real Estate Market?” Jason Hsu et al. *The Journal of Investing*, Q3 2010, 19.3: 72–79.

Capitalize on Global Economic Growth

with Global Real Estate

Schwab

When investors think about real estate investments, they often think of their home, rather than participating in the global growth of commercial real estate.



Executive Summary

- › Global real estate investments offer the potential to capitalize on global economic growth which is becoming increasingly important as the economic activity of several emerging markets has been rapidly increasing.
- › Global real estate investments have historically delivered attractive returns and income relative to traditional investments.
- › Global real estate tends to perform differently than stocks and bonds during various market cycles, offering diversification benefits.
- › There are a number of ways to invest in real estate, including Real Estate Investment Trusts (REITs), Real Estate Operating Companies (REOCs), and mutual funds and ETFs that invest in them.
- › Schwab Center for Financial Research has done extensive research on the merits of fundamentally weighted indexing and has found that there is value in gaining global real estate exposure through fundamental strategies.

The Case For Global Investing

Investing only in US stocks means excluding nearly three-fourths of the global economy¹ and over half of the world's stock market value.²

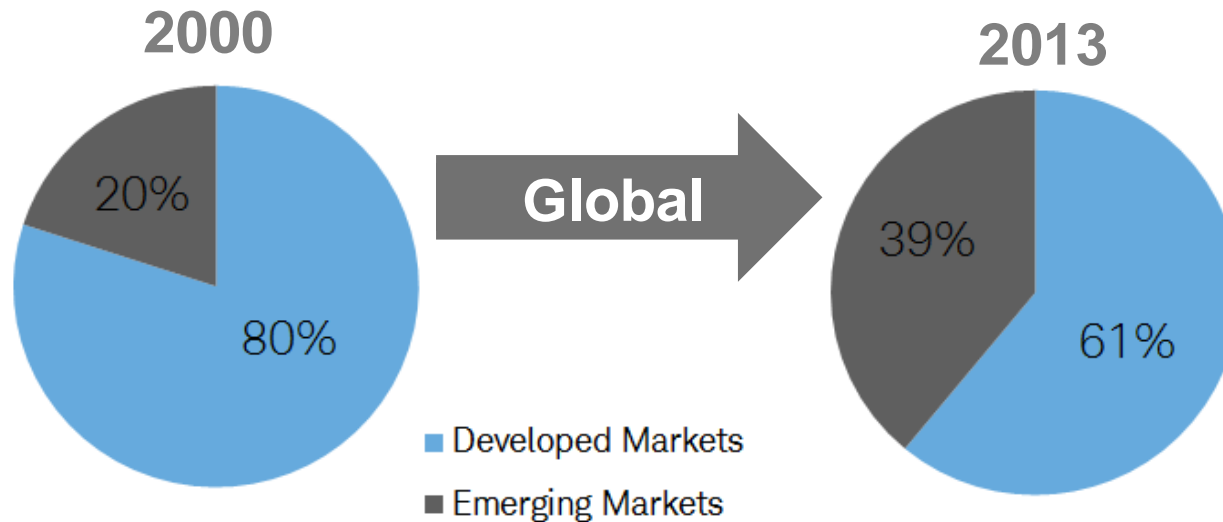


¹International Monetary Fund's World Economic Outlook Database, April 2014.

²S&P Global Broad Market Index, May 2014.

Global Economic Growth

Developed market economies accounted for 80% of global GDP in 2000, but only 61% by the end of 2013. In contrast, emerging market economies have grown from 20% of global GDP in 2000 to 39% in 2013.³



In other words, growth outside the U.S. is likely to be stronger than the growth within our borders, making the case for a global allocation.

³International Monetary Fund's World Economic Outlook Database, April 2014.

Global Real Estate Offers the Potential For

- › **Strong results.** They have historically delivered strong performance relative to traditional equity and fixed income indexes.
- › **Attractive income.** They have historically provided attractive yields relative to equities and many fixed income options.
- › **Diversification.** They offer diversification benefits to complement traditional equity and fixed income allocations.
- › **Inflation hedging.** They may serve as an effective hedge against rising inflation rates.

Global Real Estate Can Provide Diversification

2006	2007	2008	2009	2010	2011	2012	2013
Global Real Estate 43.72	Commodities 16.23	Investment-Grade Bonds 5.24	Global Real Estate 41.25	U.S. Small Cap Stocks 26.85	Investment-Grade Bonds 7.84	Global Real Estate 29.85	U.S. Small Cap Stocks 38.82
International Stocks 26.86	International Stocks 11.63	U.S. Small Cap Stocks -33.79	International Stocks 32.46	Global Real Estate 20.03	Broad U.S. Stock Market 2.11	International Stocks 17.90	Broad U.S. Stock Market 32.39
Global Stocks 20.65	Global Stocks 9.57	Commodities -35.65	Global Stocks 30.79	Commodities 16.83	U.S. Small Cap Stocks -4.18	Global Stocks 16.54	Global Stocks 27.37
U.S. Small Cap Stocks 18.37	Investment-Grade Bonds 6.97	Broad U.S. Stock Market -37.00	U.S. Small Cap Stocks 27.17	Broad U.S. Stock Market 15.06	Global Stocks -5.02	U.S. Small Cap Stocks 16.35	International Stocks 23.29
Broad U.S. Stock Market 15.79	Broad U.S. Stock Market 5.49	Global Stocks -40.33	Broad U.S. Stock Market 26.46	Global Stocks 12.34	Global Real Estate -8.14	Broad U.S. Stock Market 16.00	Global Real Estate 2.24
Investment-Grade Bonds 4.33	U.S. Small Cap Stocks -1.57	International Stocks -43.06	Commodities 18.91	International Stocks 8.21	International Stocks -11.73	Investment-Grade Bonds 4.21	Investment-Grade Bonds -2.02
Commodities 2.07	Global Real Estate -4.65	Global Real Estate -48.90	Investment-Grade Bonds 5.93	Investment-Grade Bonds 6.54	Commodities -13.32	Commodities -1.06	Commodities -9.52

Source: Morningstar Direct. Asset classes are represented by the following indexes: Broad U.S. Stock Market: S&P 500 Index; U.S. Small Cap Stocks: Russell 2000® Index; International Stocks: MSCI EAFE Index; Global Stocks: MSCI World Index; Investment-Grade Bonds: Barclays U.S. Aggregate Bond Index; Commodities: Dow Jones-UBS Commodity Index; Global Real Estate: FTSE EPRA/NAREIT Global Index. **Past performance is no guarantee of future results.** Dividends and interest are assumed to have been reinvested. Indexes are unmanaged, do not incur management fees, costs, and expenses, and cannot be invested in directly.

Attractive Income Potential

Equity Dividend Yields		Fixed Income Yields	
Global REITS	3.53%	High Yield	4.91%
U.S Stocks	1.91%	Corporates	2.91%
International Stocks	3.37%	Global Bonds	1.45%
MLPS	5.11%	Treasuries	2.53%

Source: Bloomberg. Data as of June 30, 2014. Asset classes are represented by the following indexes: **Equities:** Global Real Estate: FTSE EPRA/NAREIT Global Index; U.S. Stocks: S&P 500 Index; International Stocks: MSCI EAFE Index; Master Limited Partnerships (MLPs): Alerian MLP. **Fixed Income:** High Yield: Barclays U.S. Corporate High Yield Bond Index; Corporates: Barclays U.S. Corporate Bond Index; Global Bonds: Barclays Global Aggregate Bond Index ex U.S.; Treasuries: U.S. Generic Gov't 10 Year Yield, U.S.G 10YR Index.

Global Real Estate Indexes

Top 10 Stocks with Weights

charles
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Russell Fundamental Global Select Real Estate Index

Company	Weight
Simon Property Group Inc	2.80%
Mitsui Fudosan Co Ltd	2.54%
Westfield Group	2.16%
Mitsubishi Estate Company Ltd	2.09%
Daito Trust Construction Co Ltd	1.94%
Vornado Realty Trust	1.90%
Equity Residential	1.79%
Cheung Kong Holdings Ltd	1.70%
Stockland	1.68%
Host Hotels & Resorts Inc	1.57%
Total	20.17%

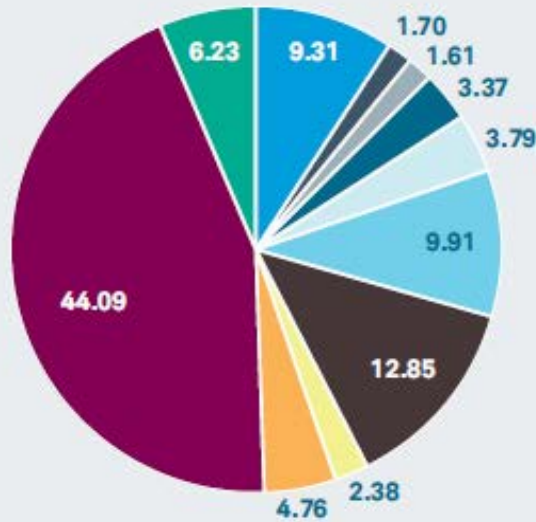
FTSE EPRA/NAREIT Global Index

Company	Weight
Simon Property Group Inc	3.88%
Mitsubishi Estate Company Ltd	2.35%
Mitsui Fudosan Co Ltd	2.14%
Unibail-Rodamco SE	2.12%
Public Storage	1.84%
Equity Residential	1.69%
Sun Hung Kai Properties Ltd	1.59%
Prologis Inc	1.54%
Healthcare REIT	1.45%
HCP	1.42%
Total	20.02%

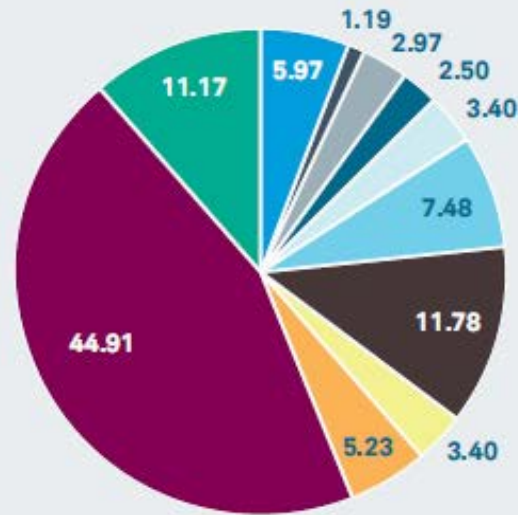
Source: Russell Indexes and FTSE Indexes. Data as of June 30, 2014. For illustrative purposes only.

Country Allocations (%)

**RUSSELL FUNDAMENTAL GLOBAL
SELECT REAL ESTATE INDEX**



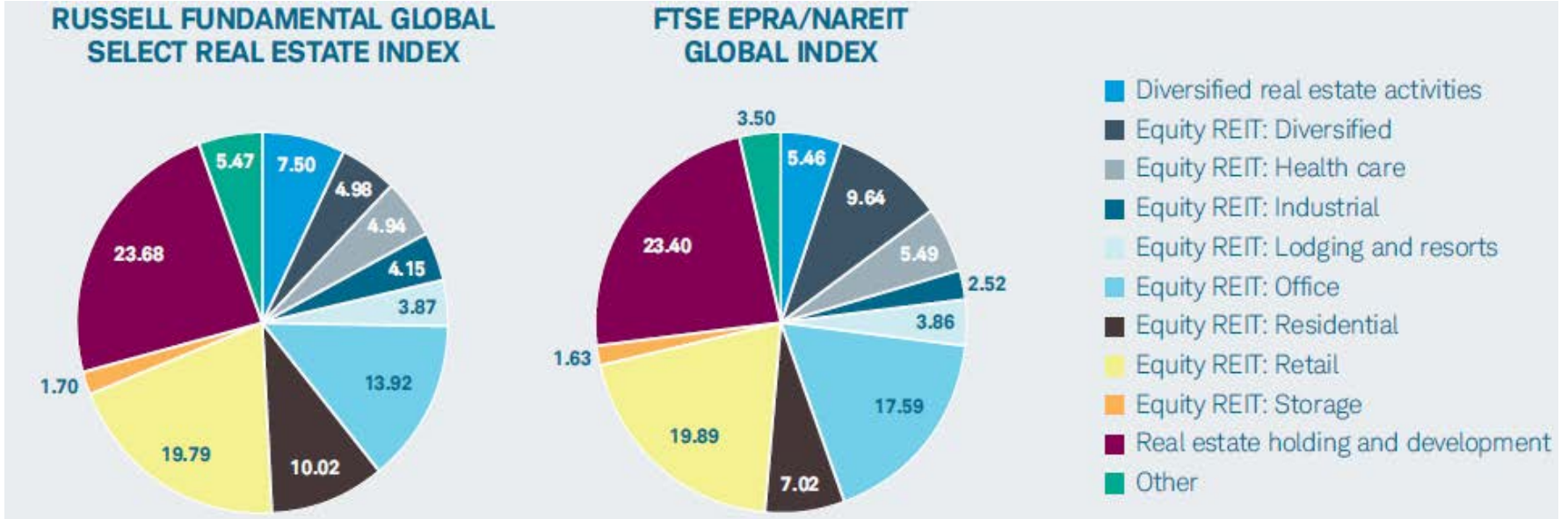
**FTSE EPRA/NAREIT
GLOBAL INDEX**



- Australia
- Brazil
- Canada
- China
- France
- Hong Kong
- Japan
- Singapore
- United Kingdom
- United States
- Other

Source: Russell Indexes and FTSE Indexes. Russell Global Sectors industry classification system. Data as of June 30, 2014.

Sector Allocations (%)



Source: Morningstar Direct, Russell Indexes, and FTSE Indexes. Morningstar equity industry allocations. Data as of June 30, 2014.

Conclusion

Relative to traditional investments, global real estate has historically delivered strong long-term performance, attractive yields, and diversification benefits.

- › Global real estate provides an effective means of capturing some of the global growth opportunities.
- › Real estate securities have been an appealing option for investors who are seeking higher income, but real estate securities are more susceptible to rising interest rates.
- › Investors now have multiple options to access global real estate; they can consider active management or passive index strategies and can allocate to market-cap or fundamental strategies.
- › Global real estate can be an attractive addition to an investment portfolio, offering the potential for growth and income, plus diversification—complementing the traditional mix of stocks and bonds.
- › Before investing in global real estate, it is important to understand the structure of the securities and the potential risks.

Real estate securities combine the benefits of owning commercial real estate with the advantages of owning publicly traded securities. Fundamentally weighted indexing is a core philosophy at Schwab. We believe that, taken together, fundamentally weighted global real estate strategies may offer a unique aspect of diversification.

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First used July 2013. Revised September 2014. [CORP-9858-09-2015](#)

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Fixed income securities are subject to increased loss of principal during periods of rising interest rates. Fixed income investments are subject to various other risks, including changes in credit quality, market valuations, liquidity, prepayments, early redemption, corporate events, tax ramifications, and other factors.

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Terms and Definitions

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 with a benchmark index. The excess return of the fund relative to the return of the benchmark index is a fund's alpha.

Alternative beta. Also known as *smart beta* and *strategy beta*. Alternative beta strategies attempt to deliver a better risk-and-return trade-off than conventional market-cap-weighted indexes by using alternative weighting schemes based on measures such as volatility. Alternative beta strategies include a range of alternative weighting methods: fundamentally weighted, equal weighting, minimum variance, and low volatility, among others.

Beta. The beta of an investment is a measure of the risk arising from general market movements, or systematic risks, as opposed to idiosyncratic factors. By definition, the market portfolio has a beta of +1. It is important because it is a measure of risk of an investment that cannot be diversified away and, as such, is also a measure of risk the investment adds to a diversified portfolio.

Correlation. Correlation measures the relationship and movement of two or more securities, which ranges 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. Alternatively, 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 0, the movements of the securities are said to have no correlation; they are completely random.

Fundamentally weighted index. A type of equity index in which components are weighted based on fundamental criteria as opposed to market capitalization. Fundamentally weighted indexes may be based on fundamental metrics such as revenue, sales, dividends, earnings, or book value. Proponents of these indexes believe that they are a more accurate aggregate measure of the market because market capitalization tends to overweight companies that are richly valued while underweighting companies with low valuations. Fundamentally weighted indexes are sometimes referred to as *alternative beta* or *smart beta*. Fundamental strategies track fundamentally weighted indexes.

Market-cap weighting. Most of the broadly used market indexes today are "cap-weighted" indexes, such as the S&P 500, Russell 2000, and MSCI EAFE 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 feel that this overweighting toward the larger companies gives a distorted view of the market.

Real estate investment trust (REIT). A REIT is a company that owns, and in most cases operates, income-producing real estate such as apartments, shopping centers, offices, hotels, and warehouses. The shares of many REITs are freely traded, usually on a major stock exchange. To qualify as a REIT, a company must distribute at least 90% of its taxable income to its shareholders annually. REITs receive special tax considerations and typically offer investors high yields, as well as a liquid method of investing in real estate. Their revenues come principally from their properties' rents.

Real estate operating company (REOC). A publicly traded company that specializes in real estate investments but does not meet the requirements to be a REIT, particularly the requirement to pay at least 90% of net income out to investors. The ability to retain earnings allows REOCs to invest in expansion opportunities.

Sharpe ratio. The Sharpe ratio is a measure of risk-adjusted return. Specifically, it is a measure of the excess return of a risky security relative to a risk-free security per unit of risk. When comparing two assets versus a common benchmark, the one with a higher Sharpe ratio provides better return for the same risk (or, equivalently, the same return for lower risk).

Standard deviation. Standard deviation is a statistical measurement that sheds light on historical volatility. Standard deviation is a measure of the amount of variation from the average. A volatile portfolio will have a higher standard deviation than a less volatile portfolio.

Thank you.