FUNDAMENTALS

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“Leaders of tomorrow’s successful investment management organizations need to foster a culture that values intellectual curiosity, the pursuit of knowledge, and the courage to communicate.”

Truth vs. Ignorance—The Impactful Investment Manager of Tomorrow

Walking through the art studio at my son’s high school last year, I was drawn to a piece featuring a blindfolded woman trying to find an apple that she could not see in front of her. My son explained that this was the centerpiece in a series he was doing on “Truth vs. Ignorance.” Ignorance, that is the lack of knowledge and/or insight, is often a contributor to prejudices, biases, and bad decisions, he said.

The piece resonated immediately. No matter what the decision to be made, the solution will almost assuredly be better if the decision is based on truth (knowledge) rather than ignorance. It is hard to make good decisions when you are unaware of—or unwilling to accept—the relevant facts and circumstances. This is certainly true for investment decisions, in part because their consequences have a direct impact on the economic options for the ultimate beneficiary.

All too often, investment professionals are unwilling or unable to pursue and act on knowledge that would lead to better investment outcomes for their clients. The investment management industry tends to emphasize product, and its invariably linked goal of beating the benchmark, over education and counseling. Leaders of tomorrow’s successful investment management organizations, those that will have lasting impact, need to foster a culture that values intellectual curiosity, the pursuit of knowledge, and the courage to communicate freely and openly, especially if the truths uncovered are at odds with conventional wisdom.

Ignorance

Ignorance is often used as a severely pejorative term. It shouldn’t be. Ignorance is merely a lack of knowledge, education, or awareness. By this definition, we must all live with the fact that we are ignorant in many areas, so ignorance in and of itself is not necessarily a problem. I and my colleagues would cheerfully acknowledge our ignorance of the latest innovations in medicine. Accordingly, we routinely seek the advice and counsel of doctors for medical issues. Merely seeking help from random medical professionals is not sufficient, however. I am likely to get better medical advice if I make the effort to learn something about my options, such as the credentials and specialties of the doctors under consideration. The key distinction is knowing when knowledge is necessary and, conversely, when a lack of knowledge is dangerous. As Benjamin Disraeli said, “To be conscious that you are ignorant of the facts is a great step to knowledge.”

While potentially not as serious for one’s health, ignorance in investing can have devastating consequences for individual portfolios and personal wealth. Too often, capital market participants have little knowledge of how markets work, how to make investment decisions, or how to manage their portfolios. For most, the standard operating procedure is to hire a collection of “good” managers in the hope of beating the benchmark. But this practice ignores the reality that alpha, the return attributable to skill, is incredibly scarce.

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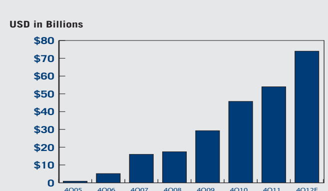
RAFI® Managed Assets*



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As an example, in 2010 Burt Malkiel analyzed the 358 equity mutual funds that were in existence in 1970.[1] Remarkably, only 119—less than one in three—survived through 2009, with the rest presumably closed because of poor performance. Of the survivors, only five managed to produce net returns more than 2% per annum above the S&P 500. Talk about long odds—that's less than 1.5% of the starting universe! But many assume that top quartile managers can add value far in excess of 2% per annum. Our own research shows that even with perfect clairvoyance of future profits discounted to today's price, a portfolio weighted by Clairvoyant Value would produce excess returns of about 6% per annum, a figure routinely "achieved" in shorter term manager rankings, creating an almost irresistible siren's song. To be sure, alpha may be achieved—but only for a scant few.

So, why do nearly all investors and professional investors continue to pursue returns from active management, an exercise shown to be suboptimal for investment performance? One reason is ignorance—the lack of awareness of, or inability to accept, the well-researched data that may, at first, conflict with standard practice. Too often in our industry, people seek the safety of conventional wisdom.[2] Paraphrasing John Maynard Keynes, for most people it is better to fail conventionally than to succeed unconventionally. However, as Surowiecki describes in his book "The Wisdom of Crowds," groups of people will generally make superior decisions *only* when the crowd exhibits independent thought and validation of premises and views. Merely mimicking others is not "wise" and can lead to suboptimal outcomes.

The scarcity of alpha is but one of many lessons of history that are ignored in today's conventional practices. Some of the other more prevalent ones are:

- **Long-Term Returns**. Many investors are still expecting their investments to produce 7–8% nominal returns. With 2% bond yields, this requires some very heavy lifting from the rest of the portfolio. The sources of long-term equity returns are well-documented, so we know that dividends are the dominant contributors.[3] So how do investors extrapolate 8–10% stock market returns with dividend yields of 2%, a level half the historical average? If not from stocks, many believe they can "get there" from allocations to alternatives, such as hedge funds. But the data suggest otherwise; the HFRI Hedge Fund of Funds Composite Index trailed a simple 60/40 blend by 300 bps per annum over the 10 years ended December 31, 2012. How can trillions of nest egg dollars be invested with such a blind eye to reasonable and logical expected returns?
- **Efficiency of Cap-Weighted Indexes**. Cap-weighted indexes represent the most reasonable and accurate manner to measure the performance of an asset class like equities. The collective returns of all investors will match the cap-weighted index. But, are these benchmarks the most effective way to build a portfolio? Only if we assume that prices are efficient. If they are not, do we really want to own *more* of a stock that doubled in price? Or, in bonds, should we really lend *more* to the most indebted? The literature of the past several years indicates there are opportunities for improvement. Yet tracking error to cap weights still dominates most investment decisions.
- **Two-Pillared Investment Portfolios.** Often, our ignorance is directly attributable to our experience set. Individuals and investors who lived through the Great Depression never considered equities a viable asset class for the bulk of one's savings. Most individuals and investors today haven't experienced a sizable bout of inflation and have structured their portfolios accordingly. Mainstream stocks and bonds dominate most allocations despite the fact that these two primary pillars fare poorly in an inflationary environment. Given this susceptibility to underperformance in a different economic regime, shouldn't we be having more serious conversations about achieving truer diversification?

Choose Truth

Clients rely on investment professionals to make sound decisions on their behalf, and thus would be better served if we chose truth, not ignorance, in fulfilling our fiduciary duties. And, for the most part, we do. That said, there are many cases where we act "ignorantly," and one of those is the tendency to become complacent—to discontinue the quest for more knowledge about the decisions we make—or to prefer the conventional wisdom even if the facts do not support conformist thinking. The quest does not have to lead to some world-changing discovery. In our experience, the quest for truth and knowledge brings us back, more times than not, to basic time-tested practices of investment success, such as reducing costs, rebalancing aggressively, being contrarian, and diversifying broadly. These basic tenets can always be sharpened and reinforced by rigorous research and education.

Success in the asset management industry is not guaranteed. It is hard enough to be successful when we are open and curious rather than defensively operating within familiar territory, blindfolded to the panoply of alternatives that are available to us. We are wise to remember that conventional wisdom may not always be "the truth." The firms that succeed will be those that can take transformational steps to adapt to changes in the industry, take advantage of new and emergent opportunities, and, importantly, educate clients along the way. In such an environment, we see more emphasis on transparent, diversified, low-cost products as the core for most portfolios. We still see a role for higher-fee, alpha-oriented products, but the standards for evaluating their attractiveness will toughen, and many offerings will not be viable in the future. We believe that, increasingly, decision makers will seek more knowledge and insight based on independent thinking before making investment recommendations or taking action.

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In the future, the successful investment management firm will be able to add more value to the client relationship than the simple bottom line of excess returns over the benchmark. The quest for insight and education should join—not subsume or downgrade—the quest for alpha.

Further, and potentially more important, we would like to see investment professionals take the lead in helping investors to understand the facts and considerations that are relevant to their investment decisions. At Research Affiliates, we are committed to conducting and publishing research on issues relevant to the investment decision.[4] We speak our mind, even if that leaves us seemingly standing alone and apart from conventional wisdom. We encourage investment professionals not to go blindfolded in their search for alpha but to make the effort to understand the alternatives and issues, and make sound decisions.[5] The pursuit of knowledge will not always lead to superior performance in the investment industry, but it is far better than making decisions from ignorance.

Endnotes

1. Burton Malkiel presented these findings at the 2010 Research Affiliates Advisory Panel.
2. It is also possible that people pursue business interests over investment interests, which is a topic for another day.
3. Robert D. Arnott and Peter L. Bernstein, 2002, "What Risk Premium is 'Normal'?" *Financial Analysts Journal*, (March/April):64–85.
4. For more information on our research, visit www.researchaffiliates.com.
5. For many, including James R. Vertin, a leader in the move to passive investing, long-time advocate for research and continuing education, and one of my mentors, maintaining one's knowledge base is both a duty and the prerequisite for practitioners' involvement in the investment profession.

Performance Update

FTSE RAFI® Equity Index Series*

TOTAL RETURN AS OF 12/31/12	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	5 YEAR	10 YEAR	10 YEAR VOLATILITY
FTSE RAFI® All World 3000[1]	TFRAW3	16.34%	16.34%	6.36%	0.41%	11.60%	18.88%
MSCI All Country World[2]	GDUEACWF	16.80%	16.80%	7.19%	-0.61%	8.66%	16.79%
FTSE RAFI® Developed ex US 1000[3]	FRX1XTR	15.90%	15.90%	2.20%	-2.91%	10.11%	20.43%
MSCI World ex US Large Cap[4]	MLCUWXUG	17.02%	17.02%	4.15%	-2.93%	9.10%	18.43%
FTSE RAFI® Developed ex US Mid Small[5]	TFRDXUSU	15.49%	15.49%	6.63%	2.50%	14.47%	19.07%
MSCI World ex US Small Cap[6]	GCUDWXUS	17.93%	17.93%	7.57%	-0.32%	12.46%	20.51%
FTSE RAFI® Emerging Markets[7]	TFREMU	15.58%	15.58%	3.92%	0.70%	22.35%	24.74%
MSCI Emerging Markets[8]	GDUEEGF	18.63%	18.63%	4.98%	-0.61%	16.88%	24.13%
FTSE RAFI® 1000[9]	FR10XTR	17.21%	17.21%	12.07%	3.70%	9.22%	17.41%
Russell 1000[10]	RU10INTR	16.42%	16.42%	11.12%	1.92%	7.52%	15.06%
S&P 500[11]	SPTR	16.00%	16.00%	10.87%	1.66%	7.10%	14.77%
FTSE RAFI® US 1500[12]	FR15USTR	18.53%	18.53%	12.98%	6.75%	13.07%	22.15%
Russell 2000[13]	RU20INTR	16.35%	16.35%	12.25%	3.56%	9.72%	20.10%
FTSE RAFI® Europe[14]**	TFREUE	15.90%	15.90%	3.64%	-2.79%	7.33%	18.09%
MSCI Europe[15]**	GDDLE15	18.09%	18.09%	6.87%	-1.71%	6.51%	15.08%
FTSE RAFI® Australia[16]**	FRAUSTR	23.53%	23.53%	3.55%	0.27%	9.46%	13.33%
S&P/ASX 200[17]**	ASA51	20.26%	20.26%	3.00%	-1.62%	9.12%	13.43%
FTSE RAFI® Canada[18]**	FRCANTR	10.70%	10.70%	5.33%	3.13%	10.69%	13.56%
S&P/TSX 60[19]**	TX60AR	8.07%	8.07%	3.81%	0.32%	9.28%	14.00%
FTSE RAFI® Japan[20]**	FRJPNTR	18.30%	18.30%	-0.69%	-8.05%	3.34%	19.30%
MSCI Japan[21]**	GDDLJN	21.78%	21.78%	-0.06%	-8.90%	1.79%	18.68%
FTSE RAFI® UK[22]**	FRGBRTR	12.08%	12.08%	7.00%	1.53%	8.60%	15.97%
MSCI UK[23]**	GDDLUK	10.24%	10.24%	6.70%	2.10%	7.98%	13.88%

*To see the complete series, please go to: http://www.ftse.com/Indices/FTSE_RAFI_Index_Series/index.jsp.

**The above indices have been restated to reflect the use of local currencies for all single country strategies and EUR for Europe regional strategies rather than USD.

Russell Fundamental Index Series*

TOTAL RETURN AS OF 12/31/12	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	5 YEAR	10 YEAR	10 YEAR VOLATILITY
Russell Fundamental Global Index Large Company[24]	RUFGLTU	16.45%	16.45%	7.91%	1.45%	11.84%	17.37%
MSCI All Country World Large Cap[25]	MLCUAWOG	16.68%	16.68%	6.85%	-0.80%	8.06%	16.45%
Russell Fundamental Developed ex US Index Large Company[26]	RUFDXLTU	15.55%	15.55%	3.34%	-1.89%	11.47%	18.86%
MSCI World ex US Large Cap[27]	MLCUWXUG	16.99%	16.99%	3.79%	-3.15%	8.57%	18.29%
Russell Fundamental Developed ex US Index Small Company[28]	RUFDXSTU	17.97%	17.97%	7.84%	2.21%	14.42%	18.54%
MSCI World ex US Small Cap[6]	GCUDWXUS	17.93%	17.93%	7.57%	-0.32%	12.46%	20.51%
Russell Fundamental Emerging Markets[29]	RUFGETRU	19.28%	19.28%	7.28%	2.73%	22.15%	24.48%
MSCI Emerging Markets[8]	GDUEEGF	18.63%	18.63%	4.98%	-0.61%	16.88%	24.13%
Russell Fundamental US Index Large Company[30]	RUFUSLTU	16.68%	16.68%	12.29%	4.22%	9.69%	15.79%
Russell 1000[10]	RU10INTR	16.42%	16.42%	11.12%	1.92%	7.52%	15.06%
S&P 500[11]	SPTR	16.00%	16.00%	10.87%	1.66%	7.10%	14.77%
Russell Fundamental US Index Small Company[31]	RUFUSSTU	18.89%	18.89%	14.65%	8.18%	13.49%	21.02%
Russell 2000[13]	RU20INTR	16.35%	16.35%	12.25%	3.56%	9.72%	20.10%
Russell Fundamental Europe[32]**	RUFEUTE	17.17%	17.17%	6.34%	-0.73%	10.11%	16.87%
MSCI Europe[15]**	GDDLE15	18.09%	18.09%	6.87%	-1.71%	6.51%	15.08%

*To see the complete series, please go to: http://www.russell.com/indexes/data/Fundamental/About_Russell_Fundamental_indexes.asp.

**The above indices have been restated to reflect the use of local currencies for all single country strategies and EUR for Europe regional strategies rather than USD.

Performance Update

Fixed Income/Alternatives

TOTAL RETURN AS OF 12/31/12	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	5 YEAR	10 YEAR	10 YEAR VOLATILITY
RAFI® Bonds US Investment Grade Master[33]	—	8.93%	8.93%	8.99%	8.40%	6.51%	5.97%
ML Corporate Master[34]	C0A0	10.37%	10.37%	9.13%	7.72%	6.31%	6.13%
RAFI® Bonds US High Yield Master[35]	—	15.13%	15.13%	12.09%	12.41%	11.36%	9.81%
ML Corporate Master II High Yield BB-B[36]	H0A4	14.71%	14.71%	11.46%	9.07%	9.38%	9.23%
RAFI® US Equity Long/Short[37]	—	3.83%	3.83%	2.79%	4.66%	5.54%	11.50%
1-Month T-Bill[38]	GB1M	0.05%	0.05%	0.08%	0.33%	1.60%	0.51%
FTSE RAFI® Global ex US Real Estate[39]	FRXR	39.59%	39.59%	8.97%	-0.17%	—	—
FTSE EPRA/NAREIT Global ex US[40]	EGXU	38.57%	38.57%	10.82%	-1.14%	—	—
FTSE RAFI® US 100 Real Estate[41]	FRUR	22.30%	22.30%	18.80%	6.81%	—	—
FTSE EPRA/NAREIT United States[42]	UNUS	17.98%	17.98%	17.65%	4.82%	—	—
Citi RAFI Sovereign Developed Markets Bond Index Master[43]	CRFDMU	6.17%	6.17%	5.55%	5.48%	7.15%	7.71%
Merrill Lynch Global Governments Bond Index II[44]	W0G1	1.74%	1.74%	4.72%	5.42%	6.08%	7.02%
Citi RAFI Sovereign Emerging Markets Local Currency Bond Index Master[45]	CRFELMU	16.64%	16.64%	—	—	—	—
JPMorgan GBI-EM Global Diversified[46]	JGENVUUG	16.76%	16.76%	—	—	—	—

Definition of Indices:

(1) The FTSE RAFI® All World 3000 Index is a measure of the largest 3,000 companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value), across both developed and emerging markets.
(2) The MSCI All Country World Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.
(3) The FTSE RAFI® Developed ex US 1000 Index is a measure of the largest 1000 non U.S. listed, developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(4) The MSCI World ex US Large Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets, excluding the United States.
(5) The FTSE RAFI® Developed ex US Mid Small Index tracks the performance of small and mid-cap companies domiciled in developed international markets (excluding the United States), selected and weighted based on the following four fundamental measures of firm size: sales, cash flow, dividends and book value.
(6) The MSCI World ex US Small Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of small cap developed markets, excluding the United States.
(7) The FTSE RAFI® Emerging Markets Index comprises the largest 350 Emerging Market companies selected and weighted using fundamental factors (sales, cash flow, dividends, book value).
(8) The MSCI Emerging Markets Index is an unmanaged, free-float-adjusted cap-weighted index designed to measure equity market performance of emerging markets.
(9) The FTSE RAFI® 1000 Index is a measure of the largest 1,000 U.S. listed companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(10) The Russell 1000 Index is a market-capitalization-weighted benchmark index made up of the 1,000 highest-ranking U.S. stocks in the Russell 3000.
(11) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market.
(12) The FTSE RAFI® US 1500 Index is a measure of the 1,001st to 2,500th largest U.S. listed companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(13) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000.
(14) The FTSE RAFI® Europe Index is comprised of all European companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(15) The MSCI Europe Index is a free-float adjusted market capitalization weighted index that is designed to measure the equity market performance of the developed markets in Europe.
(16) The FTSE RAFI® Australia Index is comprised of all Australian companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(17) The S&P/ASX 200 Index, representing approximately 78% of the Australian equity market, is a free-float-adjusted, cap-weighted index.
(18) The FTSE RAFI® Canada Index is comprised of all Canadian companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected andweighted using fundamental factors; (sales, cash flow, dividends, book value).
(19) The S&P/Toronto Stock Exchange (TSX) 60 is a cap-weighted index consisting of 60 of the largest and most liquid (heavily traded) stocks listed on the TSX, usually domestic or multinational industry leaders.
(20) The FTSE RAFI® Japan Index is comprised of all Japanese companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(21) The MSCI Japan Index is an unmanaged, free-float-adjusted cap-weighted index that aims to capture 85% of the publicly available total market capitalization of the Japanese equity market.
(22) The FTSE RAFI® UK Index is comprised of all UK companies listed in the FTSE RAFI® Developed ex U.S. 1000 Index, which in turn is comprised of the largest 1,000 non U.S. listed developed market companies, selected and weighted using fundamental factors; (sales, cash flow, dividends, book value).
(23) The MSCI UK Index is an unmanaged, free-float-adjusted cap-weighted index that aims to capture 85% of the publicly available total market capitalization of the British equity market.
(24) The Russell Fundamental Global Index Large Company is a measure of the largest companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks), across both developed and emerging markets.
(25) The MSCI All Country World Large Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed and emerging markets.
(26) The Russell Fundamental Developed ex US Large Company is a subset of the Russell Fundamental Developed ex US Index, and is a measure of the largest non-U.S. listed developed country companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(27) The MSCI World ex US Large Cap Index is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of large cap-developed markets, excluding the United States.
(28) The Russell Fundamental Developed ex US Index Small Company is a subset of the Russell Fundamental Developed ex US Index, and is a measure of small non-U.S. listed developed country companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(29) The Russell Fundamental Emerging Markets Index is a measure of Emerging Market companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(30) The Russell Fundamental U.S. Index Large Company is a subset of the Russell Fundamental US Index, and is a measure of the largest U.S. listed companies, selected and weighted using fundamental measures; (adjusted sales, retained cash flow, dividends + buybacks).
(31) The Russell Fundamental US Index Small Company is a subset of the Russell Fundamental US Index, and is a measure of U.S. listed small companies, selected and weighted using fundamental measures; (adjusted sales, retained cash flow, dividends + buybacks).
(32) The Russell Fundamental Europe Index is a measure of European companies, selected and weighted using fundamental factors; (adjusted sales, retained cash flow, dividends + buybacks).
(33) The RAFI® Bonds US Investment Grade Master Index is a U.S. investment-grade corporate bond index comprised of non-zero fixed coupon debt with maturities ranging from 1 to 30 years issued by publicly traded companies. The issuers held in the index are weighted by a combination of four measures of their fundamental size—sales, cash flow, dividends, and book value of assets.
(34) The Merrill Lynch U.S. Corporate Master Index is representative of the entire U.S. corporate bond market. The index includes dollar-denominated investment-grade corporate public debt issued in the U.S. bond market.
(35) The RAFI® Bonds US High Yield Master is a U.S. high-yield corporate bond index comprised of non-zero fixed coupon debt with maturities ranging from 1 to 30 years issued by publicly traded companies. The issuers held in the index are weighted by a combination of four measures of their fundamental size—sales, cash flow, dividends, and book value of assets.
(36) The Merrill Lynch Corporate Master II High Yield BB-B Index is representative of the U.S. high yield bond market. The index includes domestic high-yield bonds, including deferred interest bonds and payment-in-kind securities. Issues included in the index have maturities of one year or more and have a credit rating lower than BBB-/Baa3, but are not in default.
(37) The RAFI® US Equity Long/Short Index utilizes the Research Affiliates Fundamental Index® (RAFI®) methodology to identify opportunities that are implemented through long and short securities positions for a selection of U.S. domiciled publicly traded companies listed on major exchanges. Returns for the index are collateralized and represent the return of the strategy plus the return of a cash collateral yield.
(38) The 1-Month T-bill return is calculated using the Bloomberg Generic 1-month T-bill. The index is interpolated based off of the currently active U.S. 1 Month T-bill and the cash management bill closest to maturing 30 days from today.
(39) The FTSE RAFI® Global ex US Real Estate Index comprises 150 companies with the largest RAFI fundamental values selected from the constituents of the FTSE Global All Cap ex U.S. Index that are classified by the Industry Classification Benchmark (ICB) as Real Estate.
(40) The FTSE EPRA/NAREIT Global ex US Index is a free float-adjusted index, and is designed to represent general trends in eligible listed real estate stocks worldwide, excluding the United State. Relevant real estate activities are defined as the ownership, trading and development of income-producing real estate.
(41) The FTSE RAFI® US 100 Real Estate Index comprises of the 100 U.S. companies with the largest RAFI fundamental values selected from the constituents of the FTSE USA All Cap Index that are classified by the Industry Classification Benchmark (ICB) as Real Estate.
(42) The FTSE EPRA/NAREIT United States Index is a free float-adjusted index, is a subset of the EPRA/NARIET Global Index and the EPRA/NAREIT North America Index and contains publicly quoted real estate companies that meet the EPRA Ground Rules. EPRA/NARIET Index series is seen as the representative benchmark for the real estate sector.
(43) The Citi RAFI Sovereign Developed Markets Bond Index Series seeks to reflect exposure to the government securities of a universe of 23 developed markets. By weighting components by their fundamentals, the indices aim to represent each country's economic footprint and proxies for its ability to service debt.
(44) The Merrill Lynch Global Government Bond Index II tracks the performance of investment grade sovereign debt publicly issued and denominated in the issuer's own domestic market and currency.
(45) The Citi RAFI Sovereign Emerging Markets Local Currency Bond Index Series seeks to reflect exposure to the government securities of a universe of 14 emerging markets. By weighting components by their fundamentals, the indices aim to represent each country's economic footprint and proxies for its ability to service debt.
(46) The JPMorgan GBI-EM Diversified Index seeks exposure to the local currency sovereign debt of over 15 countries in the emerging markets.

Source: All index returns are calculated using total return data from Bloomberg and FactSet. Returns for all single country strategies and Europe regional strategies are in local currency. All other returns are in USD.