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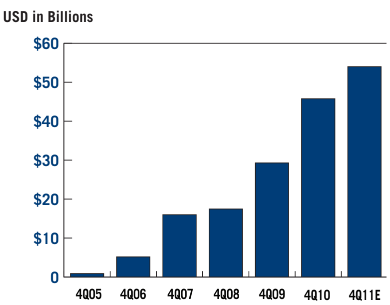
Fundamentals

A SLIPPERY YEAR FOR EXCESS RETURNS

John West

RAFI® Managed Assets*



*Includes RAFI assets managed or sub-advised by Research Affiliates® or RAFI licensees.

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For many, a can of sardines conjures up an image of the Depression-era 1930s where the slippery little fish were an easy and inexpensive source of protein for the masses. Likewise, in their natural environment, sardines are viewed as an abundant and easy source of protein for their natural predators. But in the sea, they are much more elusive than in a tightly packed can of oil! Upon being threatened, the sardines' defense is to school tightly in a ball with each tiny fish swimming in the same direction as all of the others, making it impossible for the far faster and stronger tuna, marlin, and dolphins to target a particular fish.[1] This dance between the shimmering silver "meatball" and its midnight and cobalt attackers is a stunning visual image and a remarkably effective defense for the seemingly outgunned sardines.

During 2011, securities in most markets behaved remarkably like resilient sardines. Risk on and risk off, largely due to the European sovereign debt crisis and central bank intervention, led to securities moving very much in line and offering tightly clustered returns. With little cross-sectional mean reversion and a value headwind, this environment proved to be a tough market for active managers and a mixed one for the Fundamental Index® approach.

When Security Mispricing is Good…

Active management and the Fundamental Index approach both rely on the existence of mispriced securities and their eventual correction to add value relative to the cap-weighted benchmark. The active manager that initiates a long position in a stock does so presumably because its research indicates the stock is undervalued and will appreciate faster than the broad market.[2] Of course, this appreciation can happen only when other active participants also become aware of the mispricing and move to capitalize on it, thereby pushing the security's price closer to "fair value." This process is critical to the success of active managers.

The path to excess returns for the Fundamental Index strategy is different. If market prices drift

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away from fair value, then a capitalization-weighted index will structurally overweight overpriced stocks and underweight underpriced stocks, leading to a return drag. Agnostic about *which* securities are actually mispriced, the Fundamental Index methodology simply uses non-price measures of company size to randomize the link between portfolio weight and mispricing—thereby creating a portfolio, *sans* return drag, capable of achieving excess returns while simultaneously preserving the many attractive attributes of passive investing.

Given that both active management and the Fundamental Index approach require corrections to security mispricing to generate excess returns, these strategies do not work in periods when those corrections are not occurring. When all (most) stocks move in the same direction, the amount of relative price movement expected at the individual security level will be minimal, and the ability of the strategies to capitalize on mispricing will be modest at best. Sadly, 2011 was just such a period.

End Market Correlation!

One of my favorite e-mails this year was sent by a friend during the height of the "Occupy Wall Street" movement. Rather than the typical rally cry of "End Market Corruption," a well-dressed investment manager in the photo holds up a sign that reads "End Market Correlation." Individual stocks moved substantially in tandem in 2011. In a recent note, Jim Bianco, president of fixed-income analyst Bianco Research, observed that from 1996–2008, there were only 12 days (2 up and 10 down.) when more than 490 of S&P 500 Index stocks moved in the same direction on a given trading day. In 2011 alone, we had 15 such days (with a nearly even up/down ratio). The markets went back and forth on big move after big move—all with little price differentiation.

According to the Leuthold Group, the average correlation among S&P 500 stocks reached a peak in early October (86% on 50-day price movement) that exceeded the previous peak on Black Monday in October 1987 (82%).[3] Bianco explained: "… the actions of people like Ben Bernanke or Mario Draghi matter far more than any specific fundamental of a company. It's as if every S&P 500 company has the same chairman of the board that only knows one strategy, resulting in a high degree of correlation between seemingly unrelated companies."[4]

Worst Year Ever for Active Managers?

Such a lack of differentiation created a difficult environment for stockpickers. In early 2009, we published an article called "2008—The Worst Year Ever for Active Management"[5] where we analyzed how active managers fared in six widely used asset classes and styles since 1990. In **Table 1**, we replicate those results and add the relative performance of managers in 2011. Like the crisis year of 2008, last year we witnessed poor returns from active management, especially in large developed equity mandates. Large-cap core, large-cap growth, and developed ex-U.S. ("international") all posted relative results that ranked in the bottom four of the past 22 years. On a diversified portfolio level, these uninspiring results led to the third-worst year relative to a passive cap-weighted implementation.

Table 1. 2008 and 2011: Tough Years for Active Managers[6]

	2008 Manager Excess Return	Annual Rank Since 1990	2011 Manager Excess Return	Annual Rank Since 1990
eA Large Core Median versus S&P 500	1.08%	11th Worst	-1.18%	4th Worst
eA Large Growth Median versus Russell 1000 Growth	-0.41%	5th Worst	-3.16%	2nd Worst
eA Large Value Median versus Russell 1000 Value	1.16%	13th worst	-0.37%	10th Worst
eA Small Cap Median versus Russell 2000	-2.59%	2nd Worst	1.64%	10th Worst
eA International Equity Median versus MSCI EAFE	-0.39%	3rd Worst	-0.63%	3rd Worst
Core Plus Fixed Median Versus BarCap Aggregate	-8.38%	Worst	-0.52%	5th Worst
60/40 Active Portfolio Versus 60-40 passive	**-3.36%**	**Worst**	**-0.70%**	**3rd Worst**

Source: Research Affiliates based on data from eVestment Alliance.

The magnitude of the active manager underperformance wasn't as bad in 2011, but the breadth was worse as the median manager in five of the six asset classes failed to beat their benchmark. The only other year where this happened was 1998, when a Russian default led to Long-Term Capital Management nearly bringing Wall Street to its knees. Only the median U.S. small-cap manager was able to escape with a win in 2011. Everywhere else, be it value or growth, U.S. or non-U.S., the median manager trailed its cap-weighted benchmark. And these figures are before management fees!! Obviously, the near unanimous ups and downs of the market in 2011 failed to produce the kinds of security selection opportunities that have come to benefit active management.

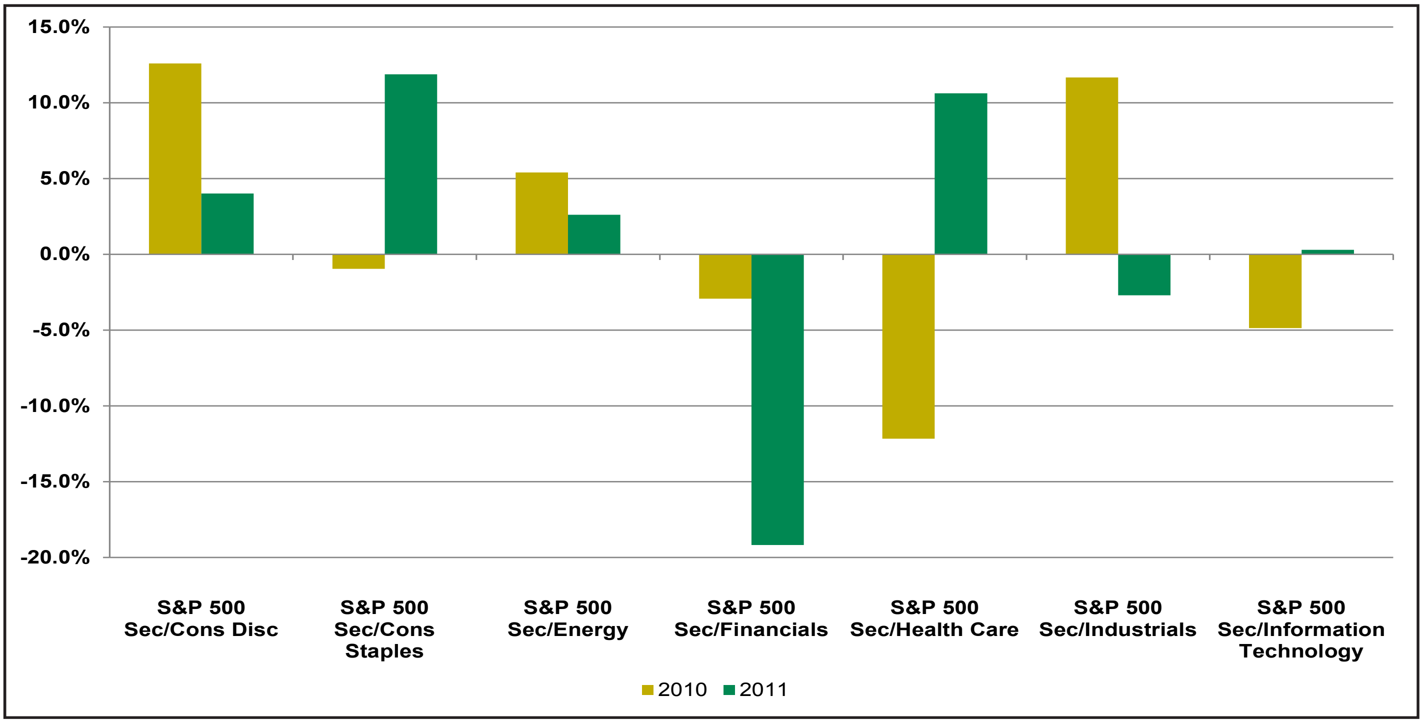
The Fundamental Index Strategy in 2011

Against such a backdrop, the Fundamental Index methodology produced mixed results. The FTSE RAFI® All World 3000 posted a return of –9.1% versus the MSCI All Country World Index's loss of –6.9%, a shortfall of 2.2%. Likewise, the FTSE RAFI® US 1000's small gain of 0.1% trailed the S&P 500 by 2.0%. Given these fundamentally weighted strategies have historical tracking errors to comparable cap-weighted indexes of 4–5%, such underperformance is well within the expected range of relative returns for a one-year period. Indeed, even after incorporating the 2011 shortfall, both the FTSE RAFI All World 3000 and FTSE RAFI US 1000 have positive excess returns since inception over the respective cap-weighted index returns of 1.4% and 1.7%—in markets that haven't been kind to value.[7]

The high correlation of securities returns that hurt active managers also hindered the Fundamental Index strategy performance. As we have stated previously, the Fundamental Index methodology is a rebalancing and contra-trading strategy.[8] However, this approach proved to be futile last year. Using sectors as an example, **Figure 1** illustrates the seven S&P 500 sectors that had double-digit weights in the index as of year-end 2011 and their relative returns to the S&P 500 in 2010 and 2011. Sizeable excess returns in the Fundamental Index strategies come from contra-trading into recent laggards before they take off (think consumer discretionary and financials in 2009), or out of recent winners before they fall off a cliff (tech and telecom in 2000). In the major sectors in 2011, such reversion was sadly lacking. Only health care, a perennially underweighted RAFI bet due principally to high-priced biotech stocks, experienced a double-digit swing of excess returns. The consumer discretionary, energy, and financials sectors were dominated by momentum as they repeated their prior year outperformance (consumer discretionary and energy) or underperformance (financials). In the sectors that did reverse 2010 performance (consumer staples, industrials, and IT), the differentials were hardly large enough to earn anything more than trivial contra-trading profits.

Last year, we launched our second major Fundamental Index family—the Russell Fundamental Index® Series. Russell uses their own set of economic factors to weight securities—adjusted sales, retained cash flow, and dividends plus buybacks. As we've stated repeatedly, there's no magical set of fundamental size factors. All should produce similar excess returns over long periods of time; the key is to break the link with price in the selection and weighting process. Over shorter periods of time, different financial metrics can and will produce different return patterns. We saw just such a divergence in 2011. The Russell Fundamental Global return of –6.5% actually exceeded the MSCI ACWI by 40 basis points. Similarly, the Russell Fundamental U.S. Large Company outperformed the S&P 500 by 80 basis points for the calendar year. While both indices outperformed their cap-weighted benchmarks in 2011, the incremental positive returns fell short of longer term results. The bottom line: In 2011, the Fundamental Index approach fell short of its long-term promise, given last year's highly correlated markets.

Figure 1. Sector Excess Returns in 2010 and 2011—Few Reversals Dampen Effect of Contra-trading



Source: Research Affiliates.

Conclusion

The remarkable protection provided by the schooling sardines nearly always comes to an end. The predators pick up numbers and begin to work together, methodically circling the shimmering mass and driving it in a slow upward ascent. Sure enough the sardines hit a wall, namely the ocean's surface, and can no longer swim as one. With birds attacking from the air and marauding tuna, marlin, and dolphin torpedoing from below, the sardines are forced to scatter in small packs where they are savagely picked off until seemingly the entire ocean gets its fill.

Likewise, the policy-driven and highly correlated equity markets so unkind to excess return seekers will break rank—perhaps very soon. The day of reckoning will likely come for Greece sometime in the first half of 2012. Such a default will almost certainly cause volatility and price dislocation, perhaps even hitting the value sectors currently emphasized in some Fundamental Index approaches. However, as 2008 and 2009 illustrated, failures of a few can have dramatic impact on the survivors' ability to deliver handsome profits and excess returns.

Forget about a small can full of sardines, contra-traders have a bigger appetite. See you at the surface.

Endnotes

1. Tuna and marlin have been clocked at speeds of over 40 mph.
2. Likewise, a long/short manager shorts an overpriced stock in anticipation that it will underperform the market once others also realize and correct for the overpricing.
3. See http://www.arborresearch.com/bianco/SubscriberArea/publicappearances/pdffiles/Presentation011212.pdf (restricted access).
4. See http://www.arborresearch.com/bianco/SubscriberArea/publicappearances/pdffiles/Presentation011212.pdf (restricted access).
5. See "2008—The Worse Year Ever for Active Management," *RAFI Fundamentals*, March 2009. http://www.rallc.com/ideas/pdf/fundamentals/Fundamentals_Mar_2009_2008_The_Worst_Year_Ever_for_Active_Management.pdf
6. The 60/40 portfolio is broken down as follows: 20% Large Core, 10% Large Value, 10% Large Growth, 10% Small Cap, and 10% International Equity, for a total of 60% equity; and 40% Core Plus Fixed Income.
7. The FTSE RAFI All World 3000 was launched October 6, 2008, while the FTSE RAFI US 1000 was launched November 28, 2005.
8. See "The Great Contra-Trade," *RAFI Fundamentals*, May 2009. http://www.rallc.com/ideas/pdf/fundamentals/Fundamentals_May_2009_The_Great_Contra_Trade.pdf.

Performance Update

FTSE RAFI® Equity Index Series*

TOTAL RETURN AS OF 12/31/11	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® All World 3000[1]	TFRAW3	-9.06%	-9.06%	14.89%	0.05%	8.73%	19.17%
MSCI All Country World[2]	GDUEACWF	-6.86%	-6.86%	12.60%	-1.41%	4.76%	17.47%
FTSE RAFI® Developed ex US 1000[3]	FRX1XTR	-14.35%	-14.35%	9.88%	-3.15%	7.25%	20.51%
MSCI World ex US Large Cap[4]	MLCUWXUG	-11.46%	-11.46%	8.50%	-3.60%	5.07%	18.67%
FTSE RAFI® Developed ex US Mid Small[5]	TFRDXUSU	-12.15%	-12.15%	18.13%	0.79%	13.54%	18.95%
MSCI World ex US Small Cap[6]	GCUDWXUS	-15.50%	-15.50%	16.91%	-2.86%	9.82%	20.48%
FTSE RAFI® Emerging Markets[7]	TFREMU	-17.88%	-17.88%	20.88%	5.38%	20.79%	24.75%
MSCI Emerging Markets[8]	GDUEEGF	-18.17%	-18.17%	20.42%	2.70%	14.20%	24.28%
FTSE RAFI® 1000[9]	FR10XTR	0.07%	0.07%	19.46%	1.06%	5.40%	18.29%
Russell 1000[10]	RU10INTR	1.50%	1.50%	14.81%	-0.02%	3.34%	16.14%
S&P 500[11]	SPTR	2.11%	2.11%	14.11%	-0.25%	2.92%	15.93%
FTSE RAFI® US 1500[12]	FR15USTR	-5.94%	-5.94%	23.75%	3.05%	9.67%	22.82%
Russell 2000[13]	RU20INTR	-4.18%	-4.18%	15.63%	0.15%	5.62%	21.09%
FTSE RAFI® Europe[14]	TFREUE	-12.39%	-12.39%	11.03%	-4.71%	2.66%	19.21%
MSCI Europe[15]	GDDLE15	-8.78%	-8.78%	8.04%	-3.75%	1.77%	16.90%
FTSE RAFI® Australia[16]	FRAUSTR	-8.70%	-8.70%	8.25%	-1.19%	6.85%	13.17%
S&P/ASX 200[17]	ASA51	-10.54%	-10.54%	7.58%	-2.31%	6.15%	13.37%
FTSE RAFI® Canada[18]	FRCANTR	-7.88%	-7.88%	15.24%	2.68%	8.18%	14.25%
S&P/TSX 60[19]	TX60AR	-9.08%	-9.08%	10.95%	0.88%	6.81%	14.51%
FTSE RAFI® Japan[20]	FRJPNTR	-19.30%	-19.30%	-2.47%	-12.63%	0.21%	18.51%
MSCI Japan[21]	GDDLJN	-18.59%	-18.59%	-3.60%	-14.27%	-2.23%	18.13%
FTSE RAFI® UK[22]	FRGBRTR	-2.65%	-2.65%	12.35%	0.53%	4.93%	17.11%
MSCI UK[23]	GDDLUK	-1.79%	-1.79%	12.05%	1.41%	4.12%	15.14%

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

Russell Fundamental Index® Series*

TOTAL RETURN AS OF 12/31/11	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
Russell Fundamental Global Index Large Company[24]	RUFGLTU	-5.90%	-5.90%	14.25%	0.85%	8.89%	17.84%
MSCI All Country World Large Cap[25]	MLCUAWOG	-6.39%	-6.39%	11.88%	-1.46%	4.17%	17.15%
Russell Fundamental Developed ex US Index Large Company[26]	RUFDXLTU	-12.75%	-12.75%	8.76%	-1.95%	8.92%	18.92%
MSCI World ex US Large Cap[27]	MLCUWXUG	-11.46%	-11.46%	8.50%	-3.60%	5.07%	18.67%
Russell Fundamental Developed ex US Index Small Company[28]	RUFDXSTU	-11.36%	-11.36%	15.82%	-0.10%	12.48%	18.55%
MSCI World ex US Small Cap[6]	GCUDWXUS	-15.50%	-15.50%	16.91%	-2.86%	9.82%	20.48%
Russell Fundamental Emerging Markets[29]	RUFGETRU	-16.46%	-16.46%	22.65%	6.68%	20.40%	24.54%
MSCI Emerging Markets[8]	GDUEEGF	-18.17%	-18.17%	20.42%	2.70%	14.20%	24.28%
Russell Fundamental US Index Large Company[30]	RUFUSLTU	2.91%	2.91%	17.31%	1.77%	6.23%	16.77%
Russell 1000[10]	RU10INTR	1.50%	1.50%	14.81%	-0.02%	3.34%	16.14%
S&P 500[11]	SPTR	2.11%	2.11%	14.11%	-0.25%	2.92%	15.93%
Russell Fundamental US Index Small Company[31]	RUFUSSTU	-3.61%	-3.61%	24.02%	4.38%	10.55%	21.50%
Russell 2000[13]	RU20INTR	-4.18%	-4.18%	15.63%	0.15%	5.62%	21.09%
Russell Fundamental Europe[32]	RUFEUTE	-10.55%	-10.55%	12.81%	-2.52%	5.46%	18.09%
MSCI Europe[15]	GDDLE15	-8.78%	-8.78%	8.04%	-3.75%	1.77%	16.90%

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

Fixed Income/Alternatives

TOTAL RETURN AS OF 12/31/11	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
RAFI® Bonds Investment Grade Master[33]		8.98%	8.98%	11.51%	7.70%	6.67%	6.06%
ML Corporate Master[34]	C0A0	7.51%	7.51%	12.14%	6.58%	6.29%	6.24%
RAFI® Bonds High Yield Master[35]		7.47%	7.47%	24.98%	9.67%	9.32%	10.95%
ML Corporate Master II High Yield BB-B[36]	H0A4	5.43%	5.43%	20.83%	6.68%	7.75%	9.85%
RAFI® US Equity Long/Short[37]		-5.26%	-5.26%	12.91%	1.58%	5.09%	11.74%
1-Month T-Bill[38]	GB1M	0.05%	0.05%	0.09%	1.22%	1.76%	0.49%
FTSE RAFI® Global ex US Real Estate[39]	FRXR	-22.53%	-22.53%	10.75%	-9.85%	7.94%	23.22%
FTSE EPRA/NAREIT Global ex US[40]	EGXU	-18.69%	-18.69%	7.79%	-11.16%	5.47%	20.87%
FTSE RAFI® US 100 Real Estate[41]	FRUR	-2.39%	-2.39%	22.45%	-7.75%	4.33%	27.74%
FTSE EPRA/NAREIT United States[42]	UNUS	3.86%	3.86%	16.08%	-6.37%	4.77%	26.07%

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 and weighted 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 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 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.

Source: All index returns are calculated using total return data from Bloomberg, except for the real estate indices and benchmarks, which use price return data. Returns for all single country strategies and Europe regional strategies are in local currency. All other returns are in USD.

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