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From Construction to Results: Fundamental Index Investing in the Emerging Markets

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EXECUTIVE SUMMARY

Smart beta strategies, including those in the Russell Fundamental Index® series, are designed to add long-term value by means of a simple mechanism: periodically rebalancing portfolio holdings to weights that are not based on market prices. This approach to index-based investing tends to underperform when momentum dominates the market and outperform when stock prices revert toward their long-term averages. In this paper, we present evidence on the effectiveness of rebalancing to position emerging market portfolios for superior long-term results. Due to the variability of common stock valuation levels, the emerging markets illustrate with unique clarity how smart beta strategies work.

After explaining how the Fundamental Index® methodology can be expected to affect performance in principle, we compare simulated and actual returns of the Russell Fundamental Emerging Markets (EM) Large Company Index with the historical returns of the capitalization-weighted Russell Emerging Markets (EM) Large Cap Index. (Returns for periods prior to the launch of the Russell Fundamental Index series are hypothetical.) Over a 17-year interval, the fundamentally weighted index outperformed the cap-weighted benchmark by more than 600 bps annually with virtually identical *ex post* volatility.

Then, in order to determine the sources of value-added returns in emerging markets, we conduct year-by-year sector attribution analyses for the 2009–2013 period—a timeframe in which the annual returns of the benchmark ranged between 80% (2009) and –18% (2011). The attributions isolate the impact of active sector weights that naturally arise from smart beta strategies' bottom-up portfolio construction and rebalancing processes. We also comment on the business characteristics and market valuations of specific holdings that demonstrate, for good or ill, the application of fundamentals-based selection and weighting principles. Over the five-year period, the Russell Fundamental EM Large Company had slightly higher volatility but outperformed the Russell EM Large Cap by approximately 20 bps.

Our findings suggest that, in emerging markets, the long-term performance of fundamentally weighted strategies is largely due to the contra-trading which takes place in the course of systematically rebalancing the stocks they contain. This observation is consistent with the results of empirical research we have conducted in other equity markets.

PORTFOLIO CONSTRUCTION AFFECTS RELATIVE RETURNS

The Russell Fundamental Index series uses three measures of company size to select and weight portfolio holdings. They are sales adjusted for leverage, dividends and buybacks, and retained operating cash flow. Each measure is averaged over five years, and the resulting values are normalized and averaged to determine portfolio allocations that reflect the companies' economic scale. The larger a company's share of the economy, the larger its fraction of a fundamentally weighted index. Company weights are recalculated annually and implemented in quarterly steps. This staggered approach reduces market impact and spreads entry point risk across four dates spaced equally over the year.

By design, these company weights change little from year to year. (The five year averaging ensures that each metric changes slowly over time.) Consequently, the turnover required at rebalancing primarily results from the prior year's price drift. Companies whose stock prices advanced more than the broad market over the preceding 12 months see their allocation decrease when portfolio holdings are rebalanced to fundamental weights. Companies whose shares lagged the market see their weight increase.

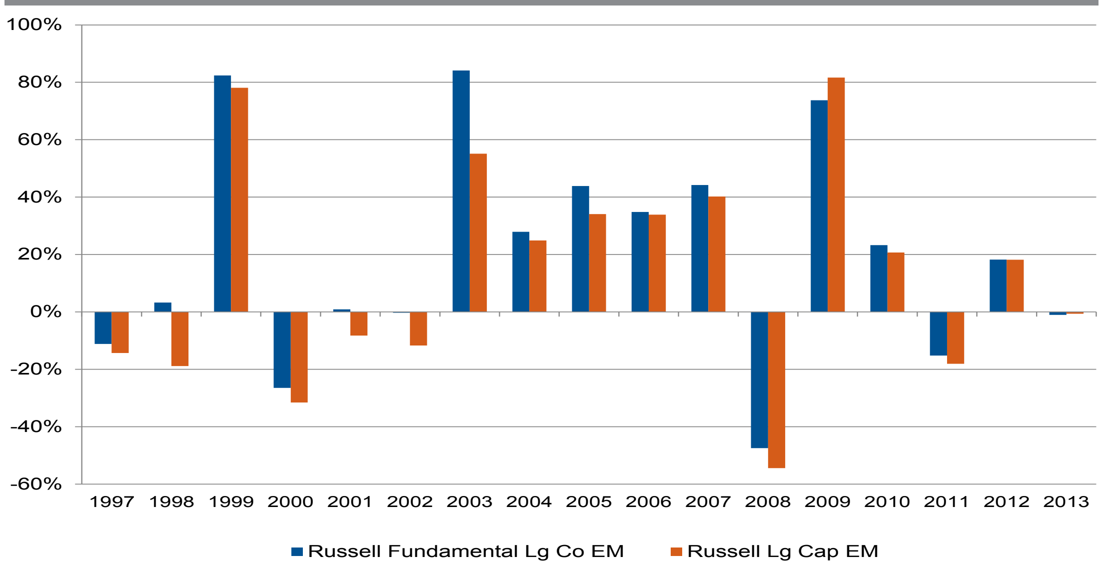
This method of constructing and rebalancing the portfolio naturally creates a value bias in the Russell Fundamental Index strategies. Relative to a cap-weighted benchmark, the portfolio overweights cheap stocks and underweights expensive ones. Accordingly, when expensive stocks outperform the market, or their prices continue to trend away from their long-term average, the fundamentally weighted strategy underperforms the benchmark. When cheap stocks outperform, the strategy outperforms.

RETURNS IN EMERGING MARKETS

The Russell Fundamental Index series was launched on February 24, 2011, and March 2011 is the first full month for which actual rates of return were calculated. Hypothetical returns, however, have been calculated for periods beginning August 1996. The annualized return of the fundamentally weighted emerging markets large company portfolio from the start of the simulation through December 2013 was 13.3%, compared with 7.2% for the Russell EM Large Cap. The indices' annualized volatilities were 25.4% and 25.1%, respectively. Thus, over a timespan longer than 17 years, the fundamentally weighted emerging markets index earned a return vastly exceeding that of the broad cap-weighted benchmark without a material increase in market risk. Value stocks outperformed the market over this measurement period; nonetheless, the annualized return of the fundamentally weighted index beat the Russell Emerging Markets (EM) Large Cap Value Index by approximately 260 bps. The volatility of the cap-weighted value index was 25.2%.

Figure 1 displays the year-by-year returns of the fundamentally weighted index and the broad emerging markets benchmark over the entire period for which data are available. We will analyze investment results for the five years ending December 31, 2013, in greater depth.

FIGURE 1: ANNUAL RETURNS, 1997–2013



Source: Research Affiliates using data from Russell Indexes. Returns prior to March 2011 are simulated.

A WORD ABOUT SECTOR ATTRIBUTIONS

The following year-by-year attribution analyses quantify the effect of *de facto* sector concentrations on the performance of the Russell Fundamental Emerging Markets (EM) Large Company Index relative to the cap-weighted benchmark. These sector positions represent active but, in an important sense, unintentional bets. Sector concentrations are a by-product or artifact of the mechanized bottom-up portfolio construction process employed by the systematic, rules-based Fundamental Index methodology. There is no portfolio manager deciding which economic sectors are attractive and which stocks within those sectors are mispriced. In fundamentally weighted strategies, stocks are selected and weighted on the basis of metrics that are unrelated to price, and, in the case of the Russell Fundamental Index under consideration here , there are no sector constraints. Nonetheless, sector attributions shed light on the way in which the automated decision process involved in constructing and rebalancing fundamentally weighted portfolios can lead to long-term excess returns.

2009: VERTICAL LIFTOFF

Global markets ended 2008 at multi-year lows but rose at an extraordinary pace in 2009. The emerging markets were no exception. In February 2009 the price level of the Russell Emerging Markets Large Cap Index reached 1405.7, its lowest point in more than four years; by the end of 2009 it stood at 2824.6—twice as high. For the full year, the cap-weighted index achieved a stunning total return of 80.4%. In this environment, the fundamentally weighted emerging markets index substantially underperformed with a total return of 73.7%. As shown in **Table 1**, the shortfall of approximately 670 bps resulted in large part from overweight positions in two disappointing sectors, telecommunications and energy.

TABLE 1. 2009 SECTOR ATTRIBUTION

RA SECTOR	RUSSELL FUNDAMENTAL LG CO EM			RUSSELL LG CAP EM			VARIATION IN ENDING WEIGHT	ATTRIBUTION ANALYSIS		
	PORT. ENDING TOTAL	PORT. TOTAL RETURN	PORT. CONTRIB. TO RETURN	BENCH. ENDING WEIGHT	BENCH. TOTAL RETURN	BENCH. CONTRIB. TO RETURN		ALLOCATION EFFECT	SELECTION + INTERACTION	TOTAL EFFECT
TOTAL	100.0	73.6	73.6	100.0	80.4	80.4	—	−2.0	−4.8	−6.8
Telecommunications	13.6	19.8	3.5	9.0	26.8	3.2	4.6	−3.1	−1.6	−4.7
Energy	27.7	70.7	20.6	16.4	91.2	17.4	11.3	1.4	−5.7	−4.2
Utilities	4.9	41.3	2.0	3.6	55.3	2.1	1.3	−0.4	−1.0	−1.4
Technology	9.9	114.6	10.9	13.1	108.1	13.3	−3.2	−0.6	0.5	−0.1
Health Care	—	—	—	0.8	86.1	0.4	−0.8	0.0	—	0.0
Industrial	5.2	70.9	3.5	5.2	69.9	3.8	−0.1	0.1	0.0	0.1
Consumer, Non-Cyclical	3.3	53.3	1.6	6.0	59.1	3.2	−2.8	0.5	−0.2	0.3
Basic Materials	16.7	114.8	14.5	15.4	108.8	14.0	1.3	0.0	0.4	0.4
Financial	12.7	94.8	10.3	23.9	81.0	17.6	−11.2	0.1	1.1	1.2
Consumer, Cyclical	6.0	146.6	6.7	6.6	98.5	5.4	−0.5	−0.1	1.7	1.6

Source: Research Affiliates, using data from Russell Indexes.

KT Corporation (formerly Korea Telecom) is an instructive example of a telecommunications company whose stock underperformed in 2009. After falling in price in 2008, KT began 2009 trading at a discount to book value. Its beginning weight of 1.42% in the fundamentally weighted index was about 6.2 times as great as its weight in the cap-weighted benchmark. KT's stock price rebounded in 2009, producing a total return of 18.5%, but that performance clearly lagged a market in which the benchmark, in aggregate, earned more than 80%. As a result, the beginning overweight created a drag on the portfolio's return. KT was a company that began the year priced cheaply compared to the broad market and became cheaper from a relative standpoint as it continued to underperform. At the end of 2009, its weight in the fundamentally weighted index was 1.07%—slighter in absolute terms but more than nine times its benchmark weight.

2010: EMERGING MARKETS CONTINUE TO RISE

Relative performance turned in 2010 as the Russell Fundamental Index strategy outperformed its benchmark by approximately 320 bps (23.6% vs. 20.4%). **Table 2** reveals that three sectors accounted for the bulk of this outperformance. Strong stock selection in the industrials and materials sectors, along with an overweight position in the technology sector, led to a solid value-added return.

At first glance, an overweight to technology may seem out of place in a Fundamental Index strategy. In emerging markets, however, some of the largest firms in the technology sector are cheaply priced manufacturers. Taiwan Semiconductor Manufacturing Company, Limited (often called Taiwan Semi for short) is a prime example. The firm produces high tech chips for use in automobiles, industrial applications, phones, tablets, and computers, but its stock generally trades at a reasonable multiple because manufacturing is the unglamorous portion of the tech device value chain.

TABLE 2. 2010 SECTOR ATTRIBUTION

	RUSSELL FUNDAMENTAL LG CO EM			RUSSELL LG CAP EM				ATTRIBUTION ANALYSIS		
RA SECTOR	PORT. ENDING TOTAL	PORT. TOTAL RETURN	PORT. CONTRIB. TO RETURN	BENCH. ENDING WEIGHT	BENCH. TOTAL RETURN	BENCH. CONTRIB. TO RETURN	VARIATION IN ENDING WEIGHT	ALLOCATION EFFECT	SELECTION + INTERACTION	TOTAL EFFECT
TOTAL	100.0	23.6	23.6	100.0	20.4	20.4	—	−0.1	3.2	3.1
Telecommunications	11.5	18.0	2.9	8.1	21.5	1.9	3.4	0.3	−0.5	−0.3
Utilities	2.7	5.8	0.2	3.5	10.5	0.4	−0.9	0.1	−0.3	−0.2
Consumer, Non-Cyclical	3.1	24.9	1.0	6.2	26.4	1.8	−3.1	−0.1	−0.1	−0.2
Health Care	—	—	—	0.9	27.3	0.2	−0.9	−0.0	—	−0.0
Energy	26.7	17.3	4.8	15.8	12.6	1.7	10.9	−1.1	1.3	0.2
Financial	13.9	17.5	2.5	23.9	17.3	4.7	−10.0	0.2	0.0	0.3
Consumer, Cyclical	5.4	51.6	2.5	8.0	33.8	2.7	−2.6	−0.2	0.7	0.5
Technology	16.3	16.1	2.1	11.9	16.4	1.3	4.5	0.7	0.2	0.9
Basic Materials	16.3	31.1	4.8	15.6	25.0	3.7	0.7	0.1	0.9	1.0
Industrial	4.1	62.1	2.8	6.0	34.8	1.9	−1.9	0.0	1.0	1.0

Source: Research Affiliates, using data from Russell Indexes.

2011: OUTPERFORMANCE IN A FALLING MARKET

The fundamentally weighted emerging markets strategy outperformed during a down market in 2011, losing 15.1% versus a loss of 18% by its benchmark. **Table 3** shows that half of this outperformance was due to strong selection in the energy sector.

The Russian oil pipeline operator, Transneft, was a contributor to the stock selection effect in the energy sector, and it is precisely the sort of company that Fundamental Index strategies tend to overweight. Transneft generates substantial cash flow on large sales and trades at a reasonable multiple.

2012: UP AGAIN

The Russell Fundamental Index portfolio performed roughly in line with its cap-weighted emerging markets counterpart in 2012, returning 18.2% versus 18% for the benchmark. Stock selections in energy and materials were the biggest contributors to returns, as shown in **Table 4**.

Once again, a relatively unexciting firm was one of the top contributors to the value-added return. Cemex, the Mexican-based cement manufacturer, was significantly overweighted in 2012, and the stock performed quite well. Cemex is another example of a firm that the rules-based Fundamental Index methodology will typically overweight without regard to investor sentiment. This systematic approach does not adjust the weight of a holding for the market's expectations of future growth. A dollar of cash flow generated by the sale of cement is treated just the same as a dollar of cash flow generated by the sale of a smartphone application.

2013: SLIPPAGE

The Russell Fundamental Index portfolio lagged its benchmark modestly in 2013, –1.0% versus –0.6%. **Table 5** shows that poor selection in the technology sector hurt relative returns.

Tencent Holdings was the single largest detractor from the relative return. Tencent was absent from the fundamentally weighted portfolio. In the cap-weighted benchmark, however, its weight at the beginning of the year was 0.75%, and, because the stock had a total return of 99.2% in 2013, the benchmark weight doubled by year-end. If Taiwan Semi, Transneft, and Cemex exemplify companies the Fundamental Index methodology would naturally overweight, then Tencent is a prime example of a the kind of company the methodology would underweight. Tencent is a holding company whose portfolio contains social network, online gaming, and e-commerce sites. The firm is growing quickly and looks expensive when the market price of its stock is compared to fundamental measures of its size.

TABLE 3. 2011 SECTOR ATTRIBUTION

RA SECTOR	RUSSELL FUNDAMENTAL LG CO EM			RUSSELL LG CAP EM				ATTRIBUTION ANALYSIS		
	PORT. ENDING TOTAL	PORT. TOTAL RETURN	PORT. CONTRIB. TO RETURN	BENCH. ENDING WEIGHT	BENCH. TOTAL RETURN	BENCH. CONTRIB. TO RETURN	VARIATION IN ENDING WEIGHT	ALLOCATION EFFECT	SELECTION + INTERACTION	TOTAL EFFECT
TOTAL	100.0	−15.1	−15.1	100.0	−18.0	−18.0	—	0.5	2.4	2.9
Basic Materials	13.7	−28.6	−4.5	13.9	−26.4	−4.2	−0.2	0.0	−0.4	−0.4
Consumer, Non-Cyclical	3.3	4.1	0.1	6.9	−3.6	−0.2	−3.6	−0.5	0.2	−0.3
Consumer, Cyclical	5.2	−7.8	−0.4	8.9	−9.7	−0.9	−3.7	−0.3	0.1	−0.2
Health Care	—	—	—	1.1	−23.0	−0.3	−1.1	0.0	—	0.0
Utilities	3.5	−5.9	−0.1	3.6	−17.2	−0.6	−0.1	−0.0	0.3	0.3
Telecommunications	12.2	−7.4	−1.1	8.2	−6.5	−0.6	3.9	0.4	−0.1	0.3
Financial	13.9	−23.4	−3.2	23.5	−22.7	−5.5	−9.6	0.5	−0.1	0.4
Industrial	3.8	−17.7	−0.9	5.5	−26.2	−1.6	−1.6	0.1	0.4	0.5
Technology	16.9	−11.0	−1.5	12.4	−13.1	−1.4	4.5	0.2	0.5	0.7
Energy	27.5	−12.8	−3.4	16.0	−18.1	−2.8	11.6	−0.0	1.5	1.5

Source: Research Affiliates, using data from Russell Indexes.

TABLE 4. 2012 SECTOR ATTRIBUTION

RA SECTOR	RUSSELL FUNDAMENTAL LG CO EM			RUSSELL LG CAP EM				ATTRIBUTION ANALYSIS		
	PORT. ENDING TOTAL	PORT. TOTAL RETURN	PORT. CONTRIB. TO RETURN	BENCH. ENDING WEIGHT	BENCH. TOTAL RETURN	BENCH. CONTRIB. TO RETURN	VARIATION IN ENDING WEIGHT	ALLOCATION EFFECT	SELECTION + INTERACTION	TOTAL EFFECT
TOTAL	100.0	18.2	18.2	100.0	18.0	18.0	—	−2.1	2.3	0.2
Financial	16.4	25.0	3.8	25.7	26.4	6.4	−9.4	−0.7	−0.1	−0.9
Consumer, Non-Cyclical	2.9	21.6	0.6	7.7	26.1	1.8	−4.8	−0.3	−0.1	−0.4
Health Care	—	—	—	1.4	33.2	0.4	−1.4	−0.2	—	−0.2
Utilities	3.4	−0.2	0.0	3.1	3.2	0.1	0.2	−0.0	−0.1	−0.2
Telecommunications	11.6	14.3	1.6	7.4	13.8	1.0	4.2	−0.2	0.1	−0.1
Consumer, Cyclical	5.1	15.0	0.8	8.7	15.8	1.3	−3.6	0.1	−0.0	0.1
Industrial	3.8	18.4	0.7	5.6	14.5	0.8	−1.8	0.1	0.1	0.2
Technology	15.4	30.3	4.1	13.4	28.7	3.2	2.0	0.3	0.1	0.4
Basic Materials	14.5	13.8	2.1	12.8	10.2	1.5	1.7	−0.0	0.5	0.5
Energy	27.0	14.1	4.4	14.1	7.2	1.4	12.8	−1.1	1.9	0.8

Source: Research Affiliates, using data from Russell Indexes.

TABLE 5. 2013 SECTOR ATTRIBUTION

RA SECTOR	RUSSELL FUNDAMENTAL LG CO EM			RUSSELL LG CAP EM				ATTRIBUTION ANALYSIS		
	PORT. ENDING TOTAL	PORT. TOTAL RETURN	PORT. CONTRIB. TO RETURN	BENCH. ENDING WEIGHT	BENCH. TOTAL RETURN	BENCH. CONTRIB. TO RETURN	VARIATION IN ENDING WEIGHT	ALLOCATION EFFECT	SELECTION + INTERACTION	TOTAL EFFECT
TOTAL	100.0	−1.0	−1.0	100.0	−0.6	−0.6	—	−1.6	1.2	−0.4
Technology	14.4	5.1	0.6	15.5	19.9	2.7	−1.2	0.1	−2.1	−2.0
Energy	25.7	−6.4	−1.8	12.4	−8.8	−1.2	13.2	−1.1	0.7	−0.4
Health Care	—	—	—	1.6	10.7	0.2	−1.6	−0.2	—	−0.2
Consumer, Non-Cyclical	3.3	−5.8	−0.2	8.3	−1.4	−0.1	−5.1	0.0	−0.1	−0.1
Utilities	3.8	−6.2	−0.2	3.1	−5.0	−0.2	0.7	−0.0	−0.0	−0.1
Consumer, Cyclical	6.4	11.7	0.8	9.4	7.1	0.7	−3.0	−0.3	0.3	−0.0
Industrial	4.2	2.5	0.2	5.8	0.8	0.0	−1.7	−0.0	0.1	0.1
Telecommunications	11.2	3.6	0.5	7.0	−1.4	−0.0	4.2	0.0	0.6	0.6
Financial	16.7	1.0	−0.1	26.4	−1.7	−0.6	−9.7	0.2	0.4	0.6
Basic Materials	14.4	−7.1	−0.9	10.3	−15.4	−2.0	4.1	−0.3	1.4	1.1

Source: Research Affiliates, using data from Russell Indexes.

CLOSING REMARKS

Portfolios constructed in accordance with the Fundamental Index methodology select and weight companies on the basis of economic size rather than market capitalization. The rebalancing process reduces the portfolio's exposure to stocks whose prices have risen and increases exposure to stocks whose prices have declined. In other words, rebalancing fundamentally weighted indices means selling the stocks that are most in favor (and therefore most likely to be overpriced) and buying stocks that other investors avoid—stocks that the market might have undervalued. In consequence, as this paper shows, the Fundamental Index strategy underperforms when expensive companies become more expensive relative to cheap companies, and vice versa. This contra-trading against price movement and reliance on mean reversion to generate outperformance is the core of the methodology employed by this index family.

These portfolio dynamics are clearly visible in the emerging markets. We mentioned that the Fundamental Index methodology has an inherent value bias, and the sector attribution analyses presented above showed the value orientation in action. Interestingly, over the 2009–2013 period, the fundamentally weighted portfolio outperformed the value style of cap-weighted indexing in the emerging markets. This outcome suggests that rebalancing is a highly effective means of capturing the value premium.

In the five years from 2009 to 2013, the Russell EM Large Cap Value produced an annualized return of 15.4%, some 70 bps lower than the return of the broad emerging markets large cap index. (The volatilities of the value and broad indices were 25.2% and 22.8%, respectively.) But rebalancing paid off. The Russell Fundamental EM Large Company earned 16.3% annualized with 23.1% annualized volatility. Thus, the Fundamental Index strategy modestly outperformed the broad market benchmark, even though the emerging markets value style underperformed during this period.

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