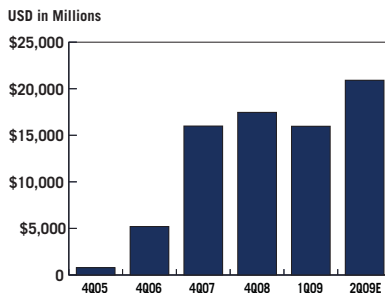


Fundamentals



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RAFI® Managed Assets*



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



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A CRISIS REVIEW OF NEGATIVE ALPHA

The past 18 months have been a fabulous learning experience for us all. Perhaps nowhere was the lesson more poignant and revealing than in the pursuit of alpha. As we described in the March 2009 issue of *Fundamentals*,¹ 2008 was the worst year ever for active management, citing the poor performance of hedge funds and even long-only strategies relative to passive benchmarks. Virtually all who reached for alpha were bitten by its evil twin, downside surprise, often highly correlated with the opacity and complexity of the strategy.

But what about the alternative approach—avoiding negative alpha... how did it perform? Did a strictly followed regiment of purging portfolio slippage lead to materially better results during the crisis of 2008 and the fledgling recovery of 2009? The answer is emphatically “Yes!” The past 18 months also reveals just how damaging negative alpha can be within a single asset class like equities, where the capitalization-weighted construction methodology inherently ensures a return drag.

Negative Alpha Refresher

Negative alpha is simply the slippage investors unnecessarily incur in the execution of their investment strategies. In institutional circles, it is often labeled implementation shortfall and it centers on allowing critical, returns-detracting mistakes. Three key contributors to negative alpha were reviewed in our October 2007 issue of *Fundamentals*:²

Equity Concentration. Most investors hold and continue to hold portfolios that are far too reliant on a sizable equity risk premium. With 50% or 60% invested in higher risk stocks, equity declines overwhelm bonds and alternatives in this supposedly “balanced” construct. For this reason, the classic 60/40 mix has more than 0.97 correlation with the S&P 500 Index. But, there are plenty of alternatives to mainstream stocks and bonds. Commodity futures, emerging market local currency bonds, bank loans, high-yield bonds, and REITs all have unique return drivers and will respond differently to various market environments. They aren’t always inherently *better* than mainstream stocks and bonds. But, ignoring them leaves us with an inherently *worse* investment management opportunity set. Shouldn’t we employ these, selectively and opportunistically, in our asset allocation choices *on a scale large enough to matter?*

Failing to Rebalance. Rebalancing is an underrated activity that forces investors to buy low and sell high. When mean reversion occurs, the portfolio is already positioned to take advantage.³ Despite ample evidence of its effectiveness, many investors neglect this simple exercise. They fall prey to the “it’s different this time” mantra and so they “blink” when the time comes to sell their best performers and buy their worst. Most investors also fail to rebalance *within* their stock and bond holdings.

Chasing Winners. Significant temptation exists to invest in whatever has been “working” in the recent past. The gravitational pull of the peer group only exacerbates this trend. But past performance—in managers or asset classes—does not predict future results. The mean reversion that makes rebalancing profitable makes chasing winners unprofitable.

All three of these negative alpha sources are easy to address and eliminate; indeed, eliminating negative alpha is considerably easier than finding, isolating, and employing sources of positive alpha. Which brings us to the key question: Did avoiding these three sources of negative alpha help in the crisis of 2008 and the unfolding recovery of 2009?

Negative Alpha in 2008/2009

In 2008 and the first six months of 2009, the classic 60% S&P 500 and 40% BarCap Aggregate Bond Index blend on a buy and hold basis (i.e., no rebalancing) returned a cumulative -19.7% (see **Figure 1**). Sure, bonds were positive but their lower volatility meant they provided only a token cushion to the equity meltdown. A portfolio bent on eliminating negative alpha would have far less equity concentration, automatically rebalance, and avoid chasing the best performing asset classes.

In contrast, the 16-asset-class portfolio described in previous issues of *Fundamentals*,⁴ which has far less concentration to equities, fared considerably better generating a cumulative return of -13.4% on a buy and hold basis. This result is 630 bps better than the 60/40 portfolio return! An overreliance on

equities was a sizeable form of negative alpha... despite the scale of the recovery since March!⁵

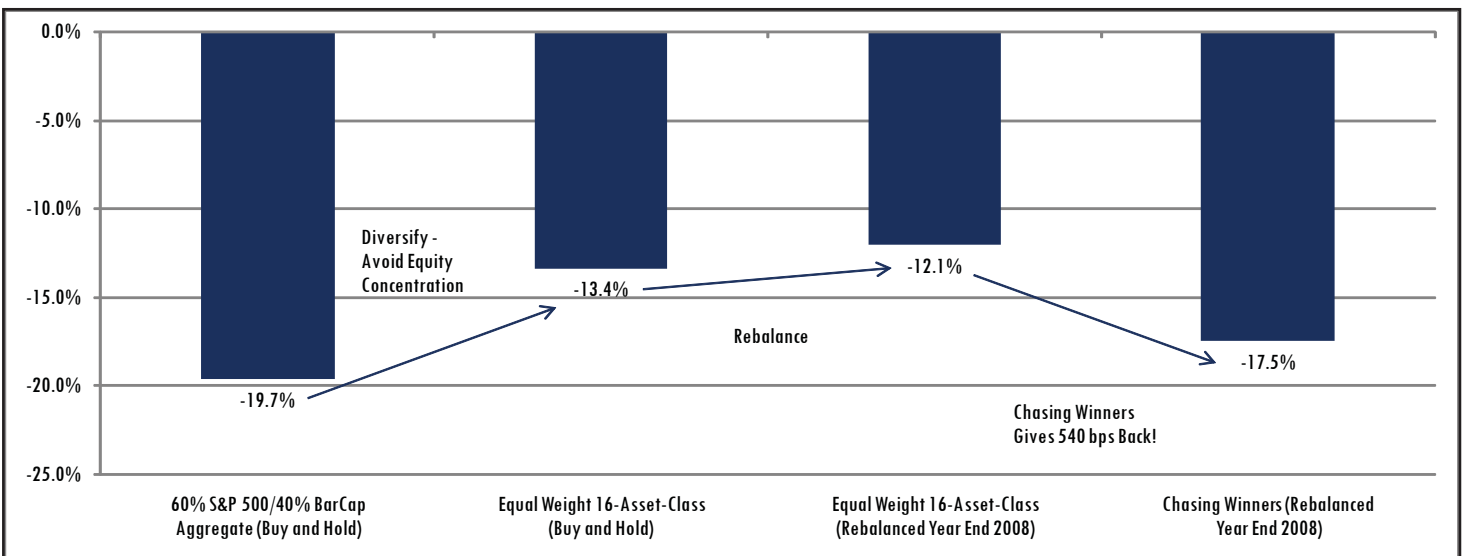
What about rebalancing? If we rebalanced once at calendar year-end 2008 (a common and simple rebalancing rule), the 16-asset-class portfolio’s return would have improved to -12.1%, a premium of 130 bps over the buy-and-hold portfolio. Of course, risky markets have rebounded since March, but don’t forget that in the first two months of 2009, the rebalancer’s staying power would have been severely tested as we went into Take No Prisoners Redux.

So far, the first two pillars of negative alpha “saved” investors 7.5%! At mid-year 2009, how many investors were down only 12% from year-end 2007? *And these are simple ideas to embrace.*

But the investor also needs to be disciplined to avoid chasing winners. How many of us, in managing our 401(k) assets, begin by asking a simple pair of questions: Which of the investments available to me have been awful over the past one, three, and five years? Are any of these now bargains? Intuitively, we *know* this is a good way to invest. But, most of us pursue the opposite—and flawed—approach: Which of the investments available to me have been wonderful over the past one, three, and five years? Are there reasons to buy more of these?

Suppose an investor addressed the first two sources of negative alpha—she adopted the 16-asset portfolio approach in the beginning of 2008 and rebalanced at year-end 2008. But, in an effort to boost returns, she eliminated the two worst performing assets over the previous five years in the 16-asset-class mix (short-term bonds and core bonds) and doubled up on the two best

Figure 1. Eliminating Negative Alpha, January 2008–June 2009



Source: Research Affiliates, based on data from Morningstar Encorr.

performing categories (emerging markets equities and global ex-U.S. stocks). Amazingly, this Chasing Winners portfolio would have lost 540 bps relative to our simple 16-asset-class portfolio with rebalancing. *Almost the entire benefit of rebalancing and broad diversification are wiped out!*

Negative Alpha within Equities

Index funds are a wonderful way to avoid the alpha-chasing game—a contest which assuredly produces more losers than winners. But the capitalization-weighted construction methodology has problems of its own, *directly linked to the three sources we just described*. It chases winners, allocating more money to any asset that's soaring. It never rebalances except at the bottom of the list where it replaces the worst performers with those that have appreciated enough to graduate to "large cap": selling low and buying high! It, therefore, produces a negative alpha⁶ relative to its opportunity set. With no rebalancing mechanism, with a focus on whatever has risen most in price, cap-weighted indexes can become concentrated, forgoing the diversification that investors should seek in broad-based market proxies.

The Fundamental Index® strategy ties portfolio weights to the economic scale of the company rather than its price. With this anchor, it can effectively rebalance, avoid chasing winners, and bypass the effects of bubbles on portfolio weights. It contratrades against the market's most extreme bets, whether those bets are the tech bubble of 2000 or the finance anti-bubble of 2009. It provides a solution to the negative alpha embedded in traditional indexes. So how did avoiding the negative alpha of capitalization weighting in global equities play out in the past 18 months?

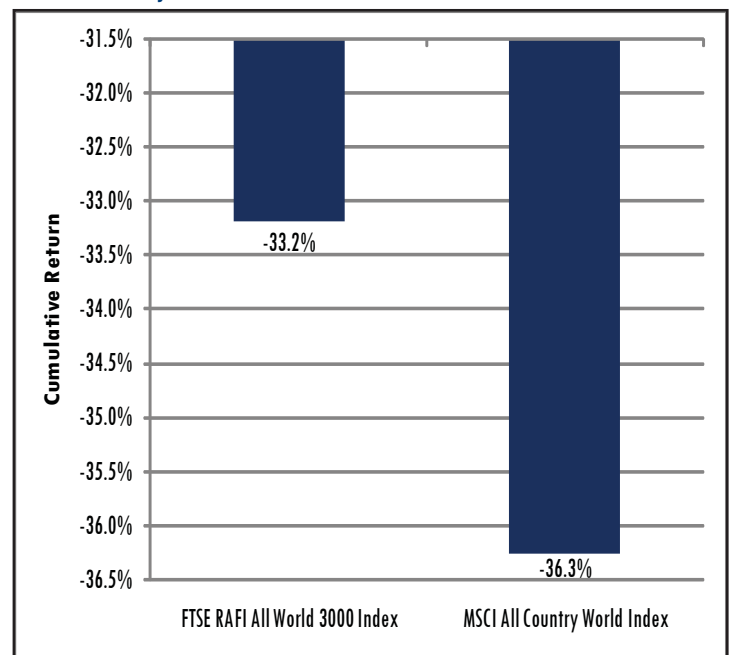
Figure 2 displays the cumulative returns of a Global All Country Fundamental Index (FTSE RAFI All World 3000 Index) versus a comparable cap-weighted index (MSCI All Country World Index). Although both indexes produced dreadful total returns consistent with the severity of the crisis, the Fundamental Index approach

produced an excess return of 3.1%. In an environment that saw negative excess returns for many alpha seekers, a focus on negative alpha within equities was a rare and welcome source of positive value add during this stretch. Was this due to the much-vaunted value bias of the Fundamental Index portfolios? Not by any classical definition of value investing: the value indexes were savaged relative to the growth indexes, both in the United States and abroad, over this 18-month span.

Conclusion

The great "alpha letdown" of 2008 seared a lasting memory into the psyches of all investors. The next decade may well see a resulting trend toward simplicity and transparency. In this back-to-basics revolution, eliminating negative alpha should rise to the top of investors' "to-do" lists, both at the total portfolio level and within equities, through better-structured passive and simple enhanced products.

Figure 2. Negative "Alpha" Existed in Cap Weighted Equities During Crisis, January 2008–June 2009



Source: Research Affiliates, based on data from Bloomberg.

Endnotes

1 "2008—The Worst Year Ever For Active Management?" *Fundamentals*, March 2009 (http://researchaffiliates.com/ideas/pdf/Fundamentals_200903.pdf)

2 "Avoiding Negative Alpha," *Fundamentals*, October 2007 (http://researchaffiliates.com/ideas/pdf/Fundamentals_200710.pdf)

3 Some have questioned whether mean reversion still holds in a new world order. We believe it does, so long as one has the right mean. For more, see Robert Arnott, "Reversion to the Mean, But What Mean?" *Financial Times*, June 28, 2009 (http://www.ft.com/cms/s/0/e28ff392-6279-11d0-b1c9-00144feabdc0,dwp_uuid=ff795148-f1db-11dc-9b45-0000779fd2ac.html)

4. The 16 asset classes include mainstream stocks and bonds, alternative bonds, and real return assets. The Equally weighted portfolio is comprised of the following indexes: ML US Corporate & Government 1-3 Year; LB US Aggregate Bond TR; LB US Treasury Long TR; LB US Long Credit TR; LB US Corporate High Yield TR; Credit Suisse Leveraged Loan; JPM EMBI + Composite TR; JPM ELMI + Composite; ML Convertible Bonds All Qualities; LB Global Inflation Linked US TIPS TR; FTSE NAREIT All REITs TR; DJ AIG Commodity TR; S&P 500 TR; MSCI Emerging Markets TR; MSCI EAFE TR; Russell 2000 TR.

5. We would note further that this 630 bps premium occurred despite a huge ramp up in correlations in the 16-asset-class portfolio as well as three, four, and six sigma downside returns in some of the niche asset classes.

6. To be sure, we're using "alpha" in an unconventional way. Classical CAPM alpha is always measured against the cap-weighted market. So, a market-value-weighted index fund *cannot* have a meaningful alpha, positive or negative. But, an index fund can have an alpha relative to its *opportunity set*. Capitalization weighting *always* overweights companies that are above their eventual fair value relative to their fair value weight, and underweights the undervalued companies relative to their fair value weight. Any weighting scheme (e.g., the Fundamental Index concept) that doesn't link the weight to the error in the price need not suffer that drag. Equal weighting and fundamental weighting represent an opportunity set that capitalization weighting usually lags.

Performance Update

TOTAL RETURN AS OF 7/31/09	BLOOMBERG TICKER	YTD	12 MONTH	ANNUALIZED 3 YEAR	ANNUALIZED 5 YEAR	ANNUALIZED 10 YEAR	ANNUALIZED 10 YEAR VOLATILITY
FTSE RAFI® 1000 Index ^A	FR10XTR	22.47%	-13.18%	-5.23%	1.69%	3.47%	17.50%
S&P 500 ^B	SPTR	10.97%	-19.96%	-6.16%	-0.14%	-1.19%	16.19%
Russell 1000 ^C	RUT0INTR	12.28%	-20.17%	-5.99%	0.32%	-0.72%	16.43%
FTSE RAFI® US 1500 Index ^D	FR15USTR	30.47%	-11.26%	-3.13%	3.97%	9.27%	21.90%
Russell 2000 ^E	RU20INTR	12.53%	-20.72%	-6.05%	1.52%	3.61%	21.58%
FTSE RAFI® Developed ex US 1000 Index ^F	FRX1XTR	29.05%	-15.13%	-1.72%	8.05%	6.08%	18.91%
MSCI EAFE ^G	GDDUEAFE	18.33%	-22.16%	-5.09%	5.29%	2.16%	18.00%
FTSE All World Series Developed ex US ^H	FTSDXUS	21.05%	-21.31%	-3.93%	6.36%	3.13%	18.22%
FTSE RAFI® Developed ex US Mid Small ^I	FRSDXUS	33.61%	-9.90%	-3.28%	6.51%	NA	NA
MSCI EAFE Small ^J	MCUDEAFE	28.36%	-21.10%	-8.86%	2.94%	NA	NA
FTSE RAFI® Emerging Markets ^K	TFREMU	54.52%	-10.77%	12.30%	24.38%	NA	NA
MSCI Emerging Markets ^L	GDUEEGF	51.64%	-16.57%	6.49%	18.00%	NA	NA
FTSE RAFI® Canada ^M	FRCANTR	35.58%	-1.40%	4.56%	9.92%	NA	NA
S&P/TSX 60 ^N	TX60AR	23.16%	-16.70%	1.88%	9.31%	NA	NA
FTSE RAFI® Australia Index ^O	FRAUSTR	19.13%	-2.76%	0.96%	8.46%	8.98%	12.35%
S&P/ASX 200 Index ^P	ASA51	17.06%	-10.20%	-0.96%	8.34%	7.98%	13.02%
FTSE RAFI® Japan ^Q	FRJPNTR	16.39%	-22.99%	-11.32%	0.39%	NA	NA
MSCI Japan ^R	GDDLJN	12.43%	-26.80%	-14.06%	-1.58%	NA	NA
FTSE RAFI® UK Index ^S	FRGBRTR	13.89%	-3.89%	-3.83%	5.26%	NA	NA
MSCI UK ^T	GDDUUK	7.15%	-10.39%	-4.32%	4.48%	NA	NA

Definition of Indices: (A) The FTSE RAFI® 1000 comprises the 1000 largest companies selected and weighted using our Fundamental Index methodology; (B) The S&P 500 Index is an unmanaged market index that focuses on the large-cap segment of the U.S. equities market; (C) 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; (D) The FTSE RAFI® 1500 comprises the 1001st to 1500th largest companies selected and weighted using our Fundamental Index methodology; (E) The Russell 2000 is a market-capitalization weighted benchmark index made up of the 2,000 smallest U.S. companies in the Russell 3000; (F) The FTSE RAFI® Developed ex US 1000 Index comprises the largest 1000 non US-listed companies by fundamental value, selected from the constituents of the FTSE Developed ex US Index; (G) MSCI EAFE (Morgan Stanley Capital International Europe, Australasia, Far East) is an unmanaged index of issuers in countries of Europe, Australia, and the Far East represented in U.S. dollars; and (H) The FTSE All World ex-US Index comprises Large and Mid-Cap stocks providing coverage of Developed and Emerging Markets excluding the United States. It is not possible to invest directly in any of the indexes above; (I) The FTSE RAFI® Developed ex US Mid Small Index tracks the performance of small- and mid-cap equities of companies domiciled in developed international markets (excluding the United States), selected based on the following four fundamental measures of firm size: book value, cash flow, sales, and dividends. The equities with the highest fundamental strength are weighted according to their fundamental scores. The Fundamentals Weighted® portfolio is rebalanced and reconstituted annually. Performance represents price return only; (J) The MSCI EAFE Small Cap Index targets 40% of the eligible small-cap universe (companies with market capitalization ranging from US\$200 to US\$1,500 million) in each industry group of each country in the MSCI EAFI Index; (K) The FTSE RAFI® Emerging Markets Index comprises the largest 350 companies selected and weighted using the Fundamental Index® methodology; (L) The MSCI Emerging Markets Index is an unmanaged, free-float-adjusted cap-weighted index designed to measure equity market performance of emerging markets; (M) The FTSE RAFI® Canada Index comprises the Canadian stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (N) 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; (O) The FTSE RAFI® Australia Index comprises the Australian stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (P) The S&P/ASX 200 Index, representing approximately 78% of the Australian equity market, is a free-float-adjusted, cap-weighted index; (Q) The FTSE RAFI® Japan Index comprises the Japanese stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (R) 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; (S) The FTSE RAFI® UK Index comprises the U.K. stocks represented among the constituents of the FTSE RAFI® Global ex US 1000 Index, which in turn comprises the 1,000 non-U.S.-listed companies with the largest fundamental value, selected from the constituents of the FTSE Developed ex US Index; (T) 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

Source: All index returns are calculated using Total Return data from Bloomberg except for the FTSE RAFI Developed ex US Mid Small (FRSDXUS) and the MSCI EAFE Small (MCUDEAFE) which uses price return data.

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