

## Revisiting Core Principles

The FTSE RAFI Index series utilizes fundamental measures of company size (sales, cash flow, dividends, and book value) as a rebalancing anchor to trade against the constantly shifting expectations of the market.

This approach results in overweights to out-of-favor securities, which are often undervalued, and underweights to popular securities, which are often overvalued.

Over the short term, these exposures can cause relative performance to vary, but this simple, disciplined approach has historically outperformed the cap-weighted benchmark over the long-term.

As a rebalancing strategy that trades against recent winners, the Fundamental Index™ methodology will often face performance headwinds during periods of trending prices, sustained momentum, or extreme value underperformance - and benefit from performance tailwinds during periods of security mean reversion or value outperformance.

The FTSE RAFI US 3000 Index is comprised of the largest 3000 US-listed companies by fundamental score.

## Performance

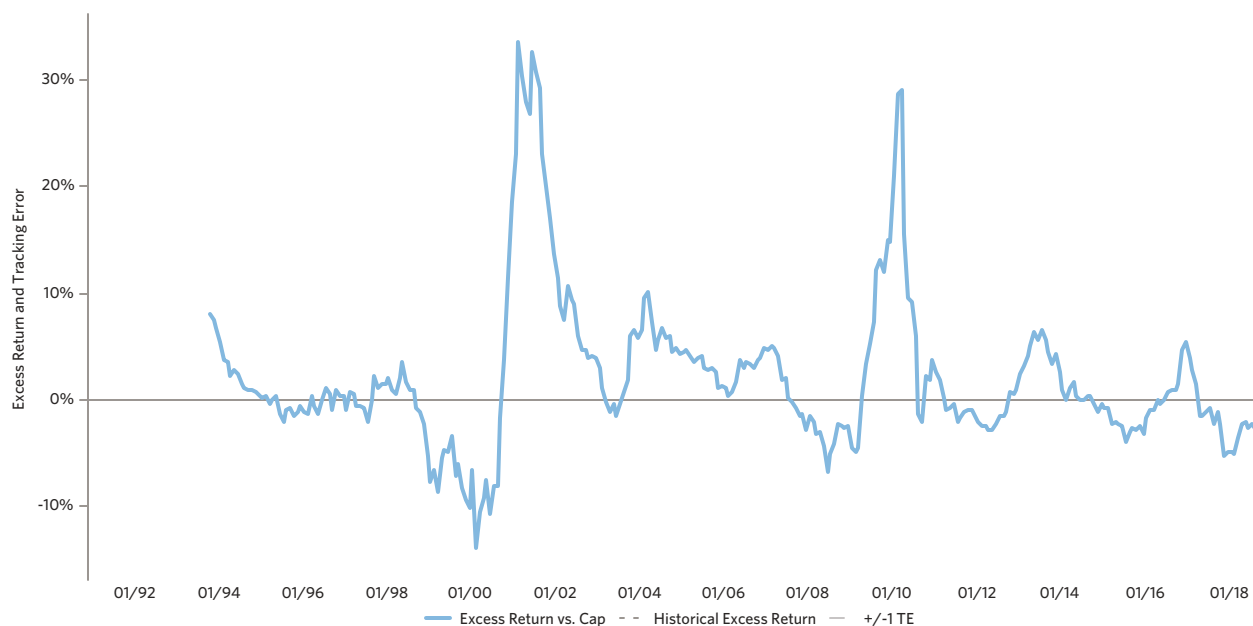
**Exhibit 1:**  
Performance Table

**Exhibit 2:**  
Rolling 1-Year Excess Returns

**Exhibit 1: Performance Table<sup>i</sup>**

	QTD	1-Yr	3-Yr	5-Yr	10-Yr	ITD*
FTSE RAFI™ US 3000 Index	5.8%	13.6%	15.6%	12.0%	12.7%	8.8%
Russell 3000 Index	7.1%	17.6%	17.1%	13.5%	12.0%	8.4%
Value Added	-1.3%	-4.0%	-1.4%	-1.4%	0.7%	0.3%
MSCI US Broad Market Index	7.1%	17.6%	17.1%	13.5%	12.1%	8.6%
Portfolio Standard Deviation		8.5%	9.6%	9.8%	17.1%	17.2%
Benchmark Standard Deviation		8.7%	9.3%	9.7%	14.9%	15.2%
Tracking Error		2.4%	3.0%	2.6%	4.6%	4.6%

**Exhibit 2: Rolling 1-Year Excess Returns<sup>ii</sup>**



i. Exhibit 1.  
Performance derived from FactSet. All returns are total returns in USD. All returns greater than one year are annualized. Standard deviation and tracking error require a minimum of 1 year return history.  
\*Inception to Date (ITD) returns are calculated starting the first full month of returns following September 17, 2007.

ii. Exhibit 2.  
Performance derived from FactSet. All returns are total returns in USD. Rolling 1-year excess returns and tracking error are calculated starting January 31, 1990. If applicable, strategy returns prior to inception are simulated. Inception date is September 17, 2007.

## The Value Premium

The strategy invests broadly across the entire economy; however a byproduct of the strategy's rebalancing process is a value tilt.

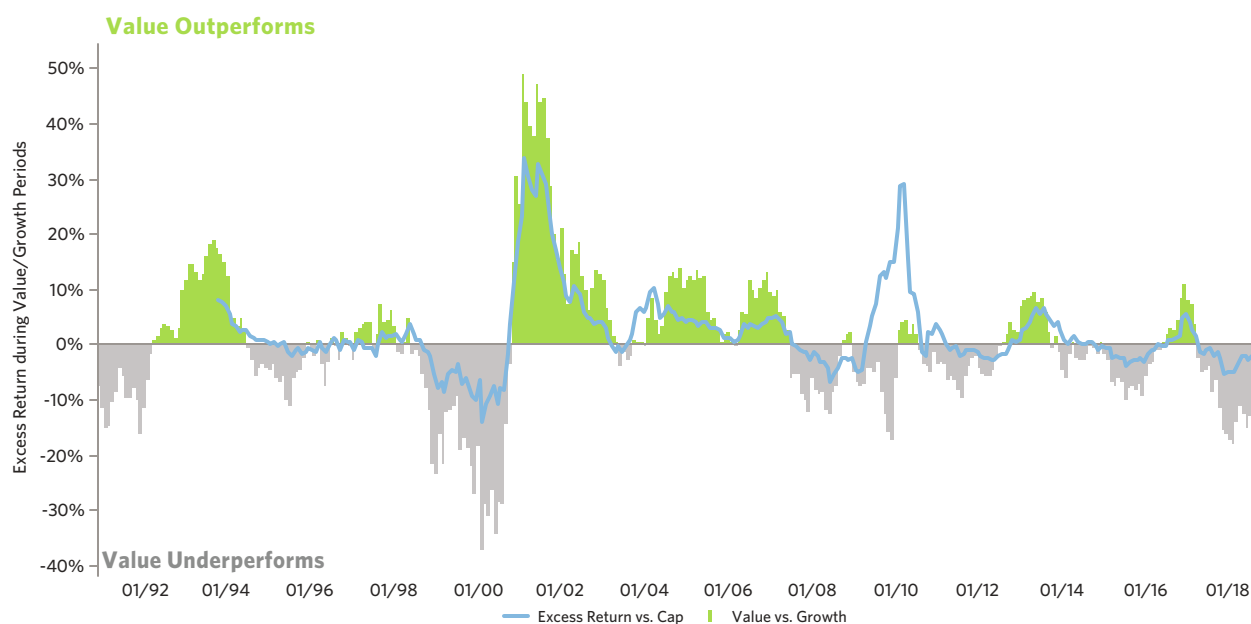
On a one-year rolling basis, the FTSE RAFI™ US 3000 Index outperformed 79% of the time when value won and 25% of the time when growth won.

Generally, excess returns were achieved by taking advantage of mean reversion in stock prices which can sometimes take several years to run its course.

The FTSE RAFI™ US 3000 Index delivered consistent outperformance over full market cycles, with positive excess returns in 56% of rolling 1-year periods, 71% of rolling 3-year periods, and 77% of rolling 5-year periods.

### Exhibit 3: Rolling 1-Year Excess Returns

**Exhibit 3: Rolling 1-Year Excess Returns<sup>i</sup>**



<sup>i</sup> Exhibit 3.  
FTSE RAFI™ US 3000 Index rolling 1-year excess returns are measured against Russell 3000 Index. Value / Growth periods measured by rolling 1-year excess returns of Russell 3000 Value vs. Russell 3000 Growth. Calculation starts on January 31, 1990. Strategy returns prior to inception are simulated. Strategy inception is September 17, 2007.

## Portfolio Characteristics

The FTSE RAFI™ US 3000 Index is attractively positioned relative to the cap-weighted benchmark.

Exhibit 4:  
Portfolio Characteristics

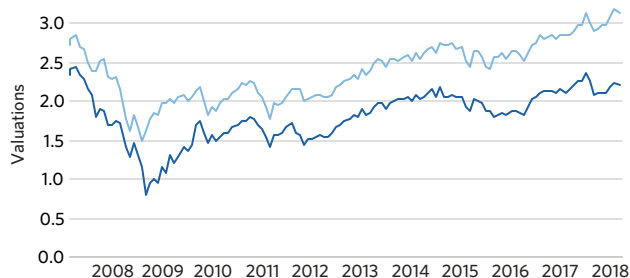
Exhibit 5:  
Historical Portfolio Characteristics

## Exhibit 4: Portfolio Characteristics<sup>i</sup>

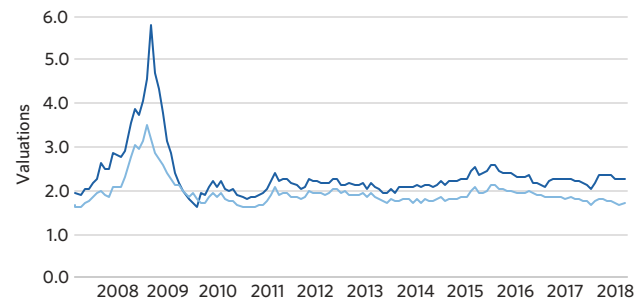
	Number of Holdings	Active Share	Price to Sales	Price to Cash Flow	Price to Book	Div. Yield	Market Cap. (Billions)	Sharpe Ratio*	Info. Ratio*	Tracking Error*
FTSE RAFI™ US 3000 Index	2944	27.3	1.2	9.9	2.2	2.3%	148	0.48	0.07	4.6%
Russell 3000	3024	--	2.2	13.9	3.1	1.7%	199	0.52	--	--

## Exhibit 5: Historical Portfolio Characteristics<sup>ii</sup>

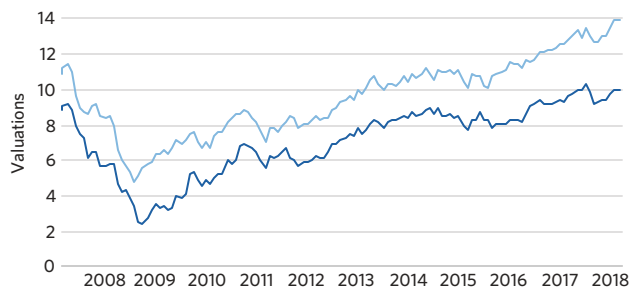
**Price to Book**



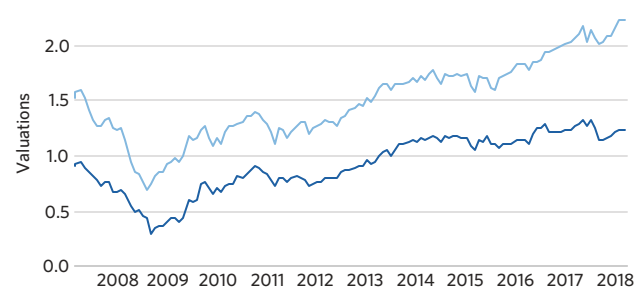
**Dividend Yield (%)**



**Price to Cash Flow**



**Price to Sales**



— FTSE RAFI™ US 3000 Index (Left) — Russell 3000 (Left)

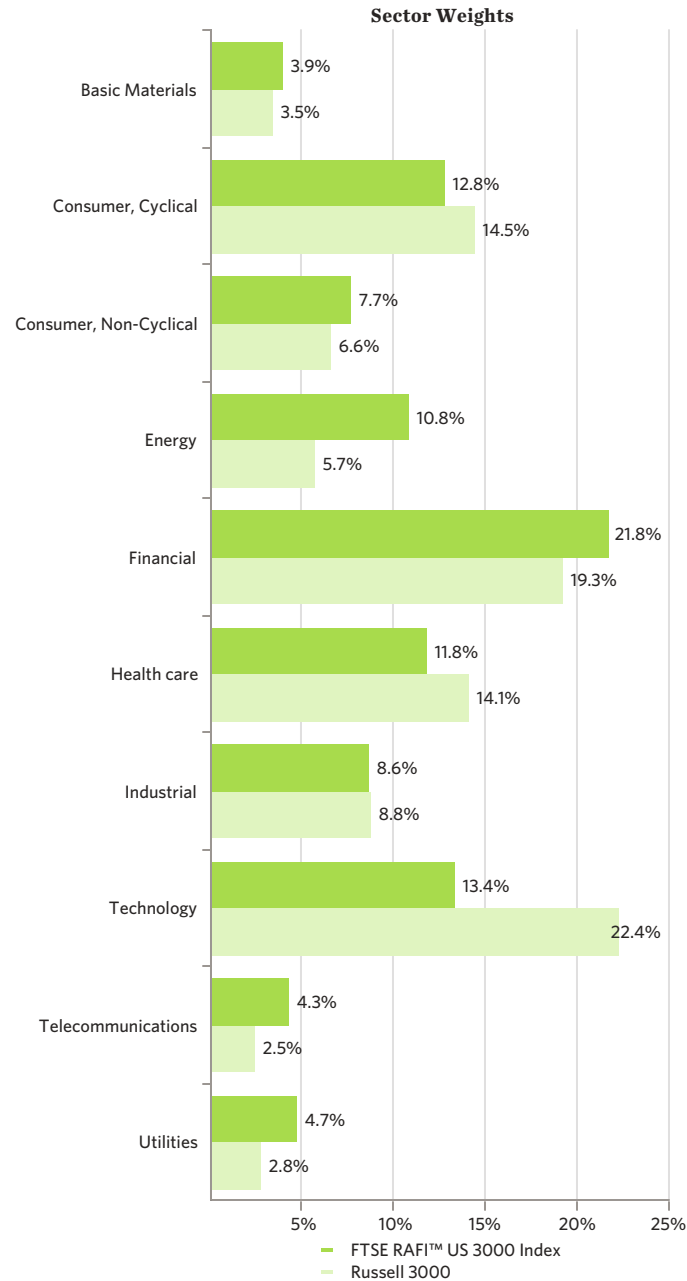
i. Exhibit 4.  
Portfolio characteristics data derived from FactSet.  
\*Sharpe Ratio, Information Ratio, and Tracking Error are calculated starting the first full month of returns following September 17, 2007. Minimum 1-year return history. The 3-mo US Treasury Bill return is used as a proxy for risk-free rate. If applicable, strategy returns prior to inception are simulated. Inception date is September 17, 2007.

ii. Exhibit 5.  
Portfolio characteristics derived from FactSet. Data prior to strategy inception is simulated. Strategy inception is September 17, 2007.

## Current Position

### Exhibit 6: Sector Weights

Exhibit 6: Sector Weights<sup>i</sup>



<sup>i</sup> Exhibit 6.  
Portfolio characteristics data derived from FactSet.

## Current Position

Exhibit 7:  
Top 10 Holdings

Exhibit 8:  
Top Over/Underweights

### Exhibit 7: Top 10 Holdings<sup>i</sup>

FTSE RAFI™ US 3000 Index vs. Russell 3000 Index					
Index	Weights	1-Yr Perf.	Benchmark	Weights	1-Yr Perf.
Apple	2.7%	49.5%	Apple	3.7%	49.5%
Exxon Mobil	2.6%	7.6%	Microsoft	2.9%	57.6%
Chevron	1.8%	7.9%	Amazon	2.7%	109.4%
Berkshire Hathaway	1.7%	16.7%	Alphabet	2.4%	25.4%
AT&T	1.7%	-9.1%	Berkshire Hathaway	1.4%	16.9%
JPMorgan Chase	1.6%	20.9%	Facebook, Inc. Class A	1.3%	-2.5%
Microsoft	1.5%	57.6%	JPMorgan Chase	1.3%	20.9%
Verizon	1.3%	13.3%	Johnson & Johnson	1.3%	9.6%
Wells Fargo	1.2%	-0.4%	Exxon Mobil	1.2%	7.6%
Johnson & Johnson	1.1%	9.6%	Bank of America	0.9%	17.7%

### Exhibit 8: Top Over/Underweights<sup>i</sup>

FTSE RAFI™ US 3000 Index vs. Russell 3000 Index					
Top Overweights	Active Weights	1-Yr Total Effect	Top Underweights	Active Weights	1-Yr Total Effect
Exxon Mobil	1.4%	-0.1%	Amazon	-2.3%	-1.0%
Chevron	1.0%	-0.1%	Alphabet	-1.5%	-0.1%
AT&T	0.9%	-0.2%	Microsoft	-1.4%	-0.3%
Verizon	0.6%	0.0%	Facebook, Inc. Class A	-1.1%	0.2%
General Electric	0.6%	-0.3%	Apple	-1.0%	-0.3%
Wells Fargo	0.4%	-0.1%	Visa	-0.7%	-0.1%
Citigroup	0.4%	-0.1%	MasterCard	-0.6%	-0.2%
ConocoPhillips	0.4%	0.1%	NVIDIA Corporation	-0.5%	-0.1%
Ford Motor Company	0.4%	-0.2%	Netflix, Inc.	-0.5%	-0.2%
CVS Caremark	0.4%	0.0%	Adobe Inc.	-0.4%	-0.1%

<sup>i</sup> Exhibit 7, Exhibit 8.  
Portfolio characteristics and securities data derived from FactSet. 1-Yr Total Effect is calculated using a holdings based attribution, and measures the impact that a security had on relative performance. It is a function of the active weight of a company as well as that company's performance versus the overall benchmark.



## Attribution

### Exhibit 9: Sector Attribution

### Exhibit 9: Sector Attribution<sup>i</sup>

1-Quarter Ending 09/30/2018

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	3.94%	3.48%	-5.74%	-0.03%	0.03%	0.00%
Consumer, Cyclical	12.84%	14.46%	-3.62%	0.00%	-0.43%	-0.42%
Consumer, Non-Cyclical	7.74%	6.61%	-1.39%	-0.02%	0.03%	0.01%
Energy	10.84%	5.69%	-5.28%	-0.33%	0.12%	-0.20%
Financial	21.81%	19.26%	-3.46%	-0.08%	-0.06%	-0.15%
Health care	11.81%	14.11%	7.11%	-0.15%	0.09%	-0.06%
Industrial	8.64%	8.77%	-0.06%	0.00%	-0.25%	-0.25%
Technology	13.37%	22.35%	1.66%	-0.16%	-0.02%	-0.18%
Telecommunications	4.30%	2.50%	3.25%	0.06%	-0.01%	0.05%
Utilities	4.71%	2.77%	-4.49%	-0.09%	0.01%	-0.08%
Excess Return						-1.28%

1-Year Ending 09/30/2018

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	3.94%	3.48%	-11.15%	-0.06%	0.11%	0.05%
Consumer, Cyclical	12.84%	14.46%	-2.16%	-0.11%	-1.53%	-1.63%
Consumer, Non-Cyclical	7.74%	6.61%	-14.73%	-0.08%	-0.05%	-0.12%
Energy	10.84%	5.69%	2.47%	-0.10%	0.45%	0.35%
Financial	21.81%	19.26%	-9.44%	-0.19%	-0.48%	-0.66%
Health care	11.81%	14.11%	2.91%	-0.05%	0.06%	0.01%
Industrial	8.64%	8.77%	-9.59%	0.00%	-0.33%	-0.33%
Technology	13.37%	22.35%	10.26%	-1.07%	-0.28%	-1.34%
Telecommunications	4.30%	2.50%	-11.01%	-0.14%	-0.03%	-0.17%
Utilities	4.71%	2.77%	-12.25%	-0.24%	0.06%	-0.17%
Excess Return						-4.03%

i. Exhibit 9  
Portfolio characteristics and securities data derived from FactSet. The attributions have been normalized to match the return of the strategy, as presented in the performance table on page 2. Data prior to strategy inception is simulated. Strategy inception is September 17, 2007.

## Disclosures

Source: FactSet based on data from FTSE Russell.

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