

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 1000 Index is comprised of the largest 1000 US-listed companies by fundamental score.

Performance

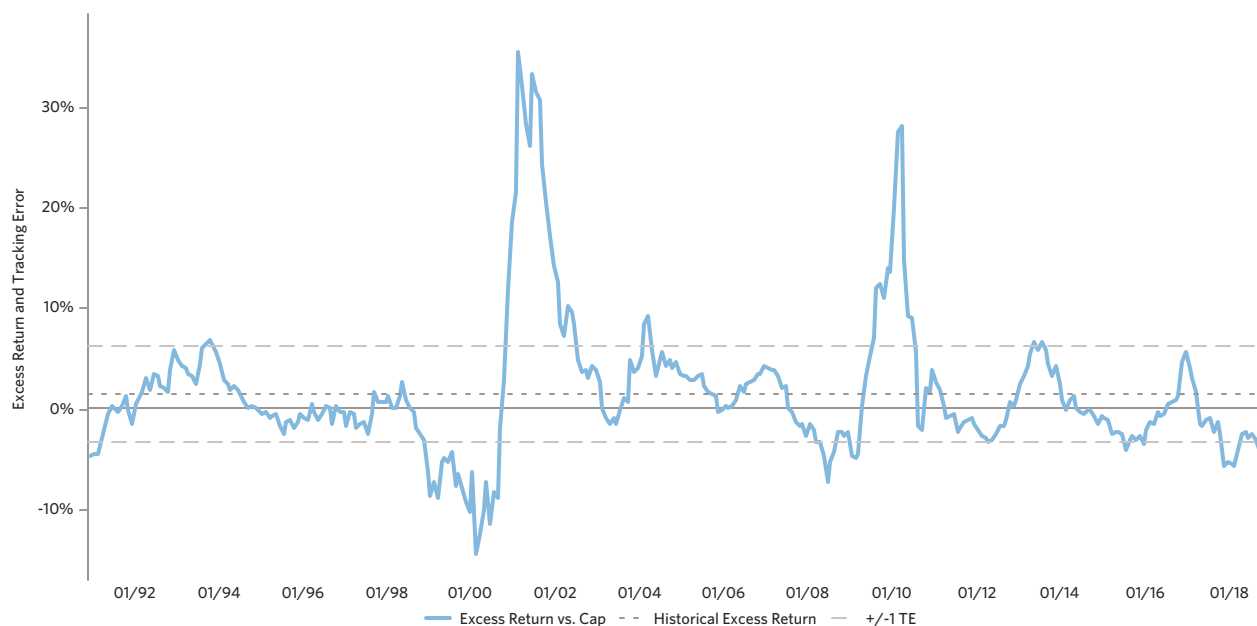
Exhibit 1:
Performance Table

Exhibit 2:
Rolling 1-Year Excess Returns

Exhibit 1: Performance Tableⁱ

	QTD	1-Yr	3-Yr	5-Yr	10-Yr	ITD*
FTSE RAFI™ US 1000 Index	6.1%	13.4%	15.5%	12.1%	12.6%	9.5%
Russell 1000 Index	7.4%	17.8%	17.1%	13.7%	12.1%	9.2%
Value Added	-1.3%	-4.3%	-1.6%	-1.6%	0.6%	0.4%
S&P 500 Index	7.7%	17.9%	17.3%	13.9%	12.0%	9.1%
Portfolio Standard Deviation		8.7%	9.5%	9.8%	16.8%	15.9%
Benchmark Standard Deviation		8.9%	9.2%	9.6%	14.6%	14.1%
Tracking Error		2.5%	3.1%	2.7%	4.7%	4.3%

Exhibit 2: Rolling 1-Year Excess Returnsⁱⁱ



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 November 28, 2005.

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 November 28, 2005.

The Value Premium

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

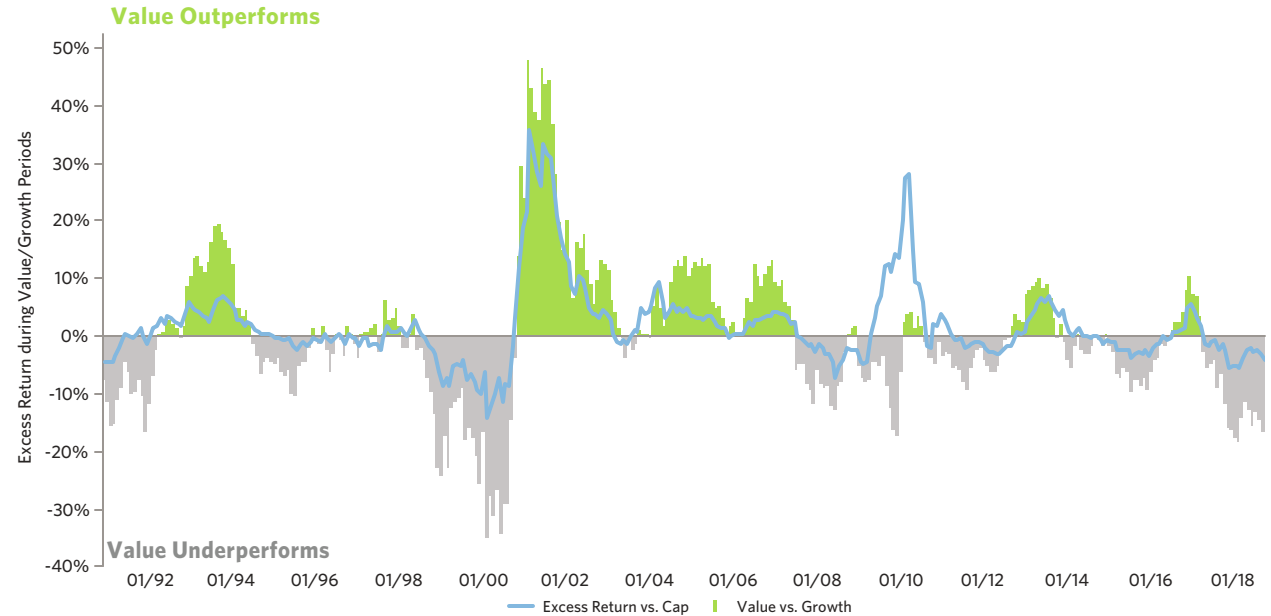
On a one-year rolling basis, the FTSE RAFI™ US 1000 Index outperformed 89% of the time when value won and 24% of the time when growth won.

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 1000 Index delivered consistent outperformance over full market cycles, with positive excess returns in 54% of rolling 1-year periods, 68% 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 Returnsⁱ



ⁱ Exhibit 3.
FTSE RAFI™ US 1000 Index rolling 1-year excess returns are measured against Russell 1000 Index. Value / Growth periods measured by rolling 1-year excess returns of Russell 1000 Value Index vs. Russell 1000 Growth. Calculation starts on January 31, 1990. Strategy returns prior to inception are simulated. Strategy inception is November 28, 2005.

Portfolio Characteristics

The FTSE RAFI™ US 1000 Index is attractively positioned relative to the cap-weighted benchmark.

[Exhibit 4:](#)
Portfolio Characteristics

[Exhibit 5:](#)
Historical Portfolio Characteristics

Exhibit 4: Portfolio Characteristicsⁱ

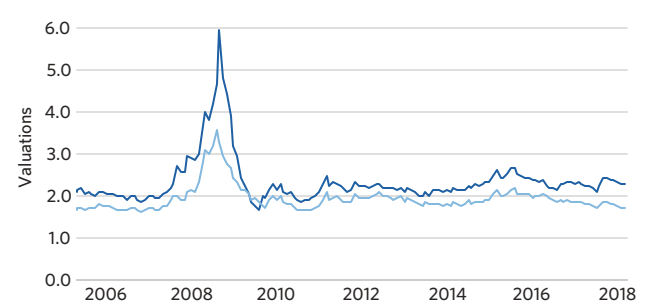
	Number of Holdings	Active Share	Price to Sales	Price to Cash Flow	Price to Book	Div. Yield	Market Cap. (Billions)	Sharpe Ratio*	Info. Ratio*	Tracking Error*
FTSE RAFI™ US 1000 Index	993	28.6	1.3	10.0	2.3	2.3%	160	0.53	0.08	4.3%
Russell 1000	984	--	2.4	14.2	3.3	1.7%	216	0.57	--	--

Exhibit 5: Historical Portfolio Characteristicsⁱⁱ

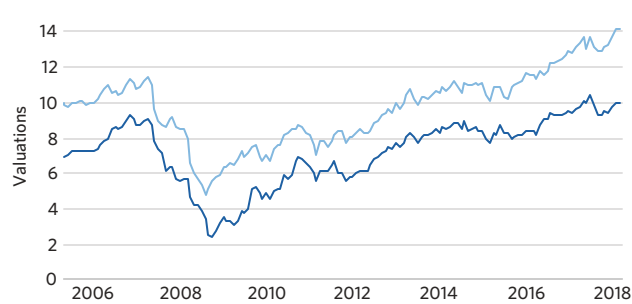
Price to Book



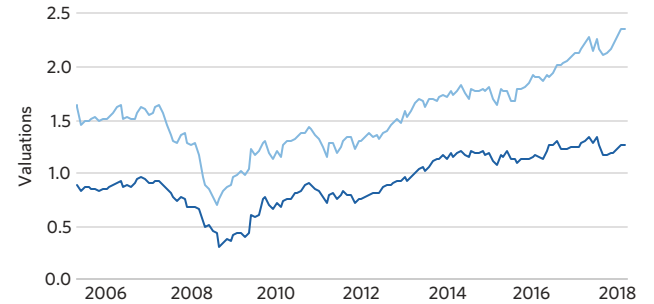
Dividend Yield (%)



Price to Cash Flow



Price to Sales



— FTSE RAFI™ US 1000 Index (Left) — Russell 1000 (Left)

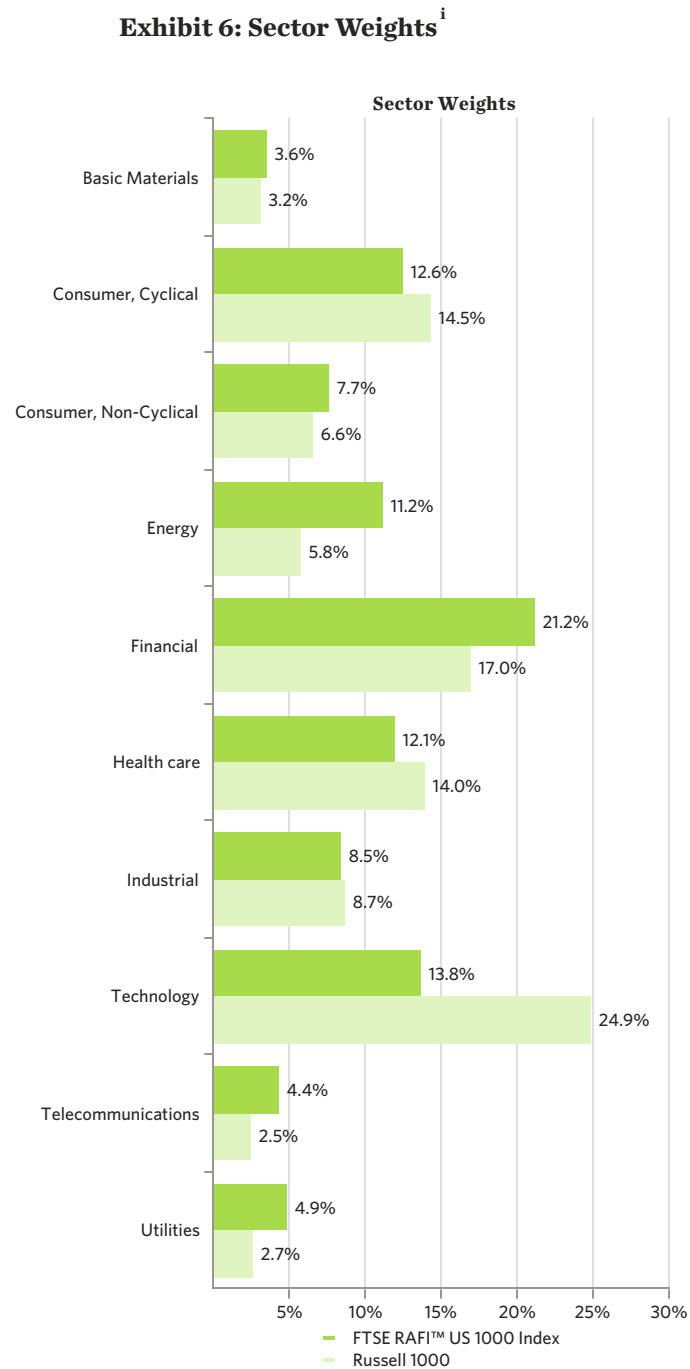
i. Exhibit 4.
Portfolio characteristics data derived from FactSet.
*Sharpe Ratio, Information Ratio, and Tracking Error are calculated starting the first full month of returns following November 28, 2005. Minimum 1-year return history. The 3-mo US Treasury Bill return is used as a proxy for risk-free rate. If applicable, strategy returns prior to inception are simulated. Inception date is November 28, 2005.

ii. Exhibit 5.
Portfolio characteristics derived from FactSet. Data prior to strategy inception is simulated. Strategy inception is November 28, 2005.



Current Position

Exhibit 6: Sector Weights



ⁱ. Exhibit 6.
Portfolio characteristics data derived from FactSet.



Current Position

Exhibit 7:
Top 10 Holdings

Exhibit 8:
Top Over/Underweights

Exhibit 7: Top 10 Holdingsⁱ

FTSE RAFI™ US 1000 Index vs. Russell 1000 Index					
Index	Weights	1-Yr Perf.	Benchmark	Weights	1-Yr Perf.
Apple	2.9%	49.5%	Apple	4.0%	49.5%
Exxon Mobil	2.8%	7.6%	Microsoft	3.2%	57.6%
Chevron	1.9%	7.9%	Amazon	3.0%	109.4%
Berkshire Hathaway	1.9%	16.7%	Alphabet	2.6%	25.4%
AT&T	1.8%	-9.1%	Berkshire Hathaway	1.5%	16.9%
JPMorgan Chase	1.7%	20.9%	Facebook, Inc. Class A	1.4%	-2.5%
Microsoft	1.6%	57.6%	JPMorgan Chase	1.4%	20.9%
Verizon	1.4%	13.3%	Johnson & Johnson	1.4%	9.6%
Wells Fargo	1.3%	-0.4%	Exxon Mobil	1.3%	7.6%
Johnson & Johnson	1.2%	9.6%	Bank of America	1.0%	17.7%

Exhibit 8: Top Over/Underweightsⁱ

FTSE RAFI™ US 1000 Index vs. Russell 1000 Index					
Top Overweights	Active Weights	1-Yr Total Effect	Top Underweights	Active Weights	1-Yr Total Effect
Exxon Mobil	1.4%	-0.1%	Amazon	-2.5%	-1.1%
Chevron	1.1%	-0.1%	Alphabet	-1.6%	-0.1%
AT&T	0.9%	-0.2%	Microsoft	-1.6%	-0.4%
Verizon	0.6%	0.0%	Facebook, Inc. Class A	-1.1%	0.3%
General Electric	0.6%	-0.3%	Apple	-1.1%	-0.3%
Wells Fargo	0.5%	-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 Systems Incorporated	-0.4%	-0.1%

ⁱ 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 Attributionⁱ

1-Quarter Ending 09/30/2018

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	3.59%	3.19%	-5.81%	-0.02%	0.04%	0.01%
Consumer, Cyclical	12.62%	14.47%	-3.80%	0.01%	-0.41%	-0.40%
Consumer, Non-Cyclical	7.69%	6.59%	-1.31%	-0.02%	0.03%	0.01%
Energy	11.24%	5.82%	-5.43%	-0.35%	0.12%	-0.23%
Financial	21.23%	17.02%	-3.59%	-0.17%	0.09%	-0.08%
Health care	12.09%	14.04%	7.15%	-0.13%	0.06%	-0.07%
Industrial	8.46%	8.72%	-0.01%	-0.01%	-0.23%	-0.24%
Technology	13.77%	24.87%	1.63%	-0.22%	-0.05%	-0.27%
Telecommunications	4.39%	2.54%	2.63%	0.07%	-0.05%	0.02%
Utilities	4.93%	2.74%	-4.78%	-0.11%	0.01%	-0.10%
Excess Return						-1.34%

1-Year Ending 09/30/2018

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	3.59%	3.19%	-11.04%	-0.05%	0.13%	0.07%
Consumer, Cyclical	12.62%	14.47%	-2.86%	-0.15%	-1.58%	-1.72%
Consumer, Non-Cyclical	7.69%	6.59%	-16.07%	-0.07%	-0.05%	-0.12%
Energy	11.24%	5.82%	2.30%	-0.11%	0.46%	0.34%
Financial	21.23%	17.02%	-10.23%	-0.40%	-0.06%	-0.46%
Health care	12.09%	14.04%	2.36%	-0.03%	0.11%	0.09%
Industrial	8.46%	8.72%	-10.00%	0.01%	-0.33%	-0.32%
Technology	13.77%	24.87%	10.99%	-1.46%	-0.35%	-1.80%
Telecommunications	4.39%	2.54%	-12.32%	-0.15%	-0.06%	-0.22%
Utilities	4.93%	2.74%	-12.46%	-0.28%	0.08%	-0.20%
Excess Return						-4.34%

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 November 28, 2005.

Disclosures

Source: FactSet based on data from FTSE Russell.

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Prior to 11/1/2016, the 1-yr performance values reported in the Top 10 Holdings exhibit and the Top Over/Underweights exhibit were incorrect. The calculation has been modified to report the appropriate values moving forward.

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