

## Revisiting Core Principles

The Russell RAFI™ Index series utilizes fundamental measures of company size (adjusted sales, retained cash flow, and dividends plus buybacks) 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 Russell RAFI™ US Large Company Index is comprised of US companies in the top 87.5% by fundamental weight at the time of reconstitution.

## Performance

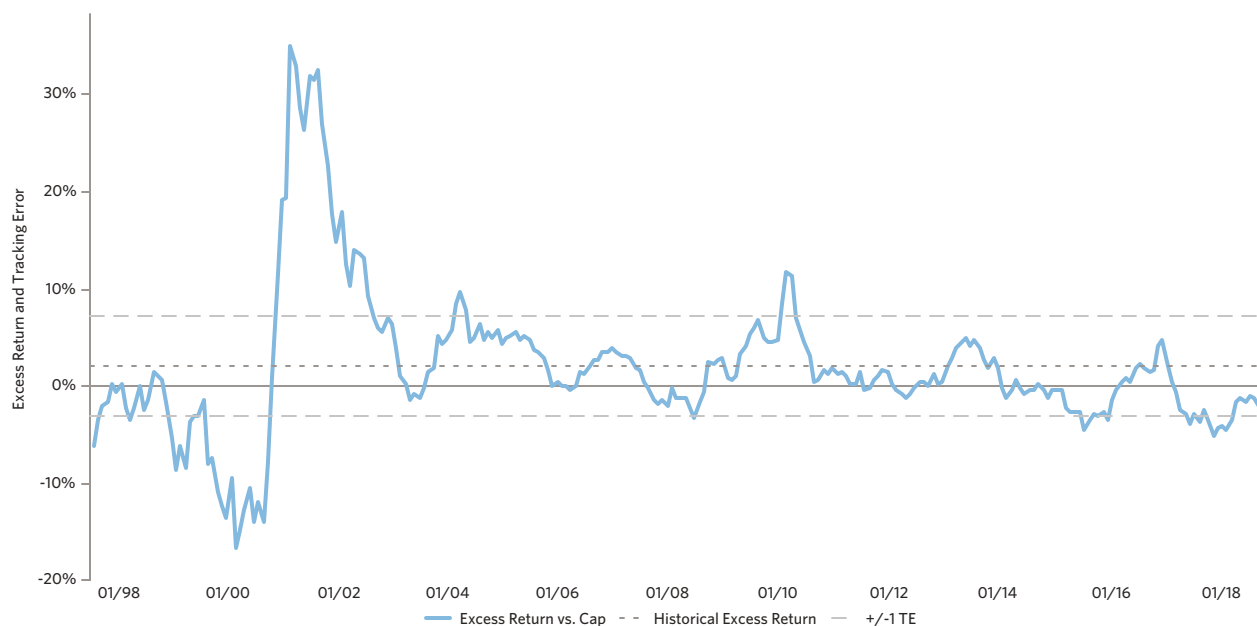
**Exhibit 1:**  
Performance Table

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

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

	QTD	1-Yr	3-Yr	5-Yr	10-Yr	ITD*
Russell RAFI™ US Large Co Index	6.9%	15.5%	16.0%	12.4%	12.4%	12.6%
Russell 1000 Index	7.4%	17.8%	17.1%	13.7%	12.1%	13.2%
Value Added	-0.5%	-2.3%	-1.1%	-1.3%	0.3%	-0.6%
S&P 500 Index	7.7%	17.9%	17.3%	13.9%	12.0%	13.3%
Portfolio Standard Deviation		8.9%	9.3%	9.6%	15.4%	10.8%
Benchmark Standard Deviation		8.9%	9.2%	9.6%	14.6%	10.8%
Tracking Error		2.6%	2.8%	2.5%	2.6%	2.2%

**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 February 24, 2011.

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 August 31, 1996. If applicable, strategy returns prior to inception are simulated. Inception date is February 24, 2011.

## The Value Premium

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

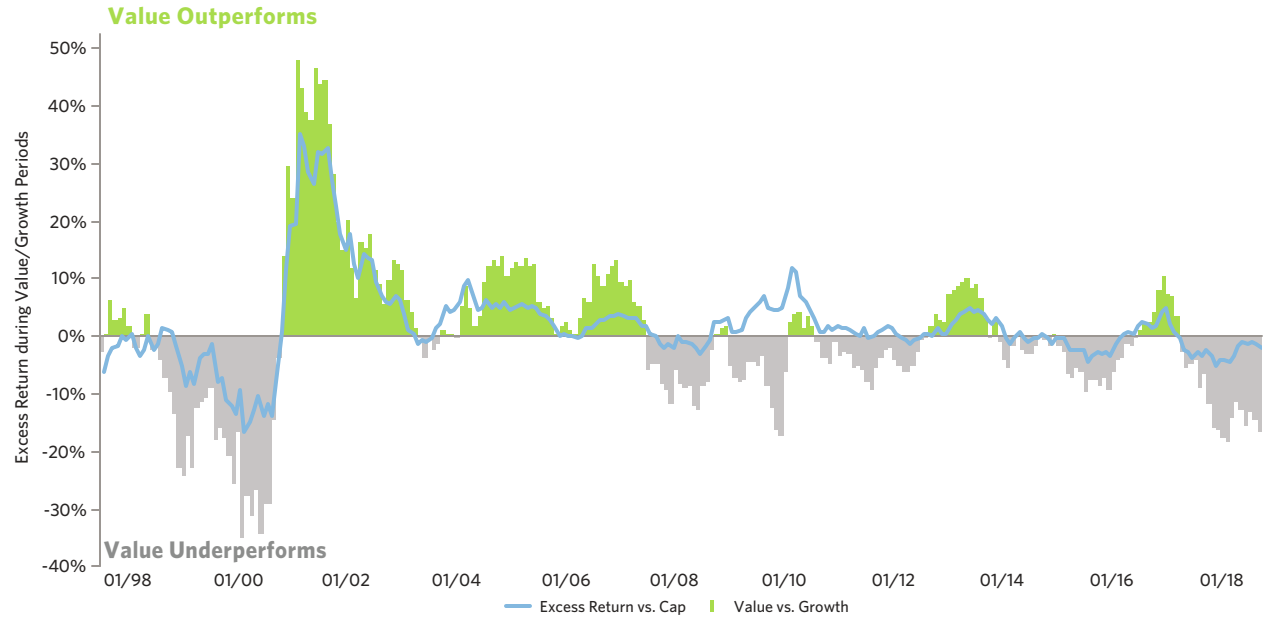
On a one-year rolling basis, the Russell RAFI™ US Large Co Index outperformed 89% of the time when value won and 34% of the time when growth won.

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 Russell RAFI™ US Large Co Index delivered consistent outperformance over full market cycles, with positive excess returns in 59% of rolling 1-year periods, 76% of rolling 3-year periods, and 89% 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.  
Russell RAFI™ US Large Co 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 August 31, 1996. Strategy returns prior to inception are simulated.  
Strategy inception is February 24, 2011.

## Portfolio Characteristics

The Russell RAFI™ US Large Co Index is attractively positioned relative to the cap-weighted benchmark.

[Exhibit 4:](#)  
Portfolio Characteristics

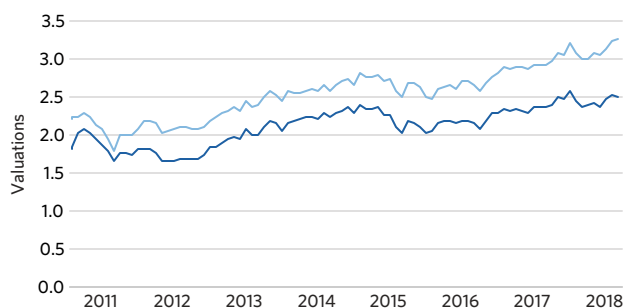
[Exhibit 5:](#)  
Historical Portfolio Characteristics

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

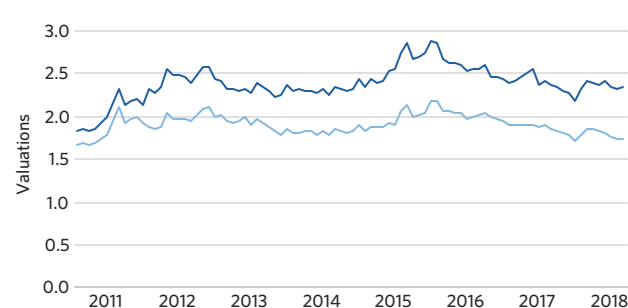
	Number of Holdings	Active Share	Price to Sales	Price to Cash Flow	Price to Book	Div. Yield	Market Cap. (Billions)	Sharpe Ratio*	Info. Ratio*	Tracking Error*
Russell RAFI™ US Large Co Index	674	30.5	1.2	10.3	2.5	2.3%	176	1.13	-0.25	2.2%
Russell 1000	984	--	2.4	14.2	3.3	1.7%	216	1.19	--	--

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

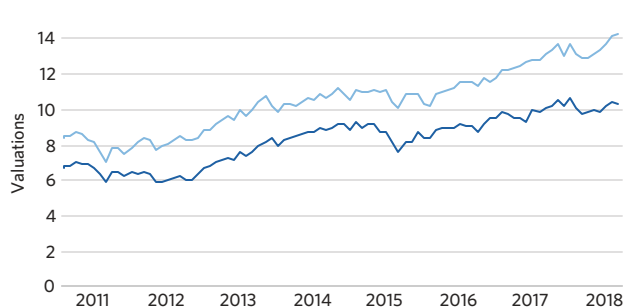
**Price to Book**



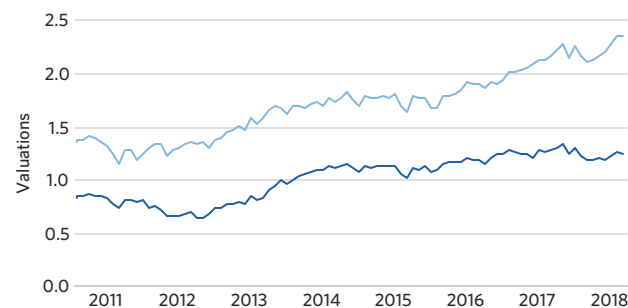
**Dividend Yield (%)**



**Price to Cash Flow**



**Price to Sales**



— Russell RAFI™ US Large Co Index (Left) — Russell 1000 (Left)

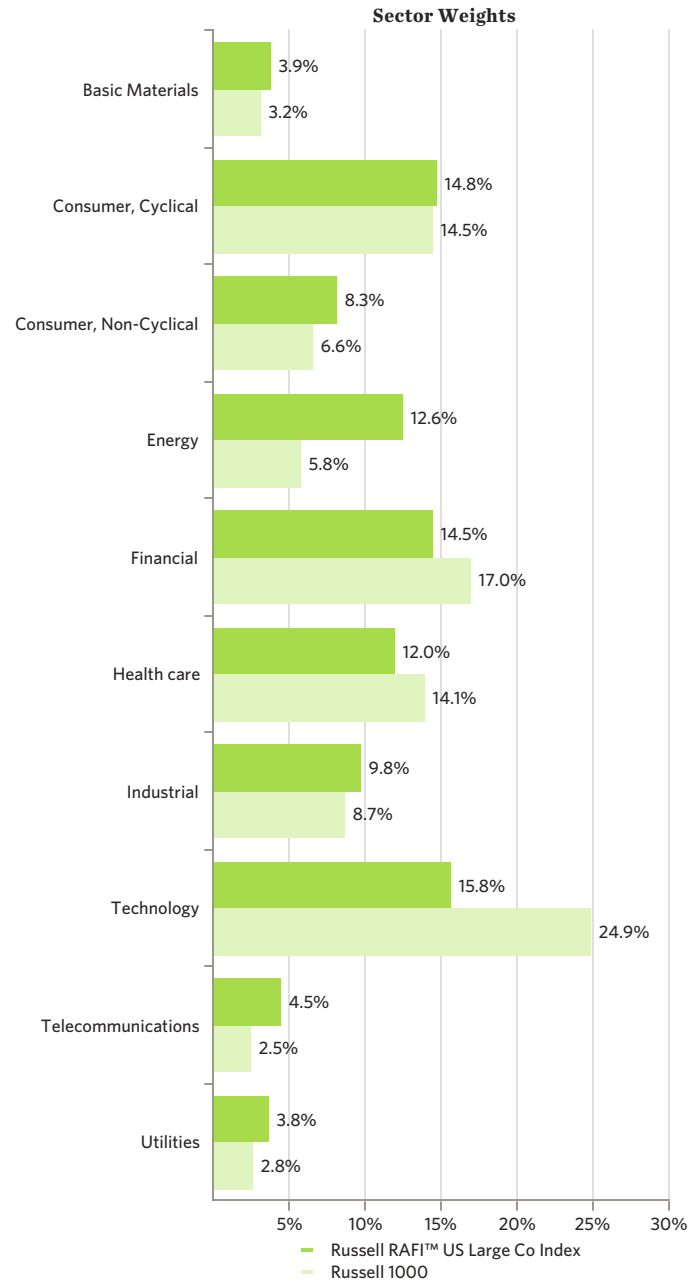
i. Exhibit 4.  
Portfolio characteristics data derived from FactSet.  
\*Sharpe Ratio, Information Ratio, and Tracking Error are calculated starting the first full month of returns following February 24, 2011. Minimum 1-year return history. The 3-mo US Treasury Bill return is used as a proxy for risk-free rate. If applicable, strategy returns prior to inception are simulated. Inception date is February 24, 2011.

ii. Exhibit 5.  
Portfolio characteristics derived from FactSet. Data prior to strategy inception is simulated. Strategy inception is February 24, 2011.

## 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>

Russell RAFI™ US Large Co Index vs. Russell 1000 Index					
Index	Weights	1-Yr Perf.	Benchmark	Weights	1-Yr Perf.
Apple	3.9%	49.5%	Apple	4.0%	49.5%
Exxon Mobil	3.7%	7.6%	Microsoft	3.2%	57.6%
Chevron	2.2%	7.9%	Amazon	3.0%	109.4%
Microsoft	1.9%	57.6%	Alphabet	2.6%	25.4%
AT&T	1.9%	-9.1%	Berkshire Hathaway	1.5%	16.9%
Pfizer	1.4%	28.4%	Facebook, Inc. Class A	1.4%	-2.5%
Wal-Mart	1.4%	21.8%	JPMorgan Chase	1.4%	20.9%
Verizon	1.3%	13.3%	Johnson & Johnson	1.4%	9.6%
Berkshire Hathaway	1.2%	16.9%	Exxon Mobil	1.3%	7.6%
Johnson & Johnson	1.2%	9.6%	Bank of America	1.0%	17.7%

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

Russell RAFI™ US Large Co Index vs. Russell 1000 Index					
Top Overweights	Active Weights	1-Yr Total Effect	Top Underweights	Active Weights	1-Yr Total Effect
Exxon Mobil	2.4%	-0.2%	Amazon	-2.7%	-1.2%
Chevron	1.3%	-0.1%	Alphabet	-1.8%	-0.1%
AT&T	1.0%	-0.2%	Facebook, Inc. Class A	-1.3%	0.3%
Wal-Mart	0.9%	0.1%	Microsoft	-1.3%	-0.3%
CVS Caremark	0.7%	-0.1%	Visa	-0.7%	-0.1%
IBM	0.7%	-0.1%	Netflix, Inc.	-0.6%	-0.3%
General Electric	0.6%	-0.2%	NVIDIA Corporation	-0.5%	-0.1%
ConocoPhillips	0.5%	0.2%	MasterCard	-0.5%	-0.1%
Valero	0.5%	0.2%	Bank of America	-0.5%	0.0%
Verizon	0.5%	0.0%	Adobe Systems Incorporated	-0.4%	-0.2%

<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

1-Year Ending 09/30/2018

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	3.93%	3.19%	-6.27%	-0.05%	0.02%	-0.04%
Consumer, Cyclical	14.82%	14.48%	-2.53%	0.00%	-0.37%	-0.38%
Consumer, Non-Cyclical	8.26%	6.58%	-0.58%	-0.03%	0.15%	0.12%
Energy	12.63%	5.82%	-5.05%	-0.49%	0.11%	-0.38%
Financial	14.52%	17.01%	-3.25%	0.12%	0.17%	0.29%
Health care	12.01%	14.05%	7.48%	-0.14%	0.08%	-0.06%
Industrial	9.79%	8.71%	1.58%	0.03%	-0.14%	-0.11%
Technology	15.77%	24.87%	3.39%	-0.17%	0.23%	0.05%
Telecommunications	4.49%	2.54%	3.66%	0.06%	0.01%	0.07%
Utilities	3.77%	2.75%	-4.71%	-0.05%	0.00%	-0.05%
Excess Return						-0.48%

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	3.93%	3.19%	-10.31%	-0.14%	0.18%	0.04%
Consumer, Cyclical	14.82%	14.48%	1.54%	0.07%	-1.28%	-1.21%
Consumer, Non-Cyclical	8.26%	6.58%	-16.30%	-0.14%	-0.03%	-0.17%
Energy	12.63%	5.82%	2.78%	-0.18%	0.64%	0.46%
Financial	14.52%	17.01%	-10.86%	0.33%	-0.17%	0.16%
Health care	12.01%	14.05%	3.34%	-0.03%	0.21%	0.18%
Industrial	9.79%	8.71%	-7.65%	-0.05%	-0.16%	-0.21%
Technology	15.77%	24.87%	13.30%	-1.18%	-0.12%	-1.30%
Telecommunications	4.49%	2.54%	-10.62%	-0.14%	0.00%	-0.15%
Utilities	3.77%	2.75%	-12.24%	-0.11%	0.06%	-0.05%
Excess Return						-2.25%

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 February 24, 2011.



## 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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