

## Revisiting Core Principles

The FTSE RAFI QSR 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 Emerging Markets - QSR Index is comprised of the largest 350 emerging markets companies by RAFI fundamental score at the time of reconstitution. The index is reconstituted annually and rebalanced quarterly using a staggered approach.

## Performance

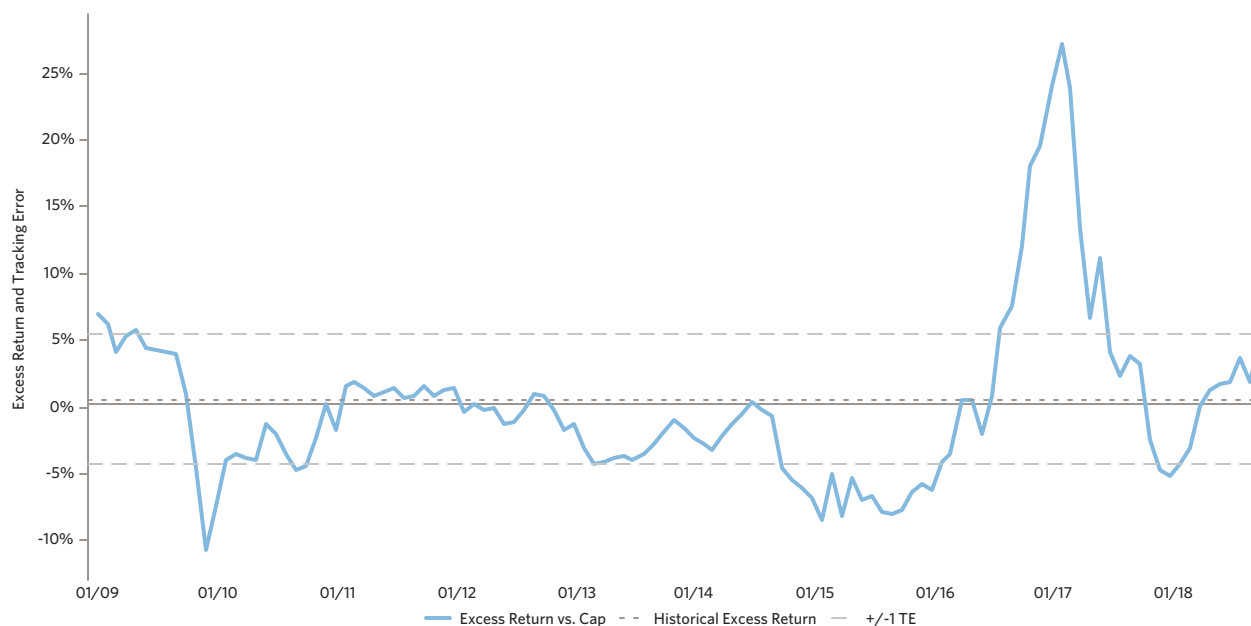
**Exhibit 1:**  
Performance Table

**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™ Emerging Markets - QSR Index	5.6%	6.8%	23.8%	9.0%	8.8%	6.3%
FTSE All Emerging Index	0.6%	2.0%	17.5%	8.6%	9.0%	5.9%
Value Added	5.0%	4.8%	6.2%	0.3%	-0.2%	0.4%
MSCI Emerging Markets	0.3%	2.4%	18.5%	8.6%	9.1%	6.0%
Portfolio Standard Deviation		13.0%	19.2%	18.9%	20.4%	18.5%
Benchmark Standard Deviation		10.5%	14.7%	14.8%	18.7%	14.6%
Tracking Error		4.9%	6.8%	6.4%	5.0%	6.1%

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



i. Exhibit 1.  
Performance derived from FactSet. All returns are total returns in GBP. 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 March 18, 2013.

ii. Exhibit 2.  
Performance derived from FactSet. All returns are total returns in GBP. Rolling 1-year excess returns and tracking error are calculated starting January 31, 2008. If applicable, strategy returns prior to inception are simulated. Inception date is March 18, 2013.

## The Value Premium

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

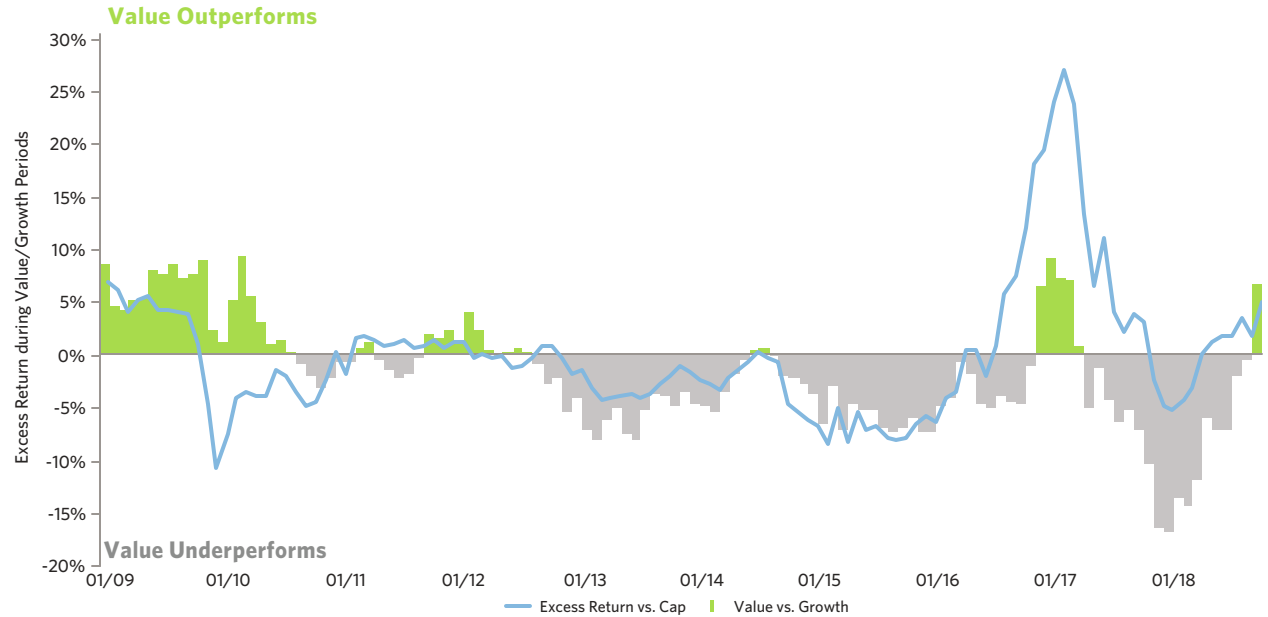
On a one-year rolling basis, the FTSE RAFI™ Emerging Markets - QSR Index outperformed 60% of the time when value won and 35% of the time when growth won.

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™ Emerging Markets - QSR Index delivered consistent outperformance over full market cycles, with positive excess returns in 43% of rolling 1-year periods, 30% of rolling 3-year periods, and 10% 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™ Emerging Markets - QSR Index rolling 1-year excess returns are measured against FTSE All Emerging Index. Value / Growth periods measured by rolling 1-year excess returns of MSCI EM Value vs. MSCI EM Growth. Calculation starts on January 31, 2008. Strategy returns prior to inception are simulated. Strategy inception is March 18, 2013.

## Portfolio Characteristics

The FTSE RAFI™ Emerging Markets - QSR Index is attractively positioned relative to the cap-weighted benchmark.

Exhibit 4:  
Portfolio Characteristics

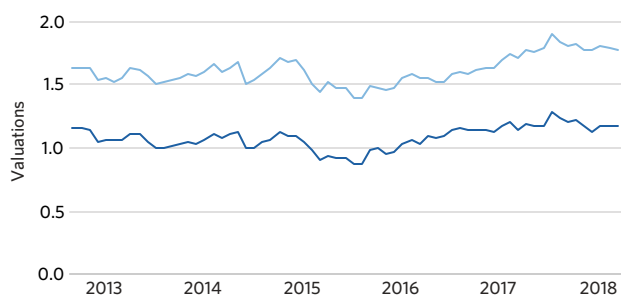
Exhibit 5:  
Historical Portfolio Characteristics

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

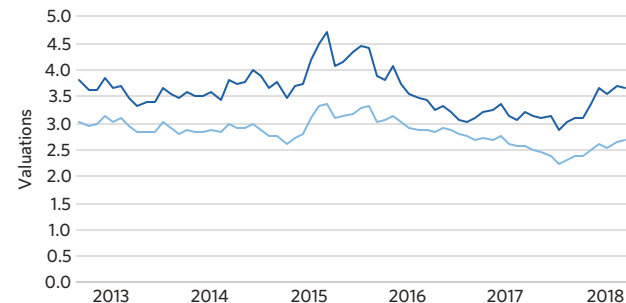
	Number of Holdings	Active Share	Price to Sales	Price to Cash Flow	Price to Book	Div. Yield	Market Cap. (Billions)	Sharpe Ratio*	Info. Ratio*	Tracking Error*
FTSE RAFI™ Emerging Markets - QSR Index	391	42.8	0.8	4.6	1.2	3.7%	64	0.16	0.07	6.1%
FTSE All-World Emerging	1019	--	1.4	7.1	1.8	2.7%	83	0.18	--	--

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

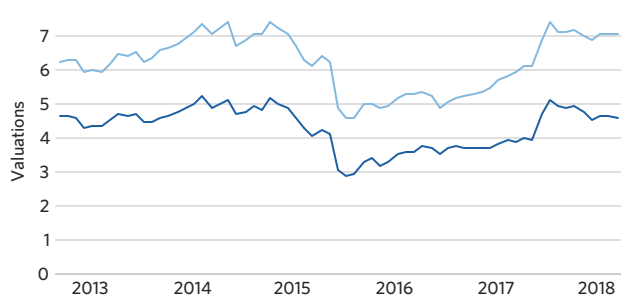
**Price to Book**



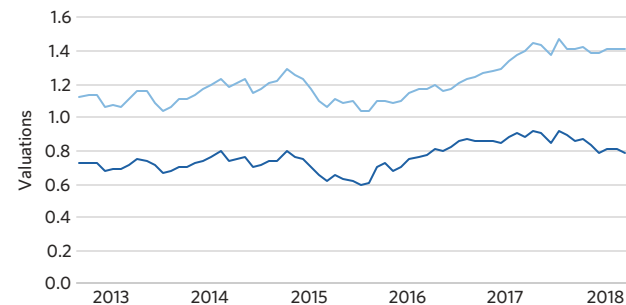
**Dividend Yield (%)**



**Price to Cash Flow**



**Price to Sales**



— FTSE RAFI™ Emerging Markets - QSR Index (Left) — FTSE All-World Emerging (Left)

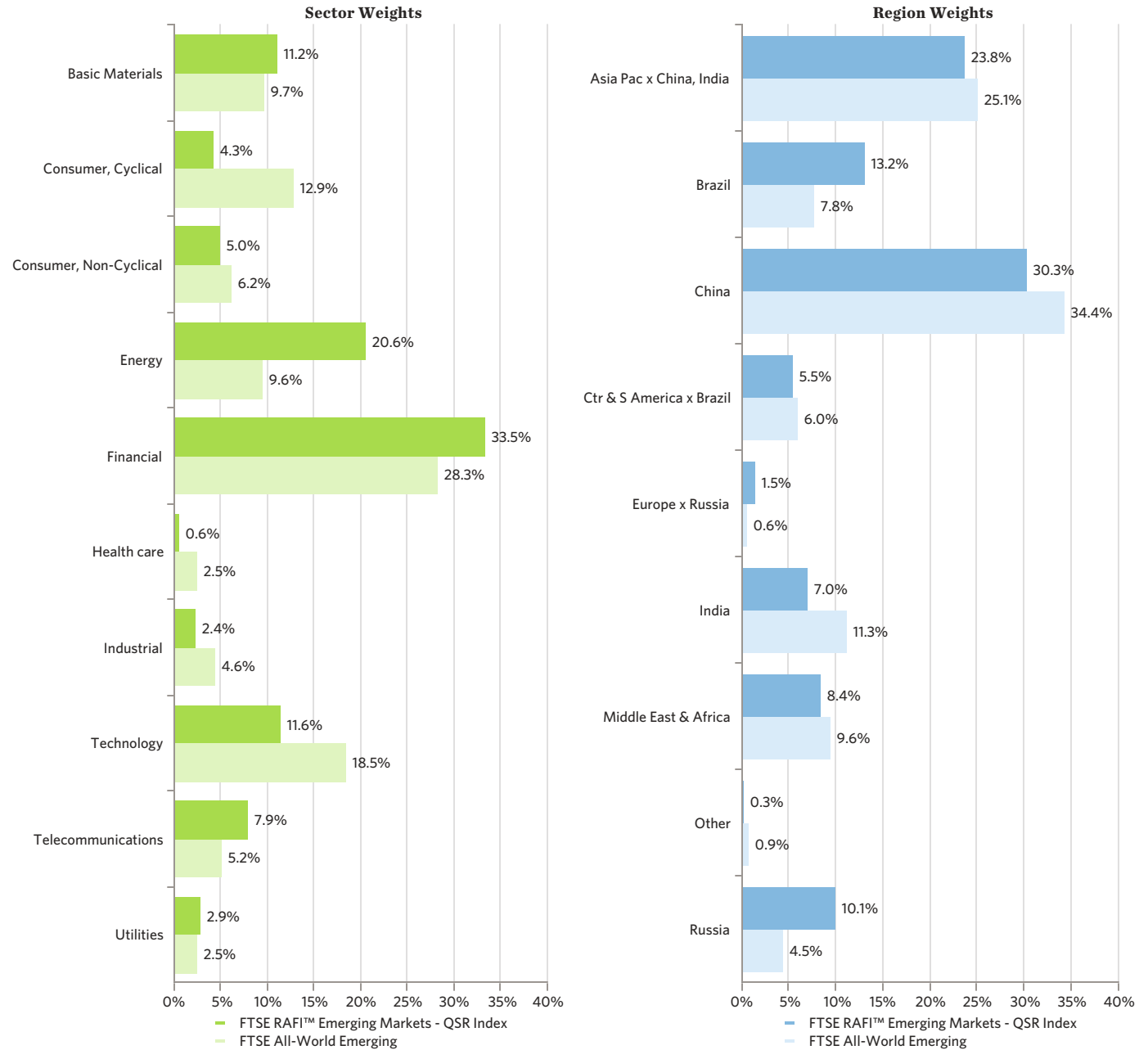
i. Exhibit 4.  
Portfolio characteristics data derived from FactSet.  
\*Sharpe Ratio, Information Ratio, and Tracking Error are calculated starting the first full month of returns following March 18, 2013. Minimum 1-year return history. The 3-mo US Treasury Bill return is used as a proxy for risk-free rate. If applicable, strategy returns prior to inception are simulated. Inception date is March 18, 2013.

ii. Exhibit 5.  
Portfolio characteristics derived from FactSet. Data prior to strategy inception is simulated. Strategy inception is March 18, 2013.

# Current Position

## Exhibit 6: Sector and Region Weights<sup>i</sup>

Exhibit 6:  
Sector and Region 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 Holdings<sup>i</sup>

FTSE RAFI™ Emerging Markets - QSR Index vs. FTSE All Emerging Index					
Index	Weights	1-Yr Perf.	Benchmark	Weights	1-Yr Perf.
China Construction Bank	4.0%	14.4%	Tencent Holdings Ltd.	5.3%	0.1%
Taiwan Semiconductor	3.3%	30.5%	Taiwan Semiconductor	4.6%	30.5%
PJSC Gazprom	2.8%	28.1%	Alibaba	4.0%	-0.2%
Ind. & Comm. Bank of China	2.6%	7.9%	Naspers Limited Class N	2.1%	5.3%
Petrobras	2.6%	19.3%	China Construction Bank	1.8%	14.4%
Oil company LUKOIL PJSC	2.3%	57.8%	Baidu	1.4%	-2.3%
China Mobile	2.3%	4.6%	Ind. & Comm. Bank of China	1.3%	7.9%
Bank of China	2.0%	-1.6%	Reliance Industries Limited	1.2%	50.0%
Vale	1.8%	62.8%	China Mobile	1.2%	4.6%
Hon Hai Precision Industry	1.8%	-20.3%	Vale	1.2%	62.8%

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

FTSE RAFI™ Emerging Markets - QSR Index vs. FTSE All Emerging Index					
Top Overweights	Active Weights	1-Yr Total Effect	Top Underweights	Active Weights	1-Yr Total Effect
China Construction Bank	2.3%	0.2%	Tencent Holdings Ltd.	-4.8%	0.1%
PJSC Gazprom	2.2%	0.5%	Alibaba	-3.8%	0.3%
Petrobras	1.7%	0.2%	Naspers Limited Class N	-1.7%	-0.1%
Oil company LUKOIL PJSC	1.5%	0.7%	Taiwan Semiconductor	-1.4%	-0.3%
Ind. & Comm. Bank of China	1.3%	0.1%	Baidu	-1.2%	0.1%
China Petroleum & Chemical	1.2%	0.4%	Qatar National Bank QPSC	-0.5%	-0.1%
Bank of China	1.2%	-0.1%	Housing Dev Finance Corp	-0.5%	0.0%
China Mobile	1.1%	0.1%	JD.com, Inc. Sponsored ADR Class A	-0.4%	0.2%
CNOOC Limited	1.0%	0.5%	Credicorp Ltd.	-0.3%	0.0%
Hon Hai Precision Industry	0.9%	-0.1%	NetEase, Inc. Sponsored ADR	-0.3%	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 10: Region 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	11.18%	9.71%	7.49%	0.12%	0.13%	0.25%
Consumer, Cyclical	4.35%	12.92%	-3.77%	0.99%	0.31%	1.30%
Consumer, Non-Cyclical	5.00%	6.18%	1.94%	0.01%	0.13%	0.13%
Energy	20.62%	9.64%	14.71%	1.68%	0.02%	1.70%
Financial	33.49%	28.30%	1.12%	0.06%	-0.04%	0.02%
Health care	0.62%	2.51%	2.52%	0.20%	0.08%	0.28%
Industrial	2.37%	4.56%	1.07%	-0.03%	0.00%	-0.03%
Technology	11.57%	18.48%	8.33%	0.16%	1.21%	1.37%
Telecommunications	7.94%	5.17%	0.61%	0.03%	-0.02%	0.01%
Utilities	2.87%	2.54%	-0.33%	0.00%	0.02%	0.02%
Excess Return						5.05%

1-Year Ending 09/30/2018

Sector	Portfolio Weight	Bench. Weight	Sector Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Basic Materials	11.18%	9.71%	17.08%	0.22%	0.68%	0.90%
Consumer, Cyclical	4.35%	12.92%	-13.33%	1.04%	-0.06%	0.98%
Consumer, Non-Cyclical	5.00%	6.18%	-9.42%	0.15%	-0.01%	0.14%
Energy	20.62%	9.64%	26.66%	3.00%	0.04%	3.04%
Financial	33.49%	28.30%	-0.74%	-0.03%	-0.01%	-0.04%
Health care	0.62%	2.51%	2.32%	0.00%	0.01%	0.01%
Industrial	2.37%	4.56%	2.63%	0.09%	0.15%	0.24%
Technology	11.57%	18.48%	6.88%	-0.30%	0.29%	-0.01%
Telecommunications	7.94%	5.17%	-8.99%	-0.31%	0.10%	-0.21%
Utilities	2.87%	2.54%	-13.16%	-0.02%	-0.19%	-0.21%
Excess Return						4.84%

## Exhibit 10: Region Attribution<sup>i</sup>

1-Quarter Ending 09/30/2018

Region	Portfolio Weight	Bench. Weight	Country Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Asia Pac x China, India	23.77%	25.09%	9.11%	-0.02%	0.04%	0.02%
Brazil	13.20%	7.75%	8.50%	0.35%	0.22%	0.58%
China	30.27%	34.40%	3.82%	0.30%	3.09%	3.40%
Ctr & S America x Brazil	5.47%	5.98%	4.09%	-0.01%	-0.11%	-0.12%
Europe x Russia	1.54%	0.59%	12.57%	-0.02%	0.05%	0.03%
India	7.01%	11.27%	1.43%	0.10%	0.27%	0.37%
Middle East & Africa	8.41%	9.55%	-7.46%	0.06%	-0.10%	-0.03%
Other	0.26%	0.86%	64.79%	0.04%	0.14%	0.18%
Russia	10.06%	4.51%	9.88%	0.46%	0.16%	0.62%
Excess Return						5.05%

1-Year Ending 09/30/2018

Region	Portfolio Weight	Bench. Weight	Country Excess Return	Allocation Effect	Selection + Interaction Effect	Total Effect
Asia Pac x China, India	23.77%	25.09%	11.44%	-0.17%	0.52%	0.35%
Brazil	13.20%	7.75%	-5.32%	-0.84%	1.23%	0.39%
China	30.27%	34.40%	9.53%	0.02%	2.92%	2.95%
Ctr & S America x Brazil	5.47%	5.98%	-5.25%	0.01%	-0.22%	-0.22%
Europe x Russia	1.54%	0.59%	-12.38%	0.01%	-0.17%	-0.16%
India	7.01%	11.27%	3.41%	-0.05%	0.15%	0.10%
Middle East & Africa	8.41%	9.55%	-7.10%	0.01%	-0.23%	-0.21%
Other	0.26%	0.86%	-97.23%	0.24%	-0.08%	0.17%
Russia	10.06%	4.51%	21.63%	0.86%	0.61%	1.47%
Excess Return						4.84%

i. Exhibit 9, Exhibit 10. 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 March 18, 2013.

## 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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