

RAFI™ Multi-Factor Climate Transition Index Series Attribution Summary: Q3 2021

Developed

Performance Analysis	QTD Return	QTD Excess Return	YTD Return	1-Year Return	Carbon Intensity (CF/EVIC)
RAFI Multi-Factor Climate Transition Developed Index	-0.34%	-0.47%	12.62%	27.04%	27.6
RAFI Multi-Factor Developed ex Size	-0.49%	-0.62%	13.07%	29.13%	107.4
<i>Solactive GBS Dev Markets Large/Mid Cap Index</i>	<i>0.13%</i>	<i>---</i>	<i>13.62%</i>	<i>29.47%</i>	<i>47.2</i>
Factor Attribution (Dynamic Multi-Factor)	QTD Return	QTD Excess Return	YTD Return	1-Year Return	Carbon Intensity (CF/EVIC)
RAFI Value Factor Developed	-1.13%	-1.3%	23.9%	51.31%	268.8
RAFI Low Volatility Factor Developed	0.02%	-0.1%	8.8%	18.88%	61.6
RAFI Quality Factor Developed	-1.65%	-1.8%	10.4%	25.89%	48.3
RA Momentum Factor Developed	0.61%	0.5%	8.6%	23.59%	69.8

The RAFI Multi-Factor Climate Transition Developed Index underperformed the market-cap benchmark by 47 bps for the quarter. Factor strategies faced headwinds in Q3 as the delta variant threatened the nascent recovery. Quality underperformed the market-cap index by 178 bps. Value followed, lagging by 126 bps. Momentum was the exception, outperforming the index by 48 bps in Q3.

Top/Bottom Contributors and Sector/Region Attribution

The following table provides information on the top five/bottom five contributors to excess return. Amazon was the largest contributor to excess return this quarter, adding 12 bps through a -2.56% underweight. Software giant Oracle was the next largest contributor entering through the low volatility, quality, and momentum sleeves and adding 7 bps to excess return. Microsoft (-3.71% active weight), Tesla (-0.94% active weight), and Moderna (-0.21% active weight) were the largest detractors, removing 15 bps, 13 bps, and 9 bps, respectively. All three companies failed to qualify for value, low volatility, quality or momentum factor sleeves.

Top Five/Bottom Five Contributors to Excess Return

	Total Weight	Active Weight	Q3 2021 Return	Excess Return Contribution	Value	Initial Factor Sleeve Weights		
						Low Volatility	Quality	Momentum
Top Five Contributors to Return								
Amazon	0.00%	-2.56%	-4.51%	0.12%	—	—	—	—
Oracle	0.88%	0.63%	12.34%	0.07%	—	0.09%	0.45%	0.13%
Recruit Holding	0.35%	0.22%	24.44%	0.04%	—	0.07%	0.02%	0.11%
BHP	0.00%	-0.28%	-15.93%	0.04%	—	—	—	—
Zoom	0.00%	-0.12%	-32.43%	0.04%	—	—	—	—
Bottom Five Contributors to Return								
Microsoft	0.00%	-3.71%	4.27%	-0.15%	—	—	—	—
Tesla	0.00%	-0.94%	14.09%	-0.13%	—	—	—	0.47%
Moderna	0.00%	-0.21%	63.78%	-0.09%	—	—	—	—
Nintendo	0.51%	0.41%	-15.58%	-0.08%	—	0.03%	0.01%	0.09%
Fortescue Metals Group	0.26%	0.21%	-31.32%	-0.07%	0.09%	—	0.09%	0.03%

Note: RAFI Multi-Factor Climate Transition Index dynamically tilts securities weights as a function of carbon intensity. Sleeve weights may not perfectly map to the final portfolio weight.

At the sector level, Consumer Cyclical (4.11% active weight) and Technology (−4.66% active weight) were the largest detractors from performance, removing 37 bps and 20 bps, respectively. Within Consumer Cyclical, selection effects (−29 bps) explain the bulk of performance. Tesla, in particular, had a remarkable quarter in which it broke its trend of poor performance since joining the S&P 500. The strategy's 94 bp underweight to the auto/battery manufacturer removed 13 bps from excess return. Within Technology, mega-cap Microsoft (−2.23% active weight) and Japanese software entertainment firm Nintendo (0.41% active weight) were the largest detractors, removing 17 bps and 8 bps, respectively. Financials were a bright spot with a 1.57% overweight, contributing 14 bps to excess return.

6/30/2021 to 9/30/2021	RAFI Multi-Factor Climate Transition Developed Index		Solactive GBS Developed Markets Large & Mid Cap Index		Attribution Analysis		
	Port. Average Weight	Port. Total Return	Bench. Average Weight	Bench. Total Return	Allocation Effect	Selection + Interaction	Total Effect
Total	100.00	-0.29	100.00	0.13	-0.17	-0.25	-0.42
Basic Materials	5.10	-4.45	4.56	-4.80	-0.03	0.02	-0.01
Communications	6.92	0.86	9.58	-0.39	0.02	0.08	0.10
Consumer Cyclical	15.39	-3.51	11.28	-1.55	-0.08	-0.29	-0.37
<i>Tesla Inc</i>	--	--	0.94	14.09	-0.13	--	-0.13
Consumer Non-Cyclical	12.77	-1.70	7.50	-1.69	-0.10	0.01	-0.10
Energy	4.01	0.92	3.05	1.08	0.01	-0.01	-0.01
Financials	15.22	2.79	13.65	2.48	0.09	0.04	0.14
Healthcare	9.60	0.76	12.38	0.99	-0.03	-0.03	-0.06
Industrial	10.43	-0.56	10.00	-0.88	0.00	0.04	0.04
Real Estate	1.41	-0.81	2.57	-0.43	0.01	-0.00	0.00
Technology	18.05	0.74	22.71	1.44	-0.07	-0.13	-0.20
<i>Microsoft Corporation</i>	1.18	11.65	3.41	15.16	-0.17	--	-0.17
<i>Nintendo Co., Ltd.</i>	0.51	-15.58	0.10	-15.58	-0.08	--	-0.08
Utilities	1.10	0.82	2.72	-0.85	0.01	0.02	0.03

Analyzing the index by region, the United States had the greatest impact on the portfolio, removing 35 bps from excess return. While the strategy took a 7.7% underweight to the region, contrarian security selection drove performance within the United States as selection effects accounted for 33 bps of underperformance. Microsoft, Tesla, and Moderna were the largest detractors, removing 15 bps, 13 bps, and 9 bps, respectively. Performance was fairly diffuse across the other regions.

6/30/2021 to 9/30/2021	RAFI Multi-Factor Climate Transition Developed Index		Solactive GBS Developed Markets Large & Mid Cap Index		Attribution Analysis		
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Total	100.00	-0.29	100.00	0.13	0.17	-0.59	-0.42
Developed Asia Pacific x JP	3.20	-5.35	3.67	-3.28	0.01	-0.06	-0.05
Europe - Non-EU	7.25	-1.41	4.92	-1.84	-0.04	0.03	-0.01
European Union	11.48	-1.89	10.08	-1.45	-0.02	-0.05	-0.07
Japan	11.51	3.06	7.41	4.67	0.22	-0.17	0.06
United Kingdom	5.25	-1.09	4.26	-0.65	-0.01	-0.02	-0.03
United States	57.78	-0.19	65.48	0.41	-0.03	-0.33	-0.35
<i>Microsoft Corporation</i>	--	--	<i>3.71</i>	<i>4.27</i>	<i>-0.15</i>	--	<i>-0.15</i>
<i>Tesla Inc</i>	--	--	<i>0.94</i>	<i>14.09</i>	<i>-0.13</i>	--	<i>-0.13</i>
<i>Moderna, Inc.</i>	--	--	<i>0.21</i>	<i>63.78</i>	<i>-0.09</i>	--	<i>-0.09</i>
Other Developed	3.55	-1.23	3.69	-1.52	0.00	0.01	0.01
Other	--	--	0.27	-16.09	0.05	--	0.05
[Unassigned]	--	--	0.22	4.66	-0.01	--	-0.01

When the universe is broken down into quintiles by carbon intensity (defined as scope 1 and 2 greenhouse gas emissions per million in enterprise value including cash, or EVIC), carbon-efficient firms by this metric outperformed in Q3. Security selection within the set of more-efficient firms (quintile 2 by carbon intensity) accounted for 32 bps of the total 31 bp negative impact to excess return. The omission of Tesla (-0.94% active weight) and Netflix (-0.41% active weight) in the portfolio removed 13 bps and 6 bps, respectively, from outperformance.

The strategy took a 1.34% underweight to the quintile of more-inefficient names (quintile 4) with security selection within the sector adding 16 bps of the total 18 bps of outperformance within the quintile. The 2.56% underweight to Amazon that resulted from its omission in the portfolio accounted for 12 bps in excess return. Note the strategy currently incorporates scope 3 emissions into its metric of carbon intensity when it applies the tilting methodology. We are currently in the process of updating our analytics methodology to incorporate scope 3 emissions.

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Total	100.00	-0.29	100.00	0.13	0.17	-0.59	-0.42
CI/EVIC Per \$ Mil. Qntl. 1 (Highly Efficient)	15.97	2.36	18.87	2.62	-0.10	0.02	-0.08
CI/EVIC Per \$ Mil. Qntl. 2 (More Efficient)	20.70	0.78	20.80	2.26	0.01	-0.32	-0.31
<i>Tesla Inc</i>	--	--	<i>0.94</i>	<i>14.09</i>	<i>-0.13</i>	--	<i>-0.13</i>
<i>Netflix, Inc.</i>	--	--	<i>0.41</i>	<i>15.55</i>	<i>-0.06</i>	--	<i>-0.06</i>
CI/EVIC Per \$ Mil. Qntl. 3 (Neutral)	23.57	-0.85	19.51	-0.76	-0.03	-0.02	-0.05
CI/EVIC Per \$ Mil. Qntl. 4 (Less Efficient)	17.93	-0.32	19.27	-1.16	0.02	0.16	0.18
<i>Amazon.com, Inc.</i>	--	--	<i>2.56</i>	<i>-4.51</i>	<i>0.12</i>	--	<i>0.12</i>
CI/EVIC Per \$ Mil. Qntl. 5 (Inefficient)	21.56	-2.18	18.98	-2.58	-0.14	0.06	-0.08
[N/A]	0.28	1.28	2.57	2.79	-0.06	-0.00	-0.07

The following table lists the top five largest stocks by cap-weight that failed to make it into the index at the 9/17/2021 rebalance due to their factor scores. Cumulative-weight rank represents each stock's position by weight within each factor sleeve prior to selection; value, low volatility, and quality select the top 25% of stocks by RAFI weight, and momentum selects the top 50% of stocks by market capitalization. Despite qualifying through the momentum sleeve, Tesla was excluded from the portfolio due to its violation of UNGC principles regarding collective bargaining and the treatment of labor.

Company	Region	Cap-Weight (9/30/2021)	Cumulative Weight Rank			
			Value	Low Volatility	Quality	Momentum
Microsoft	US	3.69%	95.6%	62.9%	31.0%	53.5%
Amazon	US	2.51%	99.2%	34.4%	94.2%	97.8%
Facebook, Inc. Class A	US	1.43%	96.6%	45.8%	80.3%	62.5%
Tesla Inc	US	1.06%	100.0%	72.6%	96.4%	25.5%
Berkshire Hathaway	US	0.62%	56.6%	30.8%	53.3%	31.6%

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