

RAFI™ ESG Developed Index Attribution Summary: Q4 2022

RAFI ESG Developed Index

Performance Analysis	QTD Return	QTD Excess Return	YTD Return	One-Year Return		
RAFI ESG Developed Index	13.83%	3.95%	-12.87%	-12.87%		
<i>Solactive GBS Dev Mkts Large & Mid Cap Index</i>	9.87%	---	-17.87%	-17.87%		
ESG Characteristics	ESG Score	Environment Score	Social Score	Governance Score	Diversity Score	Carbon Intensity (CF/Sales)
RAFI ESG Developed Index	58.6	57.0	58.3	71.9	77.1	65.4
<i>Solactive GBS Dev Mkts Large & Mid Cap Index</i>	54.7	53.6	53.8	69.9	72.1	138.6

The RAFI ESG Developed Index was up 13.8% for the quarter, outperforming its benchmark by 4.0%. This continued its trend of outperformance for the year, beating the benchmark by 5.0% for 2022.

From an ESG perspective, the index exhibits an improvement in ESG characteristics versus the broad market. Most notably, due mainly to the exclusion of fossil fuel companies, overall index carbon intensity is reduced by more than half.

Stock Analysis

Top Five/Bottom Five Contributors to Excess Return

	Total Weight	Active Weight	Q4 2022 Return	Excess Return Contribution	ESG Score	Env. Score	Social Score	Gov. Score	Div. Score	Carbon Intensity
Top Five Contributors to Return										
Tesla	0.00%	-1.03%	-53.56%	0.99%	60.4	69.8	44.7	66.2	67.3	19.0
Amazon	0.00%	-1.82%	-25.66%	0.81%	47.3	50.6	44.9	51.6	77.1	31.7
Alphabet	0.00%	-2.24%	-7.74%	0.43%	55.6	65.5	49.7	57.2	63.2	3.7
Apple	2.91%	-1.85%	-5.83%	0.32%	69.9	74.0	64.7	77.1	78.6	0.1
AT&T	1.85%	1.58%	22.19%	0.18%	69.1	68.6	66.8	83.0	73.0	34.3
Bottom Five Contributors to Return										
Exxon Mobil	0.00%	-0.92%	27.35%	-0.14%	49.1	44.1	46.9	82.8	67.1	405.9
CVS Health	1.05%	0.79%	-1.70%	-0.10%	59.5	56.8	58.8	71.2	82.5	3.9
Chevron	0.00%	-0.69%	25.90%	-0.10%	50.1	48.1	50.5	60.0	81.1	372.7
Vodafone	0.56%	0.50%	-6.49%	-0.09%	64.2	71.8	72.9	78.8	83.6	25.8
Boeing	0.00%	-0.20%	57.33%	-0.08%	46.1	46.9	40.7	78.3	70.3	19.0

Note: Carbon Intensity is measured as Scope 1 & 2 carbon footprint (tons CO2 eq.)/company revenue (\$M)

The top 3 contributors to excess return were all securities that failed to qualify for the index due to violating the index methodology's ESG screens. Any company that ranks in the bottom 10% within its starting region by Environment, Social, Governance, Diversity or Financial Discipline score is excluded from the index. Tesla violates the Financial Discipline screen, Amazon violates the Governance and Financial Discipline screen and Alphabet violates the Governance screen. Those stocks were down 54%, 26% and 8% for the quarter, respectively. The combined 5.1%

underweight contributed 223 bps to excess return. These three stocks all underperformed the benchmark during the year, which saw mean reversion among large growth/tech names. The top detractor was Exxon which was up 27% for the quarter, (and 87% for the year). Exxon is excluded due to the index methodology's fossil fuel screen. Exxon detracted 14 bps to excess return for the quarter and 45 bps for the year.

Sector Analysis

9/30/2022 to 12/30/2022	RAFI ESG 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	13.86	100.00	9.87	0.41	3.59	3.99
Basic Materials	6.20	17.92	4.55	17.85	0.13	0.01	0.13
Communications	8.65	8.80	6.96	1.05	-0.14	0.70	0.56
Consumer Cyclical	7.15	14.46	9.99	-3.42	0.42	1.33	1.76
Consumer Non-Cyclical	9.72	12.17	8.43	11.86	0.03	0.03	0.06
Energy	0.02	50.03	5.69	19.96	-0.52	0.01	-0.51
Financials	21.32	19.91	13.94	16.24	0.47	0.74	1.20
Healthcare	19.92	13.82	14.22	13.29	0.19	0.12	0.31
Industrial	6.62	17.20	10.09	18.46	-0.28	-0.08	-0.36
Real Estate	1.37	8.79	2.46	5.17	0.05	0.05	0.10
Technology	18.76	8.26	20.65	4.78	0.09	0.66	0.76
Utilities	0.25	16.52	3.02	11.10	-0.04	0.01	-0.03

At the sector level, the consumer, cyclical and financial sectors were the top contributors to excess return for the quarter, adding 176 bps and 120 bps each. Within consumer, cyclicals, the aforementioned Tesla and Amazon were the top two contributors to return. Energy was the biggest detractor at -51 bps. Given the index's fossil fuel exclusion, a global energy rally, (the energy sector was up 20% for the quarter and 47% for the year in Developed markets), hurt the index.

Geographic Analysis

9/30/2022 to 12/30/2022	RAFI ESG 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	13.86	100.00	9.87	1.06	2.93	3.99
Developed Asia Pacific x JP	3.54	16.90	3.75	15.77	-0.01	0.03	0.02
Europe - Non-EU	5.55	16.66	4.62	15.48	0.06	0.06	0.12
European Union	13.31	23.31	9.14	21.84	0.48	0.18	0.66
Japan	10.84	14.81	6.75	13.00	0.13	0.21	0.34
United Kingdom	6.26	14.48	4.32	17.33	0.14	-0.17	-0.03
United States	56.81	11.55	67.02	6.97	0.29	2.66	2.95
Other Developed	3.70	6.23	4.02	7.11	0.01	-0.04	-0.03

At the regional level, the biggest contributor to excess return was the United States at 295 bps. This is unsurprising, given that the top 5 contributors to excess return previously mentioned were all US companies. A return to value within the US generally buoyed returns as the index's fundamental weighting approach tends to favor out of favor, cheaply priced companies and disfavors popular companies trading at high valuations.

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