RAFI™ Fundamental Low Carbon Transition Index Series

Attribution Summary: 2023

Performance

Performance Analysis	QTD Return	QTD Excess Return	YTD Return	1-Year Return	Carbon Intensity (CF/Rev. $M USD)
RAFI Fundamental Global Low Carbon Transition Index	10.53%	-0.55%	21.12%	21.12%	98.49
Solactive GBS Global Markets Large & Mid Cap Index	*11.08%*	---	*23.05%*	*23.05%*	*135.11*

The RAFI Fundamental Global Low Carbon Transition Index was up 21.1% to close out the year, trailing its reference benchmark by 1.9% (the MSCI AC World Value Index underperformed the MSCI AC World Growth Index by 20.9%). Isolating the last quarter, the index has trailed slightly by 0.6%.

Global

The RAFI Fundamental Global Low Carbon Transition Index was up 21.1% for the year. While having posted a strong performance, the strategy trailed its cap-weight benchmark by 1.9%. The year shaped up to be a reversal of 2022 when value broadly outperformed growth. The markets largely finished on a high note to close off the year, standing strong against the tough investing climate, which brought record rate hikes, geopolitical risk, mass layoffs, and fears of Covid variants.

Looking at the bottom five contributors to excess return, it is easy to see the main companies that dragged down the strategy's performance. All the bottom five contributors for the year were from the now all so famous and closely watched group of stocks collectively known as the **"Magnificent 7"**. The Mag 7 stocks which is comprised of NVIDIA, Microsoft, Amazon, Tesla, Apple, Alphabet, and Meta, all saw their stock prices go through the roof. Over the past year, the Mag 7 stocks were up an average of 111%. At the end of 2022, the Mag 7 had a combined market-cap of 6.8 trillion, while the Russell 1000 Index (ex-Mag 7) had a combined market-cap of 30.6 trillion. Fast forward to the end of this year, the market-cap of the Mag 7 was 11.8 trillion and the Russell 1000 Index (ex-Mag 7) was 31.5 trillion (+73% versus +13%).

The top detractor to excess return at 116 bps was NVIDIA (-1.2% active weight). The company's stock price ended up over 200% to end the year and saw its market-cap balloon from 360 billion, to 1.2 trillion dollars! NVIDIA's blockbuster performance was driven by the ChatGPT and generative AI craze which took the market by storm. The second largest detractor at 58 bps was Microsoft (-2.0% active weight). Similarly, as NVIDIA, Microsoft reaped the benefits from the AI craze. The company saw revenue from its cloud "Azure" segment leap. Besides Meta (+0.9% active weight) and Apple (timing related performance), the strategy suffered from having an underweight to these hi-flyers. Combined, the Mag 7 had a 5.7% underweight in the strategy versus the cap-weighted benchmark, which on average only experienced an average negative return in Q3 (down 1.3%).

Stock Analysis

Top Five/Bottom Five Contributors to Excess Return

	Portfolio Weight	Active Weight	2023 Return	Excess Return Contribution
Top Five Contributors to Return				
Meta	1.80%	0.84%	194.13%	0.93%
Apple	4.14%	-0.19%	49.00%	0.19%
Intel	0.52%	0.29%	94.64%	0.18%
Meituan	0.04%	-0.08%	-53.14%	0.09%
Petroleo Brasileiro	0.16%	0.11%	112.05%	0.09%
Bottom Five Contributors to Return				
NVIDIA	0.20%	-1.22%	239.02%	-1.16%
Microsoft	1.78%	-2.03%	58.19%	-0.58%
Amazon	0.56%	-1.23%	80.88%	-0.56%
Tesla	0.07%	-0.91%	101.72%	-0.45%
Alphabet	0.00%	-1.03%	58.83%	-0.31%

Sector Analysis

12/30/2022 to 12/29/2023	RAFI Fundamental Global Low Carbon Transition Index		Solactive GBS Global 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**	**21.11**	**100.00**	**23.06**	**-2.09**	**0.14**	**-1.95**
Basic Materials	**6.00**	**16.46**	**5.01**	**14.11**	**-0.07**	**0.15**	**0.07**
Communications	**7.67**	**45.12**	**7.90**	**35.81**	**-0.08**	**0.57**	**0.49**
Consumer Cyclical	**9.70**	**25.10**	**10.61**	**32.64**	**-0.05**	**-0.70**	**-0.74**
Consumer Non-Cyclical	**8.68**	**5.85**	**7.66**	**3.76**	**-0.21**	**0.20**	**-0.00**
Energy	**7.36**	**11.00**	**5.05**	**5.59**	**-0.40**	**0.46**	**0.06**
Financials	**20.85**	**19.02**	**14.35**	**17.30**	**-0.33**	**0.40**	**0.07**
Healthcare	**9.96**	**0.78**	**12.10**	**4.43**	**0.41**	**-0.45**	**-0.04**
Industrial	**8.98**	**24.05**	**9.55**	**20.73**	**0.00**	**0.30**	**0.30**
Real Estate	**1.97**	**5.77**	**2.20**	**9.48**	**0.05**	**-0.08**	**-0.04**
Technology	**16.40**	**45.22**	**22.77**	**52.65**	**-1.50**	**-1.00**	**-2.50**
Utilities	**2.43**	**11.47**	**2.80**	**1.52**	**0.09**	**0.28**	**0.38**

At the sector level, the bulk of strategy underperformance in 2023 relative to its cap-weighted benchmark was influenced by the Technology and Consumer Cyclical sectors. Technology (-6.4% active weight) was the main detractor of excess return at 250 bps, with allocation effects outweighing selection effects. The Technology sector, which saw multiple rounds of mass layoffs, stood resilient, and flourished (largely driven by the US Tech giants). Global investors watched in amazement as the "tech proxy," the NASDAQ Composite posted 3 positive quarters of double-digit returns (Q1+16.8%; Q2 +12.8%; Q4 +13.6%) and 1 negative quarter (Q3 -4.1%). The NASDAQ finished the year up an astounding 43%. The second largest detractor to excess return at 74 bps was Consumer Cyclical (-0.9% active weight). Performance within the sector was driven via selection effects. Tesla (+101.7%) and Amazon (+80.9%) led the charge within the sector over the year.

Geographic Analysis

12/30/2022 to 12/29/2023	RAFI Fundamental Global Low Carbon Transition Index		Solactive GBS Global 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	21.11	100.00	23.06	-0.85	-1.11	-1.95
Developed Asia Pacific	12.30	17.48	9.36	15.30	-0.23	0.31	0.08
Developed Europe	22.22	21.79	16.39	20.77	-0.20	0.24	0.04
Emerging Americas	1.67	40.23	1.02	34.33	0.06	0.09	0.15
Emerging Asia	9.44	14.60	8.91	10.29	-0.07	0.43	0.36
Emerging EMEA	1.11	10.27	1.59	8.64	0.09	0.02	0.11
United States	49.71	23.12	59.20	27.64	-0.45	-2.17	-2.62
Other Developed	3.56	14.73	3.36	15.53	-0.00	-0.03	-0.03
[Unassigned]	0.00	--	0.18	49.26	-0.04	-0.00	-0.04

At the region level, it was no surprise the United States (-9.5% active weight) was the largest detractor over the year to excess return at 262 bps. The US region was predominantly responsible for the strategy's performance drag versus its cap-weighted benchmark. As perviously mentioned, all of the companies that make up the "Magificent 7" excluding Meta and Apple negatively impacted performance. The stratgey did see some benefits via the Emerging Asia (0.5% active weight) and Emerging Americas (0.7% active weight) regions, but the excess return gained was eclipsed by the negative impact of the US.

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