

Performance review of FIONA portfolios: Q1 2023

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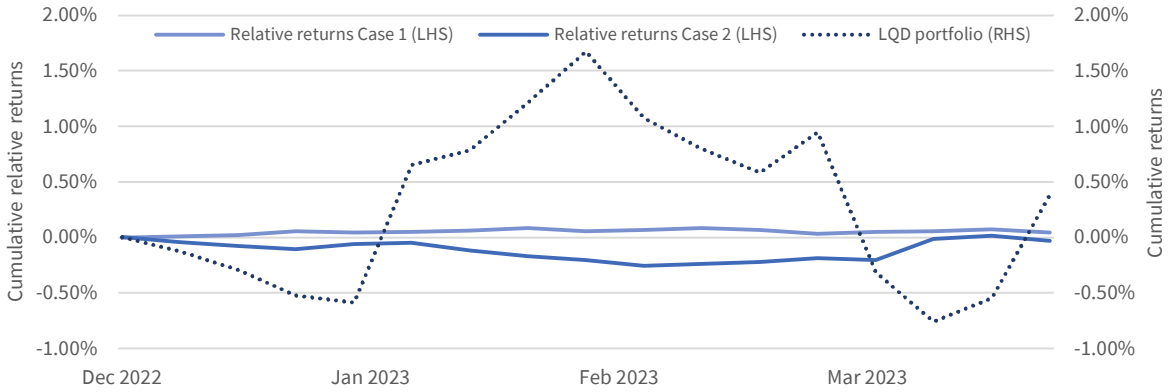
In December 2022, we used our Fixed Income Optimisation for Net zero Alignment (FIONA) framework to analyse the iShares LQD ETF portfolio and create two parallel portfolios offering an improved climate impact. Case 1 retained fixed sector weights, optimising only intra-sector, while Case 2 allowed inter-sector re-allocations subject to minimising historic tracking error.[1]

2023 so far has seen continued volatility for fixed income investors. US banking failures have brought uncertainty to bear on central banks' previously hawkish sentiments,[2] keeping rate volatility elevated. Debt investors were moved to the bottom of the capital waterfall when Swiss regulators wiped out holders of Credit Suisse Additional Tier 1 (AT1) bonds.[3]

This note analyses the relative performance of the FIONA portfolios during Q1, and leads to the following observations for environmentally-minded fixed income investors:

- Despite a volatile market, correlation between returns of the LQD and FIONA portfolios was very high with immaterial impact on performance. Tracking errors for the climate-aligned portfolios continue to be low. Given the significantly reduced carbon footprint of the FIONA portfolios, we encourage investors to consider these strategies as a free option to protect against climate-related asset price volatility in the future. [4]
- Sector-free Case 2 FIONA portfolio underperformed slightly. This was driven by poor Q1 performance of 'low carbon' sectors such as healthcare combined with strong performance in the financial sector.
- Sector-fixed Case 1 FIONA portfolio outperformed even more slightly. This was driven by intra-sector relative outperformance of stronger climate names in consumer staples, financials and industrials.

Figure 1. Cumulative weekly returns graph showing the performance of LQD and the FIONA-weighted solutions during Q1 2023. Source: Bloomberg, accessed 06 Apr 2023.



[1] For full details of this work, please see "Decarbonising iShares' LQD ETF", AFII, 15 Dec 2022.
[2] "Bond Market Set for More Tumult With Fed's Next Move in Limbo", Bloomberg, 18 Mar 2023.
[3] "Credit Suisse says $17 billion debt worthless, angering bondholders", Reuters, 19 Mar 2023.
[4] "What if…the ECB had decarbonized from the start?", AFII, 20 Sep 2022.

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FIONA portfolios

The AFII FIONA framework improves climate alignment of fixed income portfolios subject to selected constraints, for example, minimising tracking error or keeping average duration and spread unchanged. Two improved portfolios were created; Sector-fixed Case 1 allows only intra-sector adjustments, while Sector-free Case 2 includes inter-sector adjustments. Table 1 shows the characteristics of the three portfolios at the time of analysis.

Table 1. FIONA portfolio Risk, Return & Impact metrics. Source: AFII, as of 15 Dec 2022.

		LQD Portfolio	Sector-fixed Case 1 FIONA	Sector-free Case 2 FIONA
Risk	Average duration	8.5	8.4	8.8
	95% daily VaR	0.46%	0.46%	0.47%
	Maximum individual bond weight	0.27%	0.42%	0.43%
	Maximum individual issuer weight	2.91%	5.46%	3.51%
	Top 50 issuer weights concentration	55%	63%	65%
	Count of issuer weights > 1%	21	23	28
Return	Cumulative returns (%) (2019-2022)	6.0%	6.1%	6.3%
	Tracking error (%) (2019-2022 annualised)		0.22%	1.3%
	Transaction cost (EUR 1bn portfolio)		1,526,878	1,243,996
	Reallocation volume (% of original portfolio)		32%	24%
Impact (Average)	FIONA score	3.5	2.5	2.6
	MSCI portfolio-weighted ITR (% change)		-32%	-65%
	ESG Risk SCR	23.4	22.9	21.4
	Direct emissions intensity (kTon/EURmm sales)	167.5	94.1	42.2
	Carbon footprint (kton, EUR 1bn portfolio)	53.12	25.79	17.11

The Sector-free Case 2 FIONA portfolio achieves (i) a higher emissions intensity reduction; and (ii) Implied Temperature Rise (ITR) reduction, but this is alongside a larger tracking error coming from sector changes. Neither has a meaningful increase in Value at Risk (VaR).

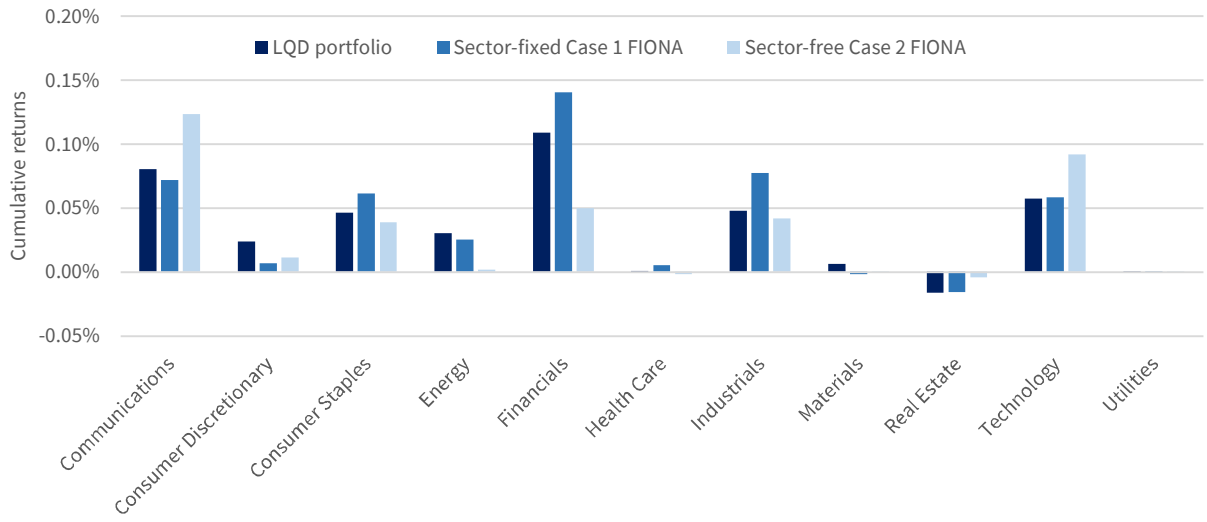
Q1 Portfolio Performance

As can be seen in Figure 1, the performance of the LQD portfolio and the two FIONA portfolios are substantially similar. However, it is often observed that markets exhibit higher correlations during bear markets[5] and periods of volatility;[6] everything moves at once, and then there is a period of consolidation. Nevertheless, the tracking errors in this period are very low; the Sector-fixed Case 1 FIONA portfolio had an annualised tracking error over the three-month period of 0.14%, and the Sector-free Case 2 FIONA portfolio had a tracking error of 0.43%.

Figure 2 breaks down the portfolio return into sectors. LQD original portfolio and Sector-fixed Case 1 FIONA portfolio have identical sector weights, so any differences in performance are due to relative performance within the sector. Differences in the performance for Case 2 FIONA will also include relative performance between the sectors.

[5] "Increased Correlation in Bear Markets", CFA, 1 Jan 2002.
[6] "Special feature: Evaluating changes in correlations during periods of high market volatility", BIS, Jun 2000.

Figure 2. Contribution to portfolio returns by sector. Source: AFII, Bloomberg, accessed 06 Apr 2023.



Sector relative performance

Understanding the performance of the Case 2 FIONA portfolio comes from relative sector performance; traditional 'green' sector reallocations were made from energy, financials and utilities into technology and healthcare (see Table 2).

Table 2. Sector weights for LQD and Sector-free Case 2 FIONA portfolio. Source: AFII.

Sector	LQD weight	Sector-free Case 2 FIONA weight	LQD performance	Weight Change
Financials	28%	20%	0.11%	-8%
Communications	12%	19%	0.08%	6%
Technology	12%	20%	0.06%	8%
Industrials	6%	5%	0.05%	-1%
Consumer Staples	7%	6%	0.05%	-1%
Energy	8%	1%	0.03%	-7%
Consumer Discretionary	6%	5%	0.02%	-2%
Materials	2%	1%	0.01%	-1%
Health Care	13%	23%	0.00%	10%
Utilities	3%	0%	0.00%	-3%
Real Estate	2%	1%	-0.02%	-1%

During Q1 the strongest performing sector was financials, the sector with the largest reduction of allocation from FIONA. Healthcare, a traditional 'ESG' sector, was flat over the quarter, which is a significant underperformance, and this sector saw the highest increase in allocation within FIONA. These sectoral reallocations explain the slightly lower return for the Sector-free Case 2 FIONA portfolio in Figure 1 over the time period.

Intra-sector relative performance

Understanding the performance of Sector-fixed Case 1 FIONA portfolio comes from the relative performance within sectors. Looking at Figure 2 we can see Financials, Consumer Staples and Industrials have the most significant relative change; through our selective allocations the FIONA portfolio outperforms the LQD portfolio. Table 3 shows the breakdown by issuer for the five most significant relative performers in each sector. Five of the 15 issuers listed are low score names whose weights decreased, and so a loss was reduced.

Table 3. Individual issuer performance for Consumer Staples, Financials and Industrials sectors and FIONA score. Source: Bloomberg, AFII, accessed 06 Apr2023.

Issuer	Sector	Count of bonds	Intra sector FIONA score	LQD weight	Case 1 FIONA weight	Weight change	Portfolio outperformance attributed to issuer
Altria Group Inc	Consumer Staples	12	1	0.4%	1.2%	0.7%	0.01%
British American Tobacco PLC	Consumer Staples	16	1	0.6%	1.7%	1.0%	0.01%
Philip Morris International Inc	Consumer Staples	11	1	0.3%	0.7%	0.4%	0.00%
Unilever PLC	Consumer Staples	5	1	0.2%	0.4%	0.3%	0.00%
Tyson Foods Inc	Consumer Staples	4	3	0.1%	0.0%	-0.1%	0.00%
Morgan Stanley	Financials	32	1	2.3%	5.2%	2.9%	0.03%
Goldman Sachs Group Inc/The	Financials	32	1	2.4%	5.5%	3.0%	0.02%
AerCap Holdings NV	Financials	6	1	0.4%	0.9%	0.5%	0.01%
Wells Fargo & Co	Financials	26	3	2.1%	0.1%	-2.0%	0.01%
KeyCorp	Financials	5	3	0.1%	0.0%	-0.1%	0.01%
Boeing Co/The	Industrials	17	1	1.0%	1.7%	0.7%	0.02%
Union Pacific Corp	Industrials	15	3	0.4%	0.0%	-0.4%	0.00%
General Electric Co	Industrials	4	1	0.4%	0.6%	0.3%	0.00%
Burlington Northern Santa Fe LLC	Industrials	12	3	0.3%	0.0%	-0.3%	0.00%
Raytheon Technologies Corp	Industrials	15	1	0.6%	1.0%	0.4%	0.00%

Q1 ETF analysis

We have also analysed fixed income ETFs that self-describe as 'Paris-aligned' compared to their non-adjusted equivalents.[7] We consider the performance of these ETFs over Q1 to look for similar results.

Table 4 shows the performance of European corporate bond ETFs. The Paris-Aligned Benchmark ETFs have all underperformed the index over this period, likely driven by the same general sector reallocations as the Sector-free Case 2 FIONA portfolio.

Table 4. Q1 performance for selected fixed income ETFs. Source: Bloomberg, accessed 04 Apr 2023.

Name	Ticker	Type	09-Dec-22	31-Mar-23	Return
ISH EUR CORP PARIS-ALGN EURD	CBUJ GY Equity	PAB	4.92	4.81	-2.3%
X II EUR CPSRIPABUCITSETF-1D	XB4F GY Equity	PAB	136.0	134.6	-1.0%
TABULA PAB CLIMATE EUR ACC	TABC GY Equity	PAB	8.82	8.76	-0.6%
AMUNDI EURO CORP CLIMATE PAB	PABC GY Equity	PAB	44.9	44.6	-0.8%
X EUR CORPORATE BOND	XBLC GY Equity	Index	143.1	142.6	-0.3%

[7] For full details please see "Paris-Aligned Benchmark ETFs: A performance and climate alignment review", AFII, 9 Feb 2023.

Conclusions

Q1 2023 was a period of volatility which drove correlation returns across fixed income portfolios; our FIONA portfolios showed low tracking errors compared to the LQD ETF on which they are based.

From a sector point of view, traditional 'ESG' sectors such as healthcare underperformed, which drove general underperformance of ESG portfolios in the period. This applies to the Sector-free Case 2 FIONA portfolio and Paris-aligned bond ETFs.

From an issuer point of view, better climate names were the strongest performers in some important sectors such as Financials, Industrials and Consumer Staples. Within the period, this has contributed to a small outperformance of the Sector-fixed Case 1 FIONA portfolio, alongside improved climate metrics.

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