

Environmental gilt

Josephine Richardson(*)

The last few weeks, culminating with moves last Wednesday, have seen unprecedented volatility in UK bond markets. UK gilt yields were on course for their sharpest monthly rise since 1957¹ before the Bank of England stepped in to stabilise the market, by temporarily purchasing long-dated UK Government bonds.

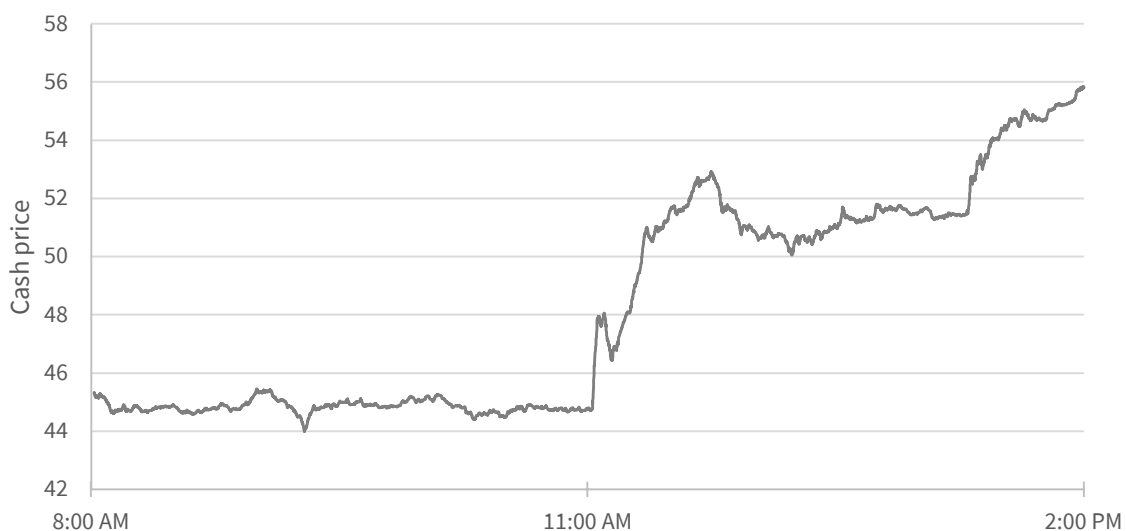
Sterling yields have been climbing throughout the recent high inflation period, responding to anticipated and realised rate rises. Movements were accelerated as a new Chancellor of the Exchequer announced a series of tax cuts last week without an accompanying economic forecast from the Office of Budget Responsibility.^{2,3}

The general market background remains weak with risk for sale across asset classes, as the impact of persistent inflation, energy insecurity, and interest rate rises continues to be absorbed.

We want to examine the recent performance of UK sterling bonds, particularly from green bond issuers, to understand any implications for green bond investors. We want to test if green bonds have remained resilient over this period, or exhibited differing levels of volatility.

We observe little differentiation in behaviour in the past period, either in terms of performance or volatility, with green and vanilla debt trading largely in line. As green bonds have identical credit exposure post issuance, and a larger investor base, our opinion is that owning green debt at flat spread levels should be preferable. We invite investors to consider this recent period of gilt market weakness as a potentially attractive entry point.

Figure 1. Intraday prices on UKT 1.5 53s Green bond for 28 Sep 2022. Source: Bloomberg.



¹ “[Bank of England intervenes in bond market after historic sell-off](#)”, CNBC, 28 Sep 2022

² “[How Kwasi Kwarteng’s mini-Budget broke the UK bond market](#)”, FT, 28 Sep 2022

³ “[Kwasi Kwarteng U-turns on plans to scrap 45p tax rate](#)”, BBC, 3 Oct 2022

Not investment advice. This version 3 Oct 2022. Important disclaimers at the end of the document.

(*) Anthropocene Fixed Income Institute (www.anthropocenefii.org), jor@anthropocenefii.org

GBP Green Bond Market

The GBP bond market is smaller than other currencies but still significant. Figure 2 shows GBP as well as all currencies with >25 green bond issues so far in 2022. Aside from Nordic currencies, EUR stands out as having a larger percentage of green bonds issuance, with GBP still having issued 3.5bn YTD across 9 issues, which as a percentage of total issuance is over 2x USD.

Figure 2. Issuance volumes for different currencies in 2022. Source: Bloomberg accessed 29 Sep 2022.

| Currency | Issuance in 2022 | | | | |
|----------|-------------------------|-------------------|-------------------------------|-------------------------|---------|
| | Total issuance (USD bn) | Count of issuance | Total green issuance (USD bn) | Count of green issuance | % Green |
| GBP | 201.1 | 649 | 3.5 | 9 | 1.8% |
| EUR | 2,771.7 | 21,841 | 172.9 | 339 | 6.2% |
| CNY | 5,770.7 | 26,702 | 58.1 | 222 | 1.0% |
| USD | 9,218.8 | 23,982 | 70.0 | 192 | 0.8% |
| SEK | 31.5 | 383 | 8.2 | 100 | 26.0% |
| JPY | 2,109.3 | 1,756 | 5.3 | 57 | 0.3% |
| KRW | 337.8 | 3,924 | 3.8 | 56 | 1.1% |
| NOK | 57.1 | 882 | 3.9 | 47 | 6.9% |

One distinguishing factor for the GBP bond market is the demand driven by pension funds, so demand often tends to be longer dated than for other currencies. Figure 3 shows the proportion of issuance in 2022 which has been longer than 10 years, and here we see GBP is a clear leader in terms of the duration of issuance. Indeed, securing long-dated financing can be a reason for non-local issuers to come to the market. Increased duration does however mean increased volatility, especially in periods of monetary policy change.

Figure 3. Issuance volumes for different currencies in 2022 with maturity longer than 10 years. Source: Bloomberg, accessed 29 Sep 2022.

| Currency | Issuance in 2022 longer than 10 year maturity | | | | | |
|----------|---|-------------------|-------------------------------|-------------------------|---------|---------------------------------|
| | Total issuance (USD bn) | Count of issuance | Total green issuance (USD bn) | Count of green issuance | % Green | % issuance longer than 10 years |
| GBP | 27.7 | 40 | 1.8 | 4 | 6.6% | 13.8% |
| EUR | 272.8 | 987 | 44.6 | 31 | 16.4% | 9.8% |
| CNY | 473.3 | 807 | | | | 8.2% |
| USD | 794.3 | 1,040 | 11.3 | 26 | 1.4% | 8.6% |
| SEK | 1.8 | 8 | | | | 5.6% |
| JPY | 203.5 | 277 | 1.2 | 11 | 0.6% | 9.6% |
| KRW | 23.3 | 101 | 0.2 | 7 | 0.7% | 6.9% |
| NOK | 3.3 | 27 | 0.1 | 1 | 2.1% | 5.7% |

UK Gilts

The UK Government has issued two green bonds. In Sep 21, it initiated notes maturing in 2033 and, in Oct 21, it brought notes maturing in 2053. In line with typical behaviour of the UK Treasury, both issues have been tapped multiple times, with 12.5bn and 10.6bn currently outstanding respectively. The bonds have relatively low coupons (0.875% and 1.5% respectively), and so have been trading below par practically since inception, although performing broadly inline with equivalent traditional bonds (see Figure 4).

On 28 Sep 2022 the 1.5 2053 green gilt was re-opened for £4.5bn, and bids were invited subject to the usual auction process. The book closed at 10am with total orders of £30.1bn, and price was set as 1bp over the reference gilt. Final pricing was calculated at 1.21pm, at £52.477 with the UK

domestic market providing the main support for the issue.⁴ On the same day the Bank of England announced an emergency gilt purchase programme to begin the same afternoon at 3pm, with a focus on longer-dated notes of maturity greater than 20 years⁵. The green 53s would not be included in the inaugural auction, as any recently issued or recently re-

Figure 4. Yields on UK Government Bonds. Source: Bloomberg.



opened issue is excluded, however unsurprisingly this provided strong support for all gilts, including the 53s, which closed with a daily gain of nearly 12%.⁶ Indeed, the tap was priced 7% higher than the previous day close, but still 4.5% below the close of the day.

We also note some media reports of the new UK Prime Minister Liz Truss reducing the Government’s commitment to net zero by legalising fracking.⁷ The Government is re-stating that it intends to support the environment,⁸ however even before such market volatility being blamed on Treasury policies, it seems likely that cost-of-living concerns and public service spending challenges may reduce the spending allocated to environmental programmes.

Green bonds are linked to environmental objectives only at issuance, so if there were a near-term reduced spending commitment, this might translate into a lower level on ongoing green issuance. Given demand is likely to remain unchanged, this could produce outperformance if future supply were to be reduced.

GBP Corporate Green Bond Issuers

The headlines and focus have very much been on UK government bonds. We drill down into GBP corporate green bond issuance, to see what has been happening. There are a few issuers with multiple green bonds which we want to analyse. We ask ourselves, aside from obvious GBP rate volatility, how volatile have bond spreads been; has there been any differentiation of performance between green and traditional debt; and is there any difference in the recent volatility.

⁴ “[Syndicated Re-opening of £4.5 Billion of 1.4% Green Gilt 2053: Result](#)”, UK Debt Management Office, 28 Sep 2022

⁵ “[Gilt Market Operations – Market Notice 28 September 2022](#)”, Bank of England, 28 Sep 2022

⁶ Source Bloomberg

⁷ “[Liz Truss’s government denies abandoning climate targets despite plan to legalise fracking](#)”, Independent, 8 Sep 2022

⁸ “[Net zero tsar Chris Skidmore: We won’t ditch target](#)”, The Times, 29 Sep 2022

Anglian Water

Anglian Water (ticker AWLN) is a utility company providing water and wastewater services in the East of England. It has issued six green bonds in GBP, although one is inflation-linked which we exclude from this analysis. It has a large capital structure with USD6.8bn debt outstanding.

The green 29s have shown lower volatility than the only slightly shorter 6.625 29s and have also held in quite well. The pricing curve shows little observable greenium, except perhaps in the 1.7 35s which look tight compared to the vanilla 2.4 35s.

Figure 5. AWLN vanilla and green GBP bond spreads. Source: Bloomberg, accessed 29 Sep 2022.



Figure 6. Recent moves and volatility of AWLN vanilla and green GBP bond spread. Source: Bloomberg, acc. 29 Sep 2022

| Bond Label | Green Bond | Current Spread | 2 day spread widening | 1 week spread widening | 1 month spread widening | 2 month an. daily spread vol |
|------------|------------|----------------|-----------------------|------------------------|-------------------------|------------------------------|
| £1.625 25s | Green | 65 | 47% | 80% | 123% | 276% |
| £4.5 26s | | 86 | 34% | 72% | 80% | 142% |
| £2.9 26s | | 93 | 16% | 22% | 30% | 88% |
| £2.9 26s | | 89 | 17% | 23% | 31% | 95% |
| £2.625 27s | | 108 | 23% | 25% | 56% | 82% |
| £4.5 27s | | 115 | 28% | 35% | 68% | 93% |
| £6.625 29s | | 133 | 15% | 34% | 71% | 64% |
| £2.8 29s | Green | 135 | 11% | 18% | 39% | 50% |
| £2.75 29s | Green | 141 | 12% | 31% | 71% | 55% |
| £6.2 30s | | 140 | 7% | 32% | 54% | 49% |
| £3 31s | Green | 160 | 4% | 12% | 27% | 45% |
| £6.875 34s | | 240 | 51% | 61% | 68% | 131% |
| £2.4 35s | | 201 | 0% | 10% | 10% | 26% |
| £1.7 35s | Green | 196 | 5% | 18% | 35% | 32% |

SSE Plc

SSE Plc (ticker SSELN) is an energy company headquartered in Scotland. It has issued three green bonds in GBP, and has a total of UDS10.2bn debt outstanding.

The volatility and spread widening seem commensurate across green and vanilla debt depending on maturity, and the pricing curve shows no material greenium, although perhaps the 2.125 36s are a little tight.

Figure 7. SSELN vanilla and green GBP bond spreads. Source: Bloomberg accessed 29 Sep 2022.



Figure 8. Recent moves and volatility of SSELN vanilla and green GBP bond spreads. Source: Bloomberg, accessed 29 Sep 2022.

| Bond Label | Green Bond | Current Spread | 2 day spread widening | 1 week spread widening | 1 month spread widening | 2 month an. daily spread vol |
|------------|------------|----------------|-----------------------|------------------------|-------------------------|------------------------------|
| £1.5 28s | Green | 152 | 12% | 38% | 55% | 66% |
| £5.5 32s | | 184 | 3% | 21% | 32% | 34% |
| £2.25 35s | Green | 224 | 5% | 17% | 21% | 32% |
| £2.125 36s | Green | 226 | 2% | 20% | 25% | 31% |
| £4.625 37s | | 248 | 0% | 16% | 23% | 27% |

Thames Water

Thames Water (ticker THAMES) is a utility company providing water and wastewater services to Greater London. It has issued two GBP green bonds, although from an issuing entity (Thames Water Utilities Ltd) that has no vanilla debt. The USD and EUR green bonds are issued from its standard finance vehicle (Thames Water Utilities Finance PLC). We have compared them to GBP bonds issued from the finance company but highlight the potential inconsistency.

The green bonds look slightly wider than the vanilla but we recognise the different issuing entity, and assume this would contribute to a lower level of liquidity. We expect this also feeds through into the higher volatility we have seen over the recent period from these green bonds.

Figure 9. THAMES vanilla and green GBP bond spreads: Source Bloomberg accessed 29 Sep 2022

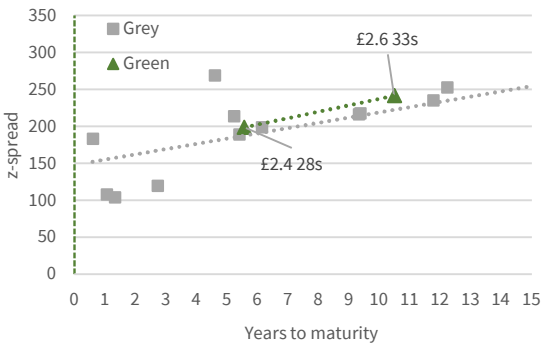


Figure 10. Recent moves and volatility of THAMES vanilla and green GBP bond spreads: Source Bloomberg accessed 29 Sep 2022

| Bond Label | Green Bond | Current Spread | 2 day spread widening | 1 week spread widening | 1 month spread widening | 2 month an. daily spread vol |
|------------|------------|----------------|-----------------------|------------------------|-------------------------|------------------------------|
| £3.5 28s | | 180 | 11% | 32% | 56% | 52% |
| £2.4 28s | Green | 206 | 15% | 30% | 82% | 56% |
| £6.75 28s | | 195 | 10% | 35% | 63% | 47% |
| £2.625 32s | | 214 | 5% | 25% | 39% | 36% |
| £2.6 33s | Green | 250 | 5% | 17% | 46% | 46% |
| £4.375 34s | | 232 | 4% | 22% | 31% | 34% |

Whitbread Group Plc

Whitbread Group Plc (ticker WTBLN) is a multinational hotel and restaurant company headquartered in the UK. It has only three bonds outstanding, of which two are green bonds. All its public debt is in GBP.

The bonds have experienced some volatility, although the 31s in particular have been less than similar maturity issues from THAMES or AWLN.

Figure 11. WTBLN vanilla and green GBP bond spreads. Source: Bloomberg, accessed 29 Sep 2022.

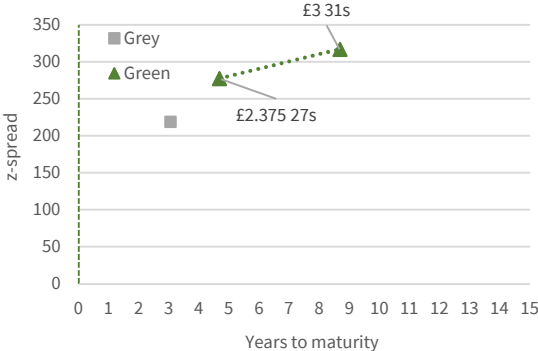


Figure 12. Recent moves and volatility of WTBLN vanilla and green GBP bond spreads: Source Bloomberg accessed 29 Sep 2022

| Bond Label | Green Bond | Current Spread | 2 day spread widening | 1 week spread widening | 1 month spread widening | 2 month an. daily spread vol |
|------------|------------|----------------|-----------------------|------------------------|-------------------------|------------------------------|
| £3.375 25s | | 204 | 12% | 19% | 22% | 52% |
| £2.375 27s | Green | 264 | 7% | 15% | 26% | 33% |
| £3 31s | Green | 316 | 3% | 14% | 20% | 22% |

In summary, our analysis supports the conclusion that we observe little differentiation of performance or volatility between green and traditional bonds. Nevertheless, given the wider investor base for green assets, our opinion is that owning green bonds at flat spreads should be preferable.

IMPORTANT DISCLAIMER:

This report is for information and educational purposes only. The Anthropocene Fixed Income Institute ('AFII') does not provide tax, legal, investment or accounting advice. This report is not intended to provide, and should not be relied on for, tax, legal, investment or accounting advice. Nothing in this report is intended as investment advice, as an offer or solicitation of an offer to buy or sell, or as a recommendation, endorsement, or sponsorship of any security, company, or fund. AFII is not responsible for any investment decision made by you. You are responsible for your own investment research and investment decisions. This report is not meant as a general guide to investing, nor as a source of any specific investment recommendation. Unless attributed to others, any opinions expressed are our current opinions only. Certain information presented may have been provided by third parties. AFII believes that such third-party information is reliable, and has checked public records to verify it wherever possible, but does not guarantee its accuracy, timeliness or completeness; and it is subject to change without notice.

The Anthropocene Fixed Income Institute is a non-profit organization “to monitor, advocate for and influence the impact of the fixed income and bond markets in the age of human induced climate change.” For more information about the Institute, please visit www.anthropocenefii.org or follow us using the hashtag #anthropocenefii.

