

Impactful Short Duration: Green Bonds and Yield Curve Strategies

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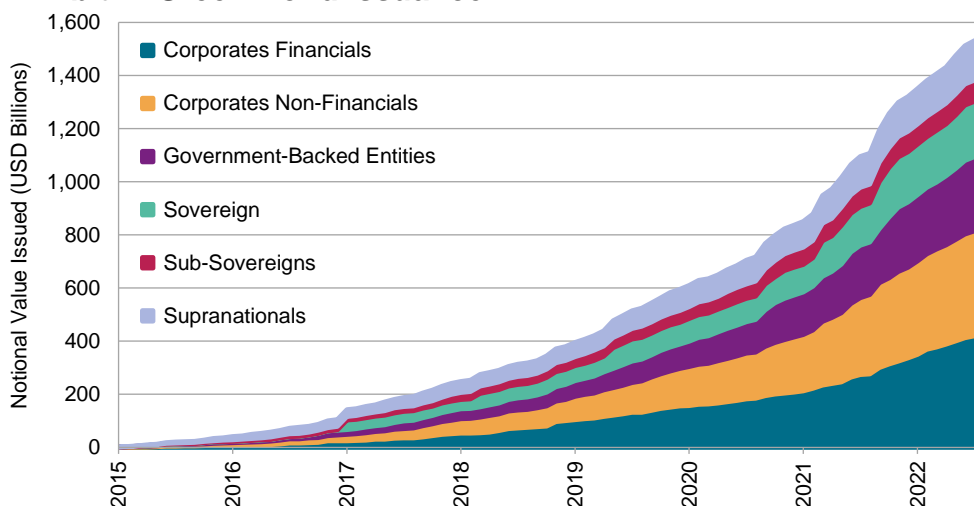
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In Search of Impact

The rising interest rate cycle and growing importance of sustainability-oriented strategies have been at the forefront of the fixed income market this year. Investors' focus on sustainable investing has shown no signs of abating, despite the magnitude and speed of rate hikes.

One rapidly growing area in the sustainable finance space is green bonds, often referred to as impact finance. They are defined by the use of their proceeds, which are to be used for specific projects to make a direct impact in an environmentally friendly way, as defined by the International Capital Market Association (ICMA). The market at first was tapped by supranational borrowers such as the European Investment Bank and the World Bank, but now most issuers in this space are corporates (see Exhibit 1).

Exhibit 1: Green Bond Issuance



Source: Climate Bond Initiative (CBI), S&P Dow Jones Indices LLC, and IHS Markit, part of S&P Global. Data as of Aug. 31, 2022. Chart is provided for illustrative purposes.

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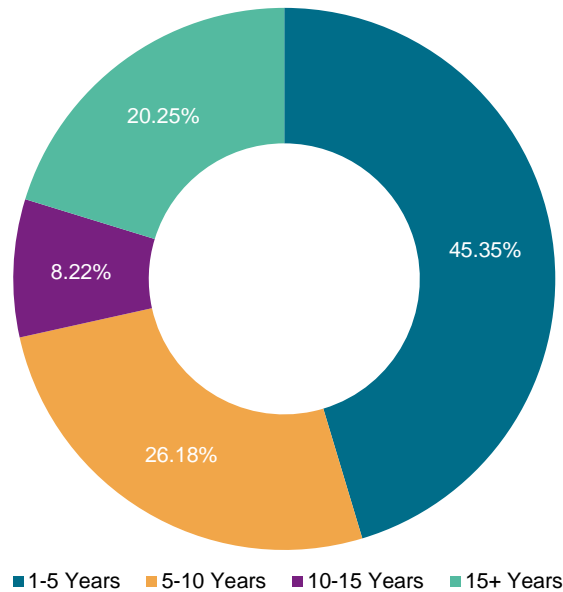
In Search of Yield

At the same time, in the current high-rates world, fixed income investors face a question of how best to position their portfolios. Typically, when rates rise, shorter-duration bonds perform better than their longer-duration counterparts.

Against the backdrop of these two developments, we analyzed a maturity-segmented strategy of corporate credit versus a green bond universe.

We compared short, medium and long duration performance of EUR-denominated credit bonds. We also compared the performance of green bond strategies against the wider European credit market—the iBoxx Global Green Bonds Select (EUR Hedged) versus the iBoxx € Corporates. Finally, we added hypothetical maturity-segmented indices within the iBoxx Global Green Bonds Select universe: short (0-5 years to maturity) and medium (5-10 years to maturity) buckets, the two largest maturity buckets in this index (see Exhibit 2).

Exhibit 2: Maturity Buckets of the iBoxx Global Green Bonds Select (EUR Hedged)



Source: S&P Dow Jones Indices LLC. Data as of Sept. 30, 2022. Chart is provided for illustrative purposes.

Historically, green bonds have carried a green premium—or "greenium"—meaning that they have historically had lower yields compared with non-green bonds with otherwise similar characteristics. The [calculation of the greenium](#) can be intricate on its own, requiring an analysis of the bond, rather than at the index level, for an appropriate comparison.

Exhibits 3-5 show a comparison between green and non-green indices over a three-year horizon. Exhibit 3 focuses on a single-day snapshot, while Exhibit 4 gives a wider timeseries view. As such, it yields a mixed bag of results. Since 2019, green short- and mid-duration strategies have often displayed a slightly higher yield than comparable non-green corporates. But for the broader indices, the reverse has been true.

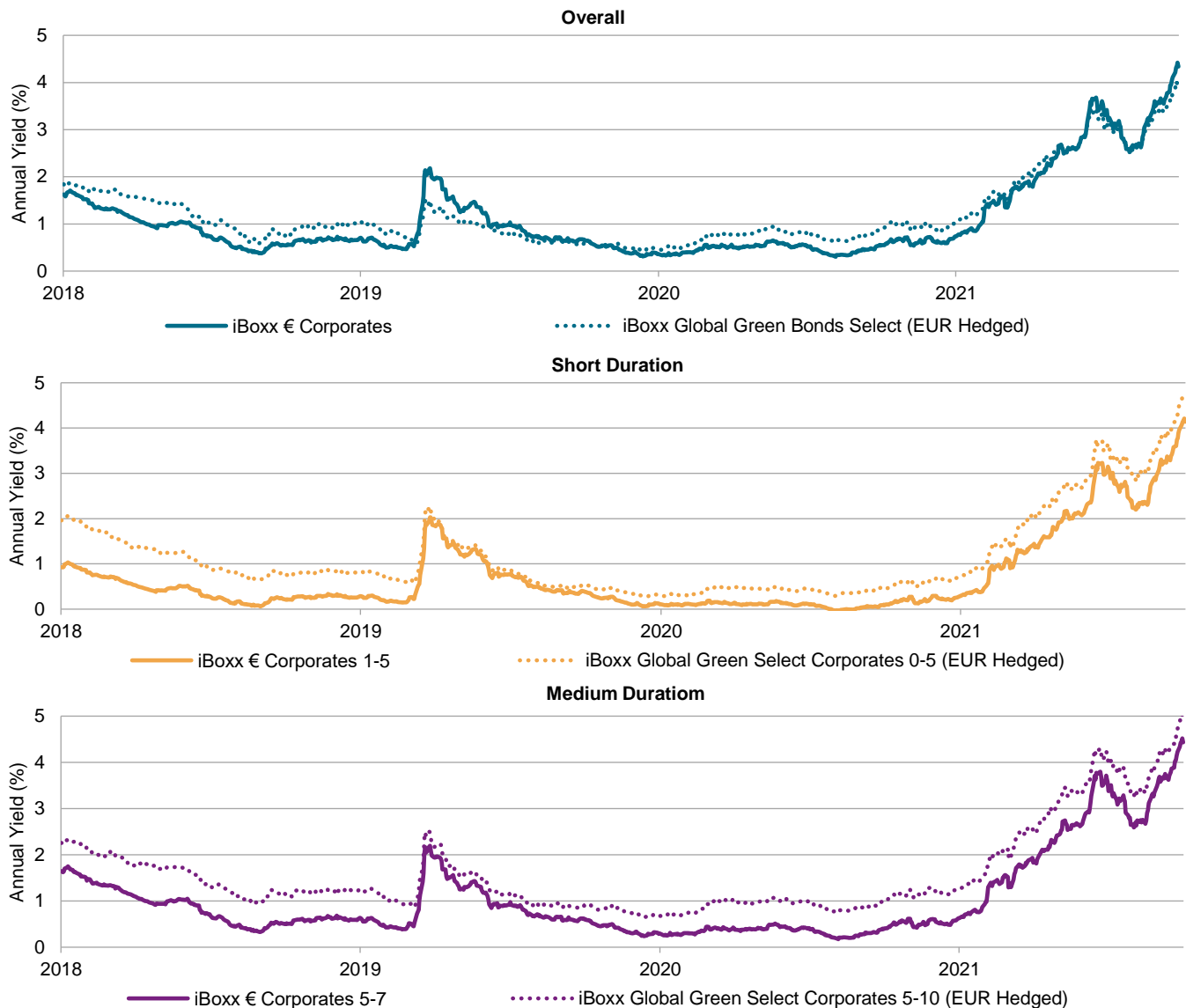
Exhibit 3: Key Analytics Single-Day Snapshot Comparison

Index	Number of Bonds	Annual Yield (%)	Duration	YTD Return (%)
Short Duration				
iBoxx Global Green Select Corporates 0-5 (EUR Hedged)*	326	4.67	2.68	-9
iBoxx € Corporates 1-5	1,850	4.14	2.73	-9
Medium Duration				
iBoxx Global Green Select Corporates 5-10 (EUR Hedged)	239	4.98	6.30	-20
iBoxx € Corporates 5-7	678	4.43	5.34	-17
iBoxx € Corporates 7-10	595	4.48	7.35	-23
Long Duration				
iBoxx € Overall 15+	355	3.16	17.39	-34
Overall				
iBoxx Global Green Bonds Select (EUR Hedged)	1,085	4.01	6.98	-19
iBoxx € Corporates	3,454	4.34	4.60	-15

* The iBoxx Global Green Select Corporates 0-5 (EUR Hedged) and iBoxx Global Green Select Corporates 5-10 (EUR Hedged) represent hypothetical simulated indices.

Source: S&P Dow Jones Indices LLC. Data as of Sept. 30, 2022. Annual yield is the normalized representation of the bond return based on a compounding period of one year. Table is provided for illustrative purposes.

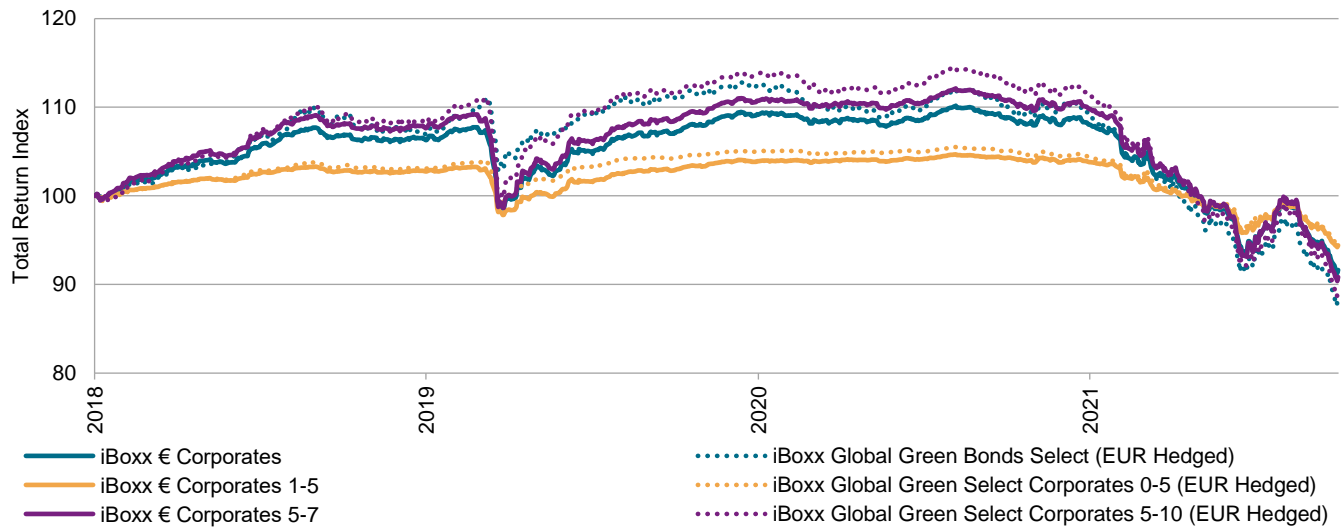
Exhibit 4: Annual Yield for Green Bond and Non-Green Bond Indices



The iBlox Global Green Select Corporates 0-5 (EUR Hedged) and iBlox Global Green Select Corporates 5-10 (EUR Hedged) represent hypothetical simulated indices. Source: S&P Dow Jones Indices LLC. Data as of Sept. 30, 2022. Annual yield is the normalized representation of the bond return based on a compounding period of one year. The 5-10 maturity bucket was compared to the best proxy, an existing iBlox € Corporates 5-7. The iBlox Global Green Bonds Select (EUR Hedged) was launched July 7, 2020. All data prior to index launch date is back-tested historical data. Charts are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information on the inherent limitations associated with back-tested performance.

Looking at the index price levels (see Exhibit 5), as rates have risen in 2022, the shorter-duration strategies (0-5) have displayed relative outperformance on a total return and risk-adjusted return basis. The medium-duration maturity bucket (5-10) has meanwhile outperformed in the rising market. Its total return index level was higher than both the proxy iBlox € Corporates 5-7 as well as the broader iBlox Global Green Bonds Select (EUR Hedged).

Exhibit 5: Historical Back-Tested Performance



Index	Risk-Adjusted Returns			
	2019	2020	2021	YTD 2022
iBovx Global Green Bonds Select (EUR Hedged)	0.07	0.05	-0.03	-0.24
iBovx € Corporates	0.06	0.03	-0.01	-0.19
iBovx Global Green Select Corporates 0-5 (EUR Hedged)	0.03	0.02	-0.01	-0.12
iBovx € Corporates 1-5	0.03	0.01	0.00	-0.12
iBovx Global Green Select Corporates 5-10 (EUR Hedged)	0.08	0.05	-0.02	-0.26
iBovx € Corporates 5-7	0.07	0.03	-0.01	-0.22

The iBovx Global Green Select Corporates 0-5 (EUR Hedged) and iBovx Global Green Select Corporates 5-10 (EUR Hedged) represent hypothetical simulated indices. Source: S&P Dow Jones Indices LLC. Data as of Sept. 30, 2022. All indices rebased to 100 level on Dec. 31, 2018. Risk-adjusted returns represent YTD return over annualized volatility. The iBovx Global Green Bonds Select (EUR Hedged) was launched July 7, 2020. All data prior to index launch date is back-tested historical data. Chart and table are provided for illustrative purposes and reflect hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information on the inherent limitations associated with back-tested performance.

Conclusions

Over the analyzed period, the green bond indices have closely matched their broader European credit benchmarks. Additional maturity focus shows that combining a short- (0-5) and medium-term (5-10) duration exposure also displayed characteristics of a defensive strategy over our analyzed period, where broader bond performance has been heavily challenged. The short-end focus helped mitigate losses in the falling market of 2022, while the 5-10 segment maintained an upside in the rising markets. This strategy, of course, may face other risks not explored here, like the reinvestment risk due to the nature of this maturity focus. Those are also present in the non-green bond segments. However, when done with a green bond tilt, it can provide deeper exposure to the impact finance that many investors are now seeking more of.

Performance Disclosure/Back-Tested Data

The iBoxx Global Green Bonds Select (EUR Hedged) was launched July 7, 2020. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at <http://www.spglobal.com/spdji>. Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

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