FOR PROFESSIONAL AND QUALIFIED INVESTORS ONLY

Expert's View

ESG Credit

ESG filters for a 'best in class' corporate bond allocation

The primary aim for bond investors is to mitigate downside risk while maintaining stable income streams. In this report, we look at the benefits of ESG filters in a corporate bond allocation and review the performance drivers of ESG and non ESG corporate bond indices over various market phases.

Facts and overview

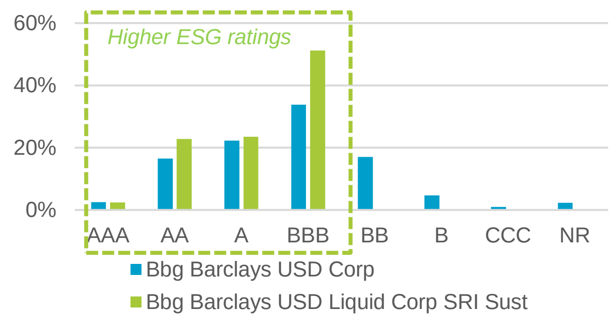
- **Corporate default is the worst-case scenario** for bond investors, but other risks such as credit rating downgrades and associated spread widening can also impact bond portfolio returns.
- ESG credit takes a mainstream corporate bond benchmark and **applies a sustainability screen that includes extra environmental, social and governance (ESG) standards.**
- ESG-filtered credit indices aim to build **a 'best in class' corporate bond exposure** that could help reduce the risk of major scandals or corporate mismanagement affecting bond performance.

Our key takeaways

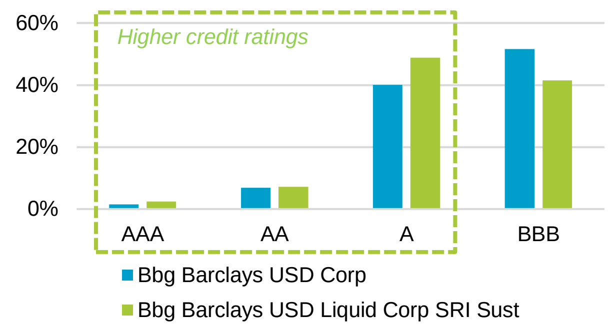
- **ESG filter in corporate bond indices:** The Bloomberg Barclays MSCI SRI Sustainable Indices exclude issuers with poor ESG ratings all companies involved in serious controversies, as these can become progressively more dangerous to corporate financial stability.
- **Performance review:** Our analysis underlines the benefits of ESG filtering at sector level in a corporate credit allocation during a sell-off, while a positive bond selection effect can materialise in a market recovery.

Chart 1: ESG credit indices offer greater exposure to top ESG issuers and higher corporate ratings

USD investment grade corporate bonds
ESG rating breakdown vs parent index



USD investment grade corporate bonds
Credit rating breakdown vs parent index



Sources: Lyxor International Asset Management, Bloomberg. Data as at 30/04/2021.
Past performance is not a reliable indicator of future returns.

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Summary

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ESG for bond investors

Corporate bond risk and ESG factors

For bond investors, success is defined less by picking winners than by avoiding losers. Their primary aim to mitigate downside risk in an allocation while maintaining stable income streams. Corporate default is the worst-case scenario, but other risks such as credit rating downgrades and associated spread widening can also impact potential bond portfolio returns.

Beyond ethical and social objectives, the investment rationale for higher ESG-rated companies posits that these companies may be better equipped to face large-scale risks. A previous analysis from Barclays shows that companies with a lower ESG scores have a higher likelihood of a rating downgrade than companies with a higher ESG scores.

While some companies dedicate a great deal of attention to ESG issues, others take them less seriously. Engagement with leaders may be easier as they have dedicated ESG resources, while laggards may be more reluctant to engage.

The UN PRI identified a range of ESG factors that can affect the performance of a company's bond, such as:

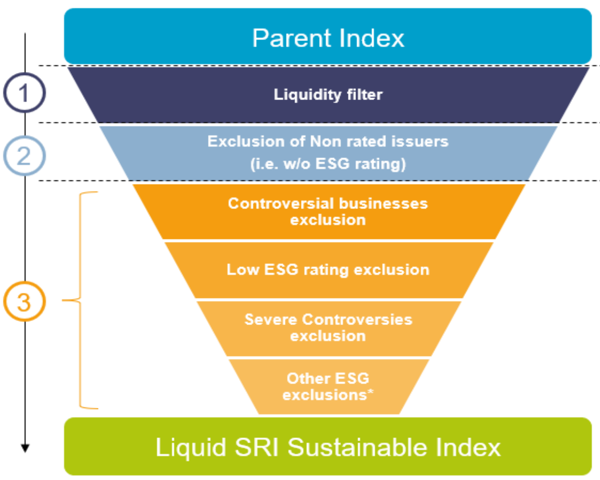
- **Issuer/company-specific risk**: Some ESG risks can affect a specific bond issue or issuer.
- **Sector/geographic risk**: Some risks can affect an entire industry or region. It can include regulatory and technological changes associated with the business activity the company is involved in, and or to the markets it sources or sell to.
- **Multi-sector/systemic risk**: Some risks can be the result of systematic interaction between sectors in response to poorly understood risks which may be mispriced. For example, stranded asset risk in the Oil & Gas sector is well recognised, but often less understood by refiners, pipeline providers and engineering firms.
- **Indirect exposure**: Resource scarcity, for example, might add to inflationary pressures and prompt a tightening of monetary policy and a rise in the cost of capital. This, coupled with adverse market conditions, could lead to investment losses.

Overall, incorporating ESG data into the corporate bond selection process can help investors to take a more holistic approach to bond investment and help to differentiate between bonds with similar financial profiles.

ESG filters in corporate credit benchmarks

ESG credit takes a mainstream corporate bond benchmark (the 'parent index') and applies a sustainability screen that includes extra environmental, social and governance (ESG) standards. This screen or filter excludes any bonds issued by companies with poor ESG ratings, or who are subject to severe scandals, or involved in controversial business such as weapons, tobacco, thermal coal and unconventional oil and gas.

Chart 2: Incorporating ESG filters in corporate credit benchmarks



	Euro Corporate			US Corporate		
	%MV	Issuers	Bonds	%MV	Issuers	Bonds
Parent Index	100.0%	613	3199	100.0%	808	6784
Liquidity filter	-7.1%	173	399	-38.5%	486	4305
Exclusion of Non rated issuers (i.e. w/o ESG rating)	-2.5%	30	101	-0.2%	7	10
Controversial businesses exclusion	-9.7%	30	276	-7.5%	27	380
Low ESG rating exclusion	-10.1%	51	285	-11.0%	57	414
Severe Controversies exclusion	-0.7%	2	17	-0.6%	1	22
Other ESG exclusions*	-1.1%	-1	29	-1.8%	22	102
Liquid SRI Sustainable Index	68.9%	328	2092	40.4%	208	1551

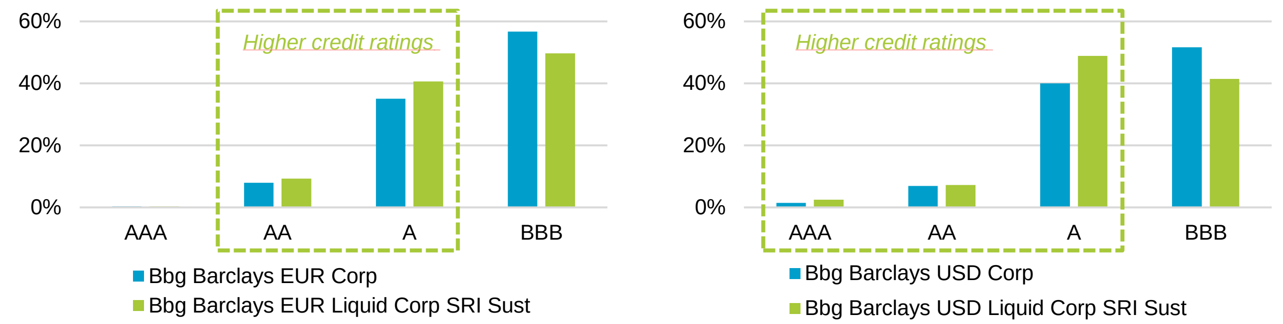
Source: Lyxor International Asset Management, Bloomberg Barclays, MSCI. For illustrative purpose only. Data as of 30/04/2021.
** Other category represents additional issuers excluded in order to ensure a minimum exclusion of 20% issuers (based on the number of issuers after exclusions due to liquidity and Non-rated issuers). It also contains exclusions due to involvement in Thermal coal and Unconventional Oil & Gas.*

ESG-filtered credit indices aim to build a 'best in class' corporate bond exposure that could help reduce the risk of major scandals or corporate mismanagement affecting bond performance. The Bloomberg Barclays MSCI SRI Sustainable Indices exclude all companies involved in serious controversies, as these can become progressively more dangerous to corporate financial stability (a controversy which leads to major fines can, in turn, cause bankruptcy).

Chart 3: ESG credit indices offer better corporate ratings compared to parent indices

Euro investment grade corporate bonds
Credit rating breakdown vs parent index

USD investment grade corporate bonds
Credit rating breakdown vs parent index



Corporate bond ratings – see Bloomberg Barclays Methodology for more. Source: Bloomberg Barclays, Lyxor International Asset Management. Data as at 30/04/2021. Past performance is not a reliable indicator of future returns.

ESG pillars in periods of market stress

ESG ratings rely on three 'pillars' which encompass the Environmental, Social and Governance qualities of a company and are expressed with a composite score. Better corporate Governance can prevent from default risk in a market downturn. A company with a strong balance sheets has liquidity buffers to weather the near-term fallout and can end up in a strong position once market condition normalises, opening-up the possibility of new business opportunities. Below, we assess the performance of ESG and non-ESG corporate credit indices during two periods of market stress:

- **Period A**: the market downturn in Q4 2018, we include here the amplitude of the market recovery six months after.
- **Period B**: the height of the Covid-19 crisis from 21 February 2020 to 23 March 2020, along with the amplitude of the market recovery one month after.

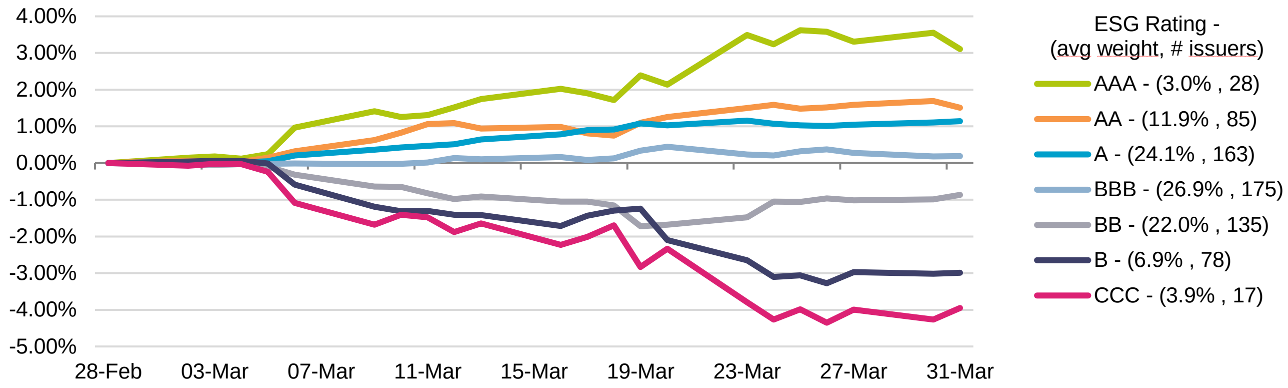
Table 1: US Investment Grade corporate bond indices performance during periods of market stress

	Bbg Barclays US Corporate Index	Bbg Barclays MSCI US Corporate SRI	Bbg Barclays MSCI US Corporate Sustainability	Bbg Barclays MSCI US Corporate Sustainable SRI	Bbg Barclays MSCI USD Corporate Liquid SRI Sustainable
Period A: Q4 2018					
Performance	-0.18%	-0.01%	-0.97%	0.08%	-0.03%
Change in spread (bps)	47	46	46	44	46
6M performance from through	9.85%	9.63%	8.05%	9.34%	9.54%
Spread change recovery	-39	-39	-38	-38	-41
Duration	7.5	7.3	7.4	7.1	7.0
Overall Performance (Crisis + recovery)	9.66%	9.61%	7.01%	9.43%	9.51%
Period B: Covid-19 crisis 21 Feb – 23 March 2020					
Performance to through	-12.71%	-12.50%	-11.69%	-11.24%	-11.68%
Change in spread (bps)	281	287	257	263	273
1M Performance from through	12.34%	11.92%	12.16%	11.72%	13.22%
Spread change rebound	-168	-172	-153	-158	-180
Duration	8.2	7.9	8.2	7.8	7.9
Overall Performance (Crisis + recovery)	-1.94%	-2.07%	-0.95%	-0.83%	0.00%

Source: Bloomberg Barclays, Lyxor International Asset Management. Data as at 11/05/2021.
Past performance is not a reliable indicator of future returns.

From this analysis we find that during periods of heightened market volatility, USD Investment Grade corporate bond portfolios tend to perform in line with non-ESG indices. Moreover, in the month following the height of the Covid-19 selloff, corporate bond indices with an ESG filter outperformed their parent index. Finally, when focusing only on the Covid-19 selloff, we find that in the recovery, the prices of those with the highest ESG rating normalised much faster than ESG laggards (see chart 4).

Chart 4: USD corporate bonds during the Covid-19 crisis
Performance of each ESG bucket relative to Bbg Barclays US Corp Index (28/02/2020 to 31/03/2020 in USD)



ESG ratings – see Bloomberg Barclays Methodology for more. Source: Bloomberg Barclays, Lyxor International Asset Management. Data as at 30/04/2021. Past performance is not a reliable indicator of future returns.

Corporate credit performance in 2020

In the following section, we go one step further and compared the performance of selected corporate credit ESG indices in 2020 to their non ESG equivalent. We split the year into two periods to assess the impact of Covid-19:

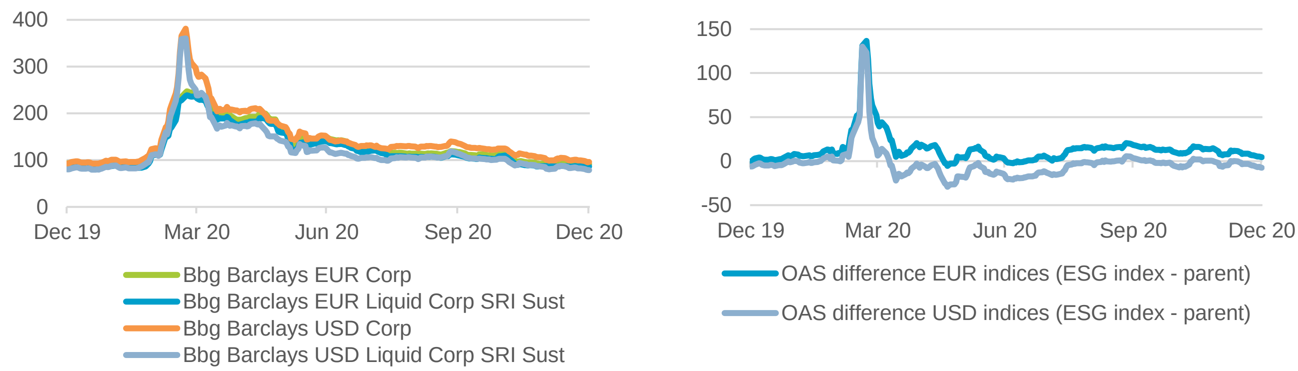
- **Period 1:** 31/12/2019 to March 2020 market trough*
- **Period 2:** Market trough* to 31/12/2020

Table 2: 2020 Performance summary *(in local currency)*

	Bbg Barclays EUR Corp	Bbg Barclays EUR Liquid Corp SRI Sust	+/-	Bbg Barclays USD Corp	Bbg Barclays USD Liquid Corp SRI Sust	+/-
Period 1: 31/12/19 to market trough*	-6.83%	-6.73%	0.10%	-10.58%	-10.35%	0.23%
Period 2: Market trough* to 31/12/20	10.31%	10.20%	-0.11%	22.90%	22.65%	-0.25%
Full period: 31/12/19 - 31/12/20	2.77%	2.79%	0.02%	9.89%	9.96%	0.07%

*Market trough is 25/03/20 for EUR Corporate bond indices and 20/03/20 for USD corporate bond indices. Data as at 30/04/2021. Sources: Lyxor International Asset Management, Bloomberg Barclays. Past performance is not a reliable indicator of future returns.

Chart 5: Historical spread between ESG and non ESG corporate bond indices
In absolute terms (in bps) *In relative terms (in bps)*



Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021. Past performance is not a reliable indicator of future returns.

In 2020, both ESG and non ESG corporate bond indices posted positive performance. By breaking down the performance drivers into two categories, we can assess the impact of the government bond yield curve and spreads on the performance of corporate bonds.

We find that the performance of the EUR ESG corporate bond index was driven by the positive impact of the yield curve (+1.15%), positive spread carry effect (+1.27% return earned from the exposure to credit spreads) and spread compression (+0.37%). On the other hand, the performance of the USD ESG corporate bond index was mainly driven by the strong positive impact of the US sovereign rate component (i.e. yield curve impact). The flattening of the USD Treasury yield curve following aggressive monetary policy support from the Fed supported performance (+8.1%). Meanwhile the impact from spreads, albeit positive, was much more limited (1.8%).

In 2020, corporate bond indices experienced severe gyrations over the year as shown in table 2 above, between the market sell-off and the recovery from early April until the end of the year. In table 3 below, we examine the performance drivers over each period.

Table 3: Absolute performance explanation of ESG credit indices

Period 31/12/2019 – 31/12/2020, in local currency, using Bloomberg Barclays sector breakdown

	Yield curve total impact	Spread total impact	Total
EUR Corp SRI Sustainable 2020 performance explanation			
Period 1: 31/12/19 - 25/03/20	-0.40%	-6.72%	-7.12%
Period 2: 25/03/20 - 31/12/20	1.63%	9.04%	10.67%
USD Corp SRI Sustainable 2020 performance explanation			
Period 1: 31/12/19 - 20/03/20	7.92%	-18.26%	-10.34%
Period 2: 20/03/20 - 31/12/20	-0.67%	23.28%	22.61%

Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021. Past performance is not a reliable indicator of future returns

See p.12 for glossary and definitions

Over period 1 (31/12/2019 to the market trough), the corporate bond market suffered from the extreme spread widening in both the EUR and USD. In the EUR indices, Financials and Consumer cyclical were hit the most, leading to a strong impact from wider spreads onto overall performance. In the USD indices, extreme spread widenings dragged the most overall performance (-18.3%) - with Energy and Communications sectors being hit the hardest. This was partially compensated by the positive contribution from the flattening of the USD yield curve over the period (+7.9%).

The market recovery in period 2 - led by strong spread tightening - allowed for a strong recovery in both EUR and USD corporate credit markets. In the EUR index, performance was driven by Financials and Consumer cyclicals, while in the USD index, Basic Industry, Transportation Energy and Communications contributed the most to overall performance.

Table 4 looks at the performance of ESG corporate bond indices relative to their parent index with a focus on the impact of sector allocation and bond selection on performance.

Table 4: Performance attribution relative to parent index

Period 31/12/2019 – 31/12/2020, in local currency, using Bloomberg Barclays sector breakdown

	Yield curve total impact	Allocation effect	Selection effect	Total
EUR Corp SRI Sustainable 2020 performance attribution relative to parent index				
Period 1: 31/12/19 - 25/03/20	-0.02%	-0.06%	0.21%	0.13%
Period 2: 25/03/20 - 31/12/20	-0.03%	0.07%	-0.20%	-0.16%
USD Corp SRI Sustainable 2020 attribution relative to parent index				
Period 1: 31/12/19 - 20/03/20	-0.47%	1.02%	-0.31%	0.24%
Period 2: 20/03/20 - 31/12/20	0.15%	-0.84%	0.41%	-0.28%

Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021. Past performance is not a reliable indicator of future returns.

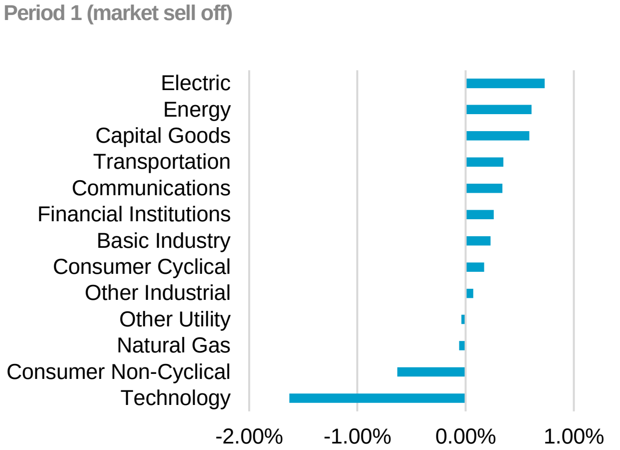
See p.12 for glossary and definitions

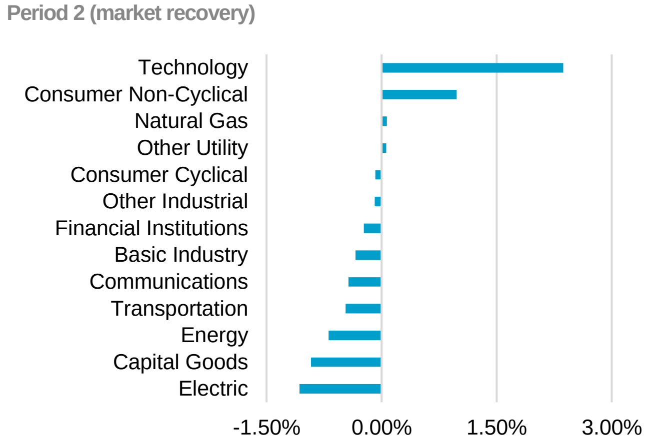
Looking at the USD credit ESG relative performance, we find that in 2020 the positive impact from sector allocation (+50bps) was balanced out by the negative impact from yield curves (-45bps) on performance. However, the impact from allocation and bond selection on performance varied between the two periods observed (market selloff and recovery). Chart 6 sums breaks down the impact of allocation effect on performance by sectors for USD corporate credit for both periods:

- During period 1, the ESG credit index benefited from positive allocation effect (+1.02%). We note the negative impact from the overweight stance on Technology and Consumer Non-cyclical (-1.63% and -0.63% respectively), that was compensated by positive impact from other sectors – see p.8 for details of the sector breakdown. But bond selection effect was negative for overall performance (-31bps), with returns weighed down by Financial names (-58bps).
- In the market recovery phase (period 2) bond selection mattered (+41bps) and returns were driven by the strong contribution from Financials (+91bps). On the other hand, the overall allocation effect was negative (-84bps) despite the very positive impact from the strong overweight on Technology (+2.4%).

Chart 6: Allocation effect for USD ESG credit in the market sell off and recovery phase in 2020

Allocation effect on performance by sectors relative to parent index (in %)





Period 1: 31/12/2019 to 20/03/2020, Period 2: 20/03/2020 to 31/12/2020
Sources: Lyxor International Asset Management, Bloomberg. Data as at 30/04/2021. Past performance is not a reliable indicator of future returns. See p.13 for glossary and definitions.

Overall, this analysis underlines the benefits of ESG filtering at sector level in a corporate credit allocation in periods of heightened market stress, while positive bond selection effects can come into play during a market recovery phase.

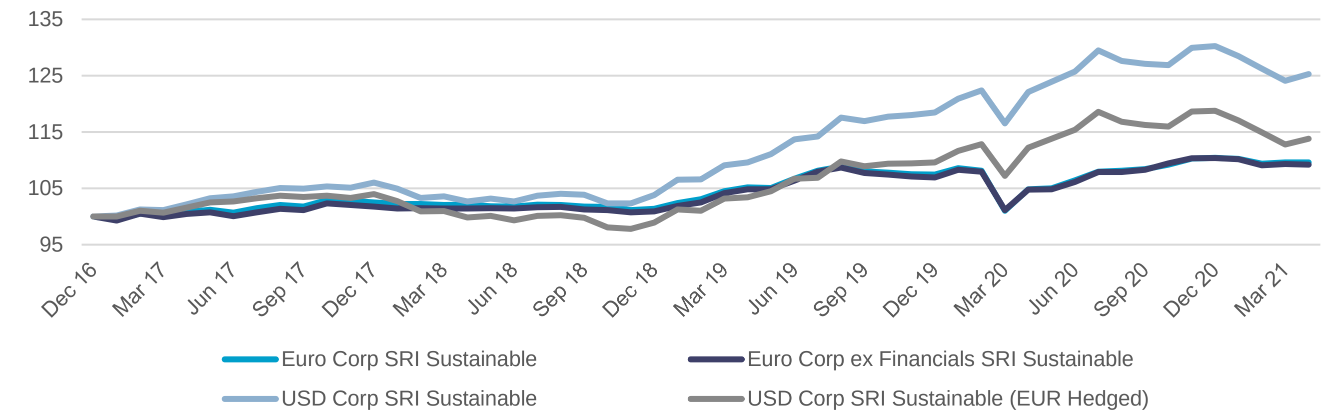
Investment Grade Explorer

In this final section we introduce our Investment Grade Explorer, a new quarterly review on the performance of ESG corporate indices and how they compare to their non ESG equivalent.

In this Explorer, we first start with a snapshot of the main metrics to monitor in fixed income (industry, country, corporate ratings breakdown). Then we try to explain and break down the YTD performances of EUR and USD corporate indices. Finally, we show a comparison with non ESG indices (parent index) to conclude with a performance attribution of the ESG indices relative to their parent indices.

ESG corporate bond indices have posted negative returns YTD, hit by the general rise in government bond yields as economic activity recovers. Positive spread impact (+89 bps for EUR lead by Financials bonds and +81 bps for USD) compensated for some of the negative yield curve impact (-161bps for EUR and -461 bps for the USD).

Corporate bond index performance *(base 100 = 31/12/2016)*

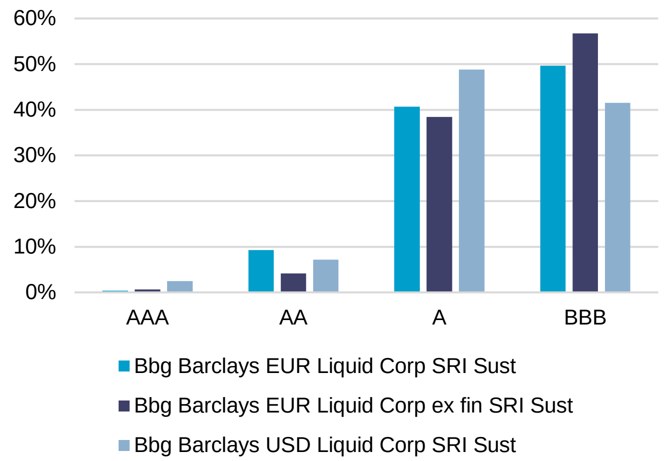


Base 100 = 31/12/2016. Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021, in local currency. Past performance is not a reliable indicator of future returns.

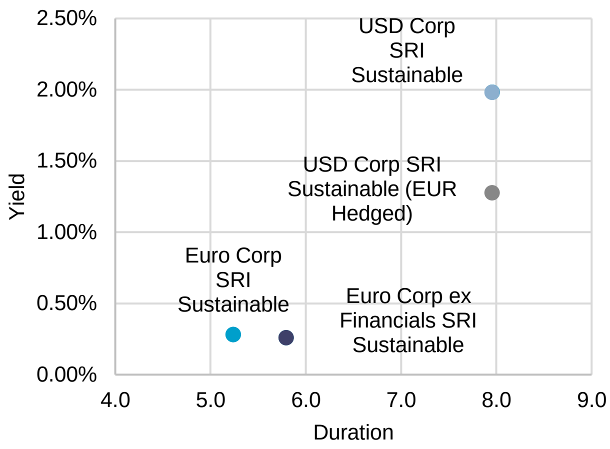
	Duration	Yield to Worst	YTD yield change (in bps)	OAS	YTD OAS change (in bps)	YTD perf	Last year perf	FX hedging costs
Euro Corp SRI Sustainable	5.2	0.28%	11.5	0.80%	-6.5	-0.73%	2.79%	-
Euro Corp ex Financials SRI Sustainable	5.8	0.26%	12.8	0.74%	-7.0	-1.04%	3.25%	-
USD Corp SRI Sustainable	8.0	1.98%	46.4	0.76%	-2.4	-3.80%	9.96%	-
USD Corp SRI Sustainable (EUR Hedged)						-4.16%	8.39%	0.71%

OAS: Option Adjusted Spread. Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021. Performance is stated in local currency and in gross total return. Past performance is not a reliable indicator of future returns.

Index breakdown by credit rating *(in % of market value)*

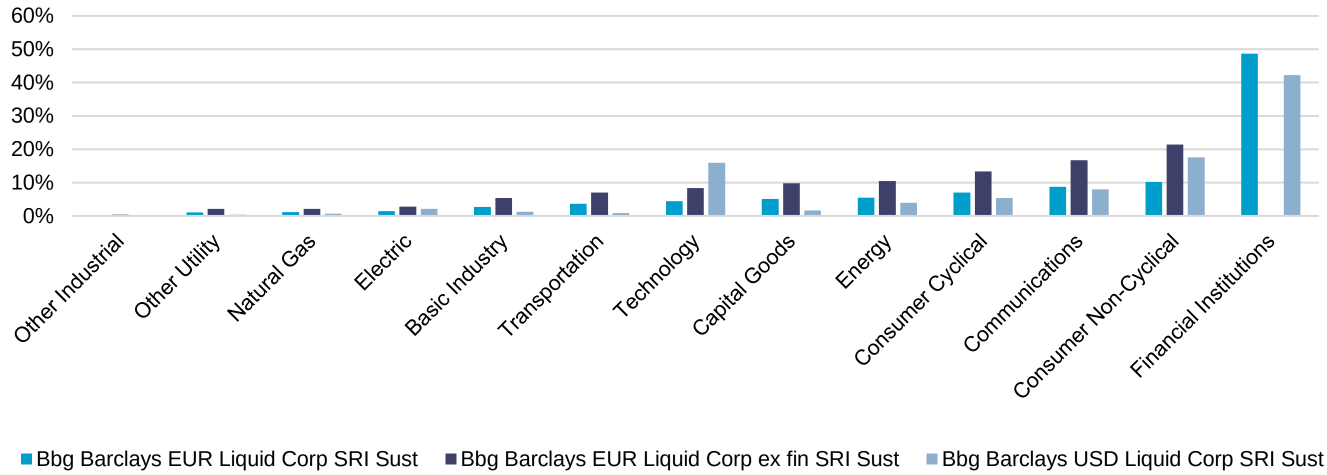


Yield Duration profiles



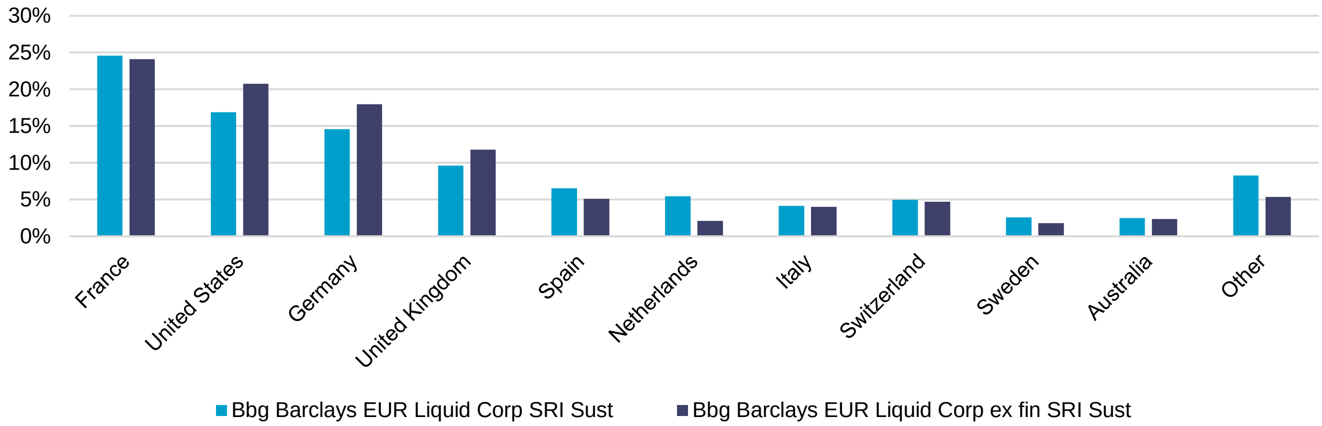
Sector breakdown

Bloomberg Barclays sector classification, in % of market value



Country breakdown

Country of risk, in % of market value



Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021.
Past performance is not a reliable indicator of future returns.

YTD Performance analysis

Performance analysis overview
Period 31/12/2020 – 30/04/2021, (in respective currency)

	Bbg Barclays EUR Liquid Corp SRI Sust	Bbg Barclays USD Liquid Corp SRI Sust
YTD Performance	-0.73%	-3.80%
YTD Perf. explained	-0.72%	-3.80%
Residual performance	0.00%	0.00%

Bloomberg Barclays EUR Liquid Corporate SRI Sustainable Index performance explanation
Period 31/12/2020 – 30/04/2021, in EUR, using Bloomberg Barclays sector breakdown

	Average weight	Sector Total return	Yield curve total impact	Spread total impact	Total
Total	-	-	**-1.61%**	**0.89%**	**-0.72%**
Other Utility	1.1%	-1.00%	-0.02%	0.01%	-0.01%
Other Industrial	0.2%	-2.71%	-0.01%	0.00%	-0.01%
Natural Gas	1.0%	-1.59%	-0.02%	0.00%	-0.02%
Basic Industry	2.7%	-0.74%	-0.04%	0.03%	-0.02%
Electric	1.6%	-1.05%	-0.02%	0.01%	-0.02%
Transportation	3.6%	-0.70%	-0.07%	0.04%	-0.02%
Consumer Cyclical	7.0%	-0.47%	-0.10%	0.08%	-0.04%
Technology	4.4%	-0.92%	-0.08%	0.04%	-0.04%
Capital Goods	5.1%	-0.87%	-0.09%	0.04%	-0.05%
Energy	5.6%	-0.86%	-0.11%	0.06%	-0.05%
Communications	8.7%	-1.12%	-0.18%	0.08%	-0.09%
Financial Institutions	47.6%	-0.39%	-0.61%	0.43%	-0.18%
Consumer Non-Cyclical	11.3%	-1.63%	-0.26%	0.07%	-0.18%

Bloomberg Barclays USD Liquid Corporate SRI Sustainable Index performance explanation
Period 31/12/2020 – 30/04/2021, in USD, using Bloomberg Barclays sector breakdown

	Average weight	Sector Total return	Yield curve total impact	Spread total impact	Total
Total	-	-	**-4.61%**	**0.81%**	**-3.80%**
Other Industrial	0.1%	-1.84%	0.00%	0.00%	0.00%
Other Utility	0.4%	-6.64%	-0.03%	0.00%	-0.03%
Natural Gas	0.6%	-5.39%	-0.04%	0.01%	-0.03%
Basic Industry	1.4%	-4.44%	-0.09%	0.04%	-0.07%
Transportation	1.1%	-6.42%	-0.09%	0.01%	-0.07%
Capital Goods	1.7%	-4.33%	-0.09%	0.02%	-0.08%
Electric	2.2%	-4.31%	-0.15%	0.05%	-0.10%
Energy	3.9%	-2.74%	-0.19%	0.08%	-0.11%
Consumer Cyclical	5.7%	-4.87%	-0.35%	0.04%	-0.30%
Communications	7.6%	-5.26%	-0.49%	0.10%	-0.39%
Technology	16.4%	-4.75%	-0.88%	0.10%	-0.78%
Consumer Non-Cyclical	19.0%	-4.37%	-1.06%	0.19%	-0.87%
Financial Institutions	40.1%	-2.57%	-1.15%	0.17%	-0.98%

Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021.
Past performance is not a reliable indicator of future returns.
See p.12 for glossary and definitions

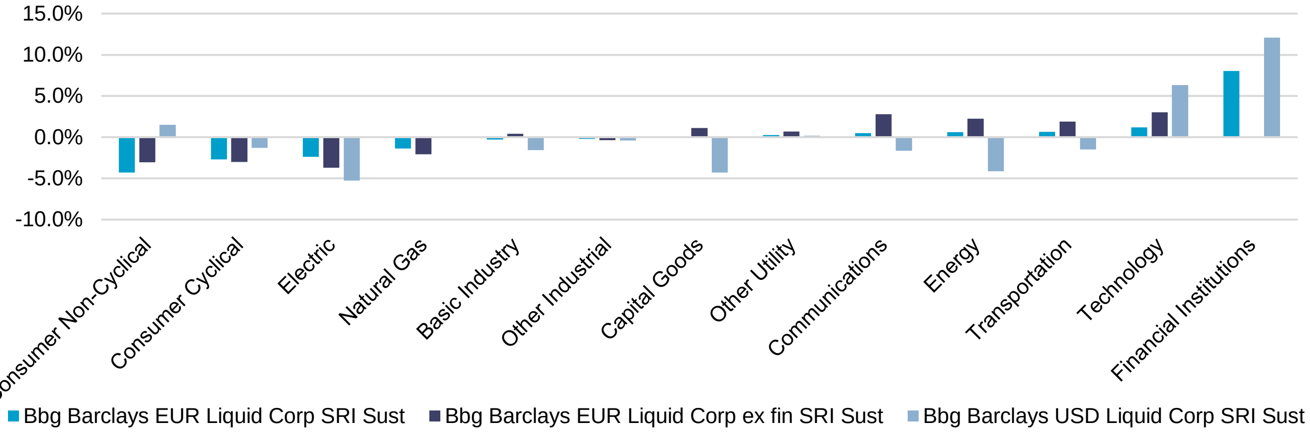
Comparison versus Parent indices (Non-ESG)

Key statistics

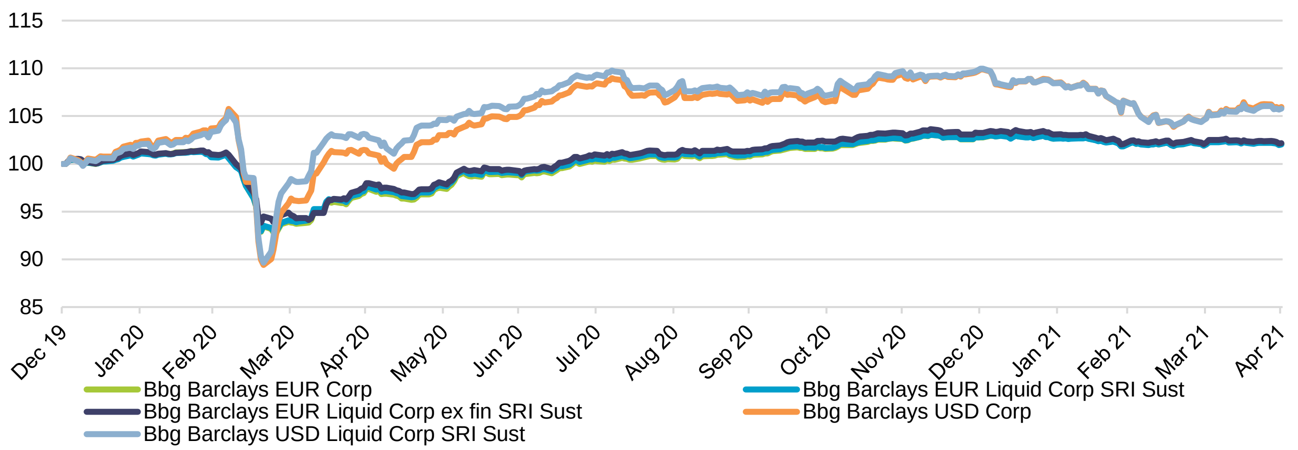
	Bbg Barclays EUR Corp	Bbg Barclays EUR Liquid Corp SRI Sust	Bbg Barclays EUR Liquid Corp ex fin SRI Sust	Bbg Barclays USD Corp	Bbg Barclays USD Liquid Corp SRI Sust
Key metrics					
# Constituents	3,199	2,092	1,175	6,784	1,551
Mod. Duration	5.26	5.24	5.79	8.49	7.96
Yield to Worst	0.32%	0.28%	0.26%	2.17%	1.98%
Credit Spread	84	80	74	88	76
Spread duration	5.24	5.22	5.76	8.23	7.77
Historical performance					
YTD perf	-0.7%	-0.7%	-1.0%	-3.6%	-3.8%
1Y perf	4.9%	4.6%	4.3%	4.5%	2.6%
3Y perf	7.5%	7.3%	7.7%	22.2%	22.0%
1Y vol	2.2%	2.2%	2.2%	4.9%	4.8%
1Y TE vs parent	-	0.1%	0.2%	-	0.5%
Max Drawdown	-8.5%	-8.4%	-7.8%	-15.4%	-15.0%
(from Apr-2013)	from 24/02/2020 to 25/03/2020	from 30/08/2019 to 25/03/2020	from 28/08/2019 to 25/03/2020	from 06/03/2020 to 20/03/2020	from 06/03/2020 to 20/03/2020

Sector breakdown vs parent

Bloomberg Barclays sector classification, in % market value



Historical performance *(base date = 31/12/2019)*



Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021, in local currency.
Past performance is not a reliable indicator of future returns.

Performance attribution overview

Period 31/12/2020 – 30/04/2021, (in respective currency)

	Bbg Barclays EUR Corp	Bbg Barclays EUR Liquid Corp SRI Sust	+/-	Bbg Barclays USD Corp	Bbg Barclays USD Liquid Corp SRI Sust	+/-
YTD Performance	-0.67%	-0.73%	-0.06%	-3.59%	-3.80%	-0.21%
YTD Perf. attribution	-0.66%	-0.72%	-0.06%	-3.59%	-3.80%	-0.21%
Residual performance	0.00%	0.00%	0.00%	-0.01%	0.00%	0.00%

Bbg Barclays EUR Liquid Corp SRI Sustainable performance attribution relative to parent index

Period 31/12/2020 – 30/04/2021, in EUR, using Bloomberg Barclays sector breakdown

	Average weight	Sector Total return	Yield curve total impact	Allocation effect	Selection effect	Total
Total	**-**	**-**	**0.02%**	**0.01%**	**-0.10%**	**-0.06%**
Consumer Non-Cyclical	-3.4%	-1.6%	0.09%	-0.03%	-0.01%	0.04%
Natural Gas	-1.4%	-1.6%	0.03%	-0.01%	-0.01%	0.01%
Electric	-2.3%	-1.1%	0.02%	-0.02%	0.00%	0.01%
Energy	0.5%	-0.9%	-0.01%	0.00%	0.00%	0.00%
Other Industrial	-0.2%	-2.7%	0.00%	0.00%	0.00%	0.00%
Basic Industry	-0.2%	-0.7%	0.00%	0.00%	0.00%	0.00%
Communications	0.5%	-1.1%	-0.01%	0.00%	0.00%	0.00%
Other Utility	0.3%	-1.0%	-0.01%	0.00%	0.00%	-0.01%
Transportation	0.6%	-0.7%	-0.01%	0.01%	-0.01%	-0.01%
Technology	1.2%	-0.9%	-0.02%	0.01%	0.00%	-0.01%
Capital Goods	-0.1%	-0.9%	0.00%	0.00%	-0.01%	-0.01%
Consumer Cyclical	-2.5%	-0.5%	0.02%	-0.03%	-0.02%	-0.02%
Financial Institutions	7.1%	-0.4%	-0.09%	0.07%	-0.03%	-0.04%

Bbg Barclays USD Liquid Corp SRI Sustainable performance attribution relative to parent index

Period 31/12/2020 – 30/04/2021, in USD, using Bloomberg Barclays sector breakdown

	Average weight	Sector Total return	Yield curve total impact	Allocation effect	Selection effect	Total
Total	**-**	**-**	**0.34%**	**-0.22%**	**-0.34%**	**-0.21%**
Electric	-5.1%	-4.3%	0.32%	-0.08%	0.01%	0.25%
Capital Goods	-4.1%	-4.3%	0.20%	-0.07%	-0.01%	0.11%
Energy	-4.2%	-2.7%	0.21%	-0.12%	-0.02%	0.08%
Communications	-1.8%	-5.3%	0.12%	-0.04%	-0.03%	0.05%
Basic Industry	-1.5%	-4.4%	0.07%	-0.03%	0.00%	0.05%
Transportation	-1.4%	-6.4%	0.08%	-0.02%	-0.01%	0.04%
Other Industrial	-0.4%	-1.8%	0.05%	-0.02%	0.00%	0.02%
Natural Gas	0.0%	-5.4%	0.00%	0.00%	0.00%	0.00%
Other Utility	0.2%	-6.6%	-0.02%	0.00%	0.00%	-0.02%
Consumer Cyclical	-1.0%	-4.9%	-0.05%	0.00%	-0.03%	-0.09%
Consumer Non-Cyclical	2.7%	-4.4%	-0.11%	0.03%	-0.05%	-0.13%
Financial Institutions	9.7%	-2.6%	-0.09%	0.07%	-0.16%	-0.19%
Technology	6.9%	-4.8%	-0.42%	0.06%	-0.03%	-0.40%

Sources: Lyxor International Asset Management, Bloomberg Barclays. Data as at 30/04/2021.
Past performance is not a reliable indicator of future returns.
See p.12 for glossary and definitions

Glossary

Performance attribution methodology

In this publication we use the Bloomberg **Spread return model** for our performance attributions and explanations. In this model, yield curve related performance is managed separately from credit related one (spread return). The allocation and selection effect described below aim to explain the credit related component of the performance analysis.

Yield curve total impact: is the return that can be attributed to the sovereign yield curve (sum of carry, change and convexity effects). This is split into the following:

- Yield curve carry: is the curve return due only to the passage of time. This is isolated as the return of an instrument with exactly the same key rate profile as the instrument in question and zero OAS.
- Yield curve change: is the return due to the first and second order effects of the curve change. It is computed as the sum of the products of key rate durations and the corresponding rate changes plus the product of half the convexity and the square of the average rate change across the curve.

Spread total impact: is the return that can be attributed to the credit spread component. This is split into the following:

- Spread carry: is the spread return due only to the passage of time.
- Spread change: is the spread return that can be attributed to changes in credit spreads.

Currency effect: is the return that can be attributed to currency allocation.

Allocation effect: is the active return that can be attributed to asset allocation bets (e.g. under or overweighting a specific sector). In this model, it relates only to the spread component part of the performance.

Selection effect: is the active return that can be attributed to security selection within a specific sector (e.g. choosing different securities within a grouping from those in the benchmark). In this model, it relates only to the spread component part of the performance.

Interaction effect: is the active return that can be attributed to simultaneously making both an allocation and security selection bet. In this analysis, this term is added to allocation effect for simplicity purposes.

Residual: the unexplained segment of the relative excess return between the index and the benchmark (e.g. not explained by the attribution performance).

Total attribution: is the total active return. It is equal to the sum of the allocation, selection, intersection, yield curve and currency effects.

For more information on Lyxor ETF's ESG credit range please contact your Lyxor ETF sales representative.

Knowing your risk

It is important for potential investors to evaluate the risks described below and in the fund prospectus on our website www.lyxoretf.com

Capital at risk
ETFs are tracking instruments: Their risk profile is similar to a direct investment in the Underlying index. Investors' capital is fully at risk and investors may not get back the amount originally invested.

Replication risk
The fund objectives might not be reached due to unexpected events on the underlying markets which will impact the index calculation and the efficient fund replication.

Counterparty risk
With synthetic ETFs, investors are exposed to risks resulting from the use of OTC swaps. In-line with UCITS guidelines, the exposure to a swap counterparty cannot exceed 10% of the total fund assets. Physically replicated ETFs may have counterparty risk if they use a securities lending program.

Underlying risk
The Underlying index of a Lyxor ETF may be complex and volatile. For example, when investing in commodities, the Underlying index is calculated with reference to commodity futures contracts exposing the investor to a liquidity risk linked to costs such as cost of carry and transportation. ETFs exposed to Emerging Markets carry a greater risk of potential loss than investment in Developed Markets as they are exposed to a wide range of unpredictable Emerging Market risks.

Currency risk
ETFs may be exposed to currency risk if the ETF is denominated in a currency different to that of the Underlying index they are tracking. This means that exchange rate fluctuations could have a negative or positive effect on returns.

Liquidity risk
Liquidity is provided by registered market-makers on the respective stock exchange where the ETF is listed, including Societe Generale. On exchange, liquidity may be limited as a result of a suspension in the underlying market represented by the Underlying index tracked by the ETF; a failure in the systems of one of the relevant stock exchanges, or other market-maker systems; or an abnormal trading situation or event.

Concentration risk
Some ETFs, e.g. thematic and Smart Beta ETFs, select stocks or bonds for their portfolio from the original benchmark index. Where selection rules are extensive it can lead to a more concentrated portfolio where risk is spread over fewer stocks than the original benchmark.

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