

Combining sustainability and outperformance with credit factor investing

What is the ex-ante impact of different sustainable investment approaches on the alpha of a credit portfolio? And what can investors do who want both outperformance and sustainable credit investments? Credit factor investing provides a solution to both questions.

Dr Harald Henke
Head of Fixed Income Strategy

Dr Veronika Herzberger · CFA · CCR
Head of Fixed Income Portfolio Management

Desislava Vladimirova
Research Associate

The volume of corporate bond portfolios managed with sustainability criteria like ESG score or carbon footprint has exploded in recent years. The ex-ante alpha impact of these measures is unclear and difficult for a traditional fundamental credit manager to estimate. However, quantitative portfolio approaches provide a way to obtain a reasonable estimate of the alpha impact.

How can a factor lens be used to estimate the impact of sustainability criteria?

A systematic factor approach combines factors such as value, momentum, or carry into a so-called multi-factor signal, which is used as an alpha estimate in the portfolio construction process. There is strong empirical evidence that higher multi-factor exposure in a portfolio leads to higher expected returns. Figure 1 describes this relationship.

The portfolio containing the 20% of bonds with the highest multi-factor exposure, Q5, shows the best average

performance. Performance declines with each reduction in multi-factor exposure. Q3, the median quintile, performs in line with the market, while Q2 and Q1 underperform the market.

How to estimate the impact of sustainability criteria in practice?

We estimate the impact of different sustainability approaches on the expected alpha by creating a new portfolio according to the client's sustainability target, e.g., 20% less carbon emissions, and compare the portfolio's factor exposure with that of the original portfolio. For all portfolios, we calculate the exposure to the multi-factor signal as a measure of ex-ante performance potential. To simulate realistic portfolios, we restrict deviations from a standard benchmark in terms of duration, credit risk, cash, active sector exposure and the maximum weight per issuer.

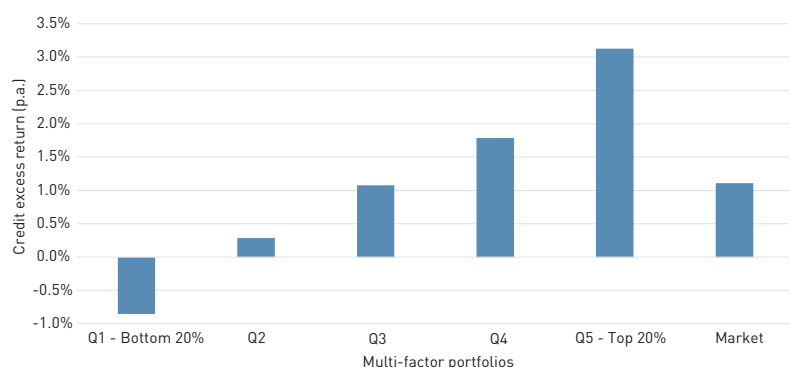
We consider the following sustainability metrics and requirements:

- the Industry-Adjusted Score (IAS) by MSCI,
- the carbon footprint of the portfolio (scope I+II),
- and a minimum proportion of green bonds.

We apply increasingly restrictive constraints and measure the impact on the portfolio's factor exposure.

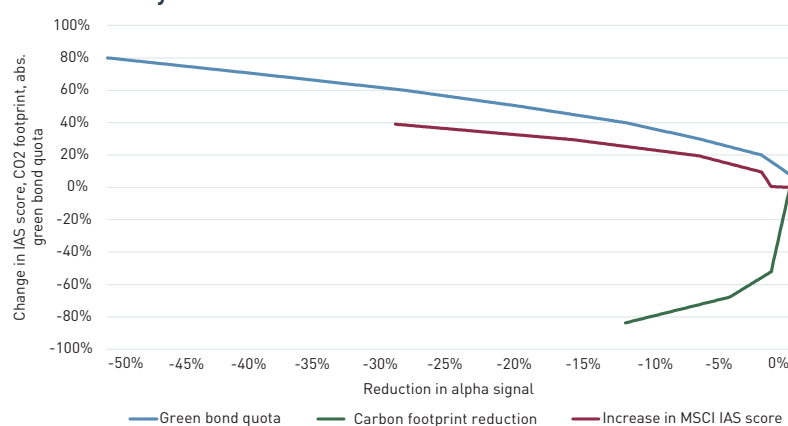
Figure 1: Global IG credit multi-factor quintile portfolios

Credit excess returns of quintile portfolios with different exposures to the multi-factor signal (Q1=lowest, Q5=highest).



Period: 2000 - 2022. Source: Quoniam Asset Management

Figure 2: Trade-off between multi-factor exposure and sustainability criteria



Source: MSCI, Bloomberg L.P., Quoniam Asset Management

What are the trade-off frontiers?

The results of our calculations are shown in Figure 2. The graphs show a trade-off between multi-factor exposure and sustainability criteria, but the trade-off is small for moderate levels of the respective sustainability variables. For the IAS score, if the portfolio is tilted to a 20% higher score compared to an unconstrained optimisation, the loss in multi-factor exposure is 7.3%. It is only when the score is increased by 40% that the loss in multi-factor exposure becomes more significant.

The carbon footprint tilting shows that even large reductions of 60% and more do not lead to a significant loss in multifactor exposure. For the green bond quota, the trade-off is more visible. While no restrictions on the portfolio currently lead to a green bond position of 8%, a position of 30%, 50% and 70% leads to multi-factor exposure reductions between 6.8% and 39.7%. Again, a moderate position does not change the alpha potential significantly, but larger positions have a negative impact on ex-ante performance expectations.

The results also provide another insight. For investors who focus on sustainability in a credit portfolio, systematic outperformance becomes possible if they adopt a factor approach. As can be seen from Figure 2, investors who wish to have at least 50% green bonds in their portfolios can implement

a portfolio with a multi-factor signal of about 75% of the exposure compared to the case with no mandatory allocation to green bonds. Although the expected alpha is lower, there is still significant potential for outperforming the market.

Investors who combine a sustainable investment approach with credit factor investing can therefore specify with reasonable precision the ex-ante effect of any ESG criterion in terms of impact on expected alpha. Moderate to medium improvements in sustainability measures do not change the alpha potential of the portfolio significantly.

Conclusion

We show that qualitative assessments of the impact of different sustainability measures on ex-ante alpha expectations can be made using a systematic factor investing approach in corporate bond management. Sustainability tilts and factor exposures are compatible and the goals of outperforming a standard benchmark and including a sustainability measure in the portfolio can both be achieved with moderate compromise. Investors with a sustainability focus do not need to give up on their outperformance goal when using factor investing.