

# How Multi-Factor Risk Premia offers value in a Corporate Bond Strategy

- The 2020 Covid-19 crisis case study



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For actual portfolio performance see: [Corporate Bonds Quarterly Comment](#)

### Introduction

We aim to explore the practical application of a multi-factor risk premium strategy within a corporate bond framework. We argue it can offer a path towards effective and consistent identification of bonds that can be implemented into a portfolio of bonds with a robust and improving credit quality at an attractive price. In short, factor investing can lead to better risk adjusted returns. Factor risk model screening of corporate bonds is only the first of many elements in a fundamental issuer research since the selection of bonds into an investment portfolio requires careful attention to e.g. diversification and lack of liquidity. Especially during a crisis such as the 2020 Covid-19 V-shaped market chock.

Our focus here is primarily on the structure of the risk premium framework and its theoretical performance through the recent cycles, most prominently the 2020 Covid-19 market correction and subsequent rebound. We have used multi-factor risk premia research since 2012 as an approach to initial bond screening and due diligence. We believe it offers strong results when it comes to identifying attractive investment opportunities across the global issuer universe as well as early warning signs for credit weakness in current holdings.

### The Corporate Bond Multi-factor Model

The multi-factor risk premium model has been constructed with the purpose of identifying bonds from corporate issuers that are expected to outperform.

It draws upon a combination of three main factor strategies: Value, Momentum and Quality inspired by the original work of Fama and French (1993) but tailored to work with the complex nature of credit markets. It identifies a unique set of bottom-up driven credit risk factor scores for all issuers. For each single factor the model ranks bonds accordingly to expected outperformance (or underperformance). By utilizing the fact that risk premium factors historically perform differently through market cycles their low or even negative correlation makes it is possible to combine all three into a multi-factor strategy that shows very attractive performance attributes.

The Value factor is constructed from an extended version of the well-known structural credit model pioneered by Merton (1974). By estimating the default probability from the relationship between the capital structure of the issuer and the volatility of its assets it is possible to identify bonds that are mispriced compared to the fundamental credit quality of the issuer. High-ranking value bonds usually perform well in a positive economic cycle, with returns typically turning negative in the beginning of a crisis.

The Momentum factor is constructed from the equity data of the issuer and its role is to find positively or negatively trending companies.

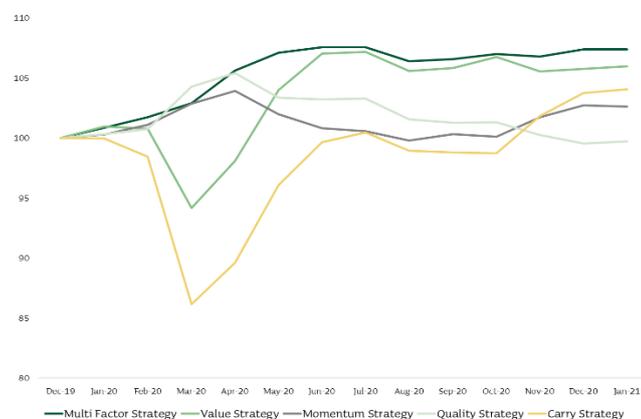
The role of Quality is to provide robustness in negative markets by identifying companies with strong balance sheets and proven ability to convert earnings into cashflows. High-ranking Quality bonds usually underperform in positive markets but can offer drawdown protection in distressed markets.

Investing in the factors individually requires a view on the state of the economic cycle. However, by combining the factors, we get a bottom-up constructed model that is more robust through the changing economic cycles due to the low correlation between the factors.

Below we discuss the results of the model implementation in its theoretical form without considering any restrictions that would face a real-life management team such as trading costs, liquidity in bond issues and restrictions on portfolio diversification. Importantly, our reference to performance in the context of the model implicitly signals the model's ability to identify bonds that will outperform the benchmark in the month following the calculation.

## Credit cycle performance of the model: Covid-19 pandemic case

We utilised the inputs from the multi-factor strategy during the seismic shifts in credit markets in Q1 2020 and its following rebound through 2020. As expected from our experience from previous crises, the multi-factor risk premium model proved a consistent and reliable tool to identify opportunities and weaknesses within the investment universe.



Cumulative relative performance to the strategy's benchmark of top quintile for the different factor strategies during the first leg of the Covid-19 crisis. The Carry strategy is not included in the multi factor strategy. Returns are ex. transaction cost. Source: Jyske Capital and ICE

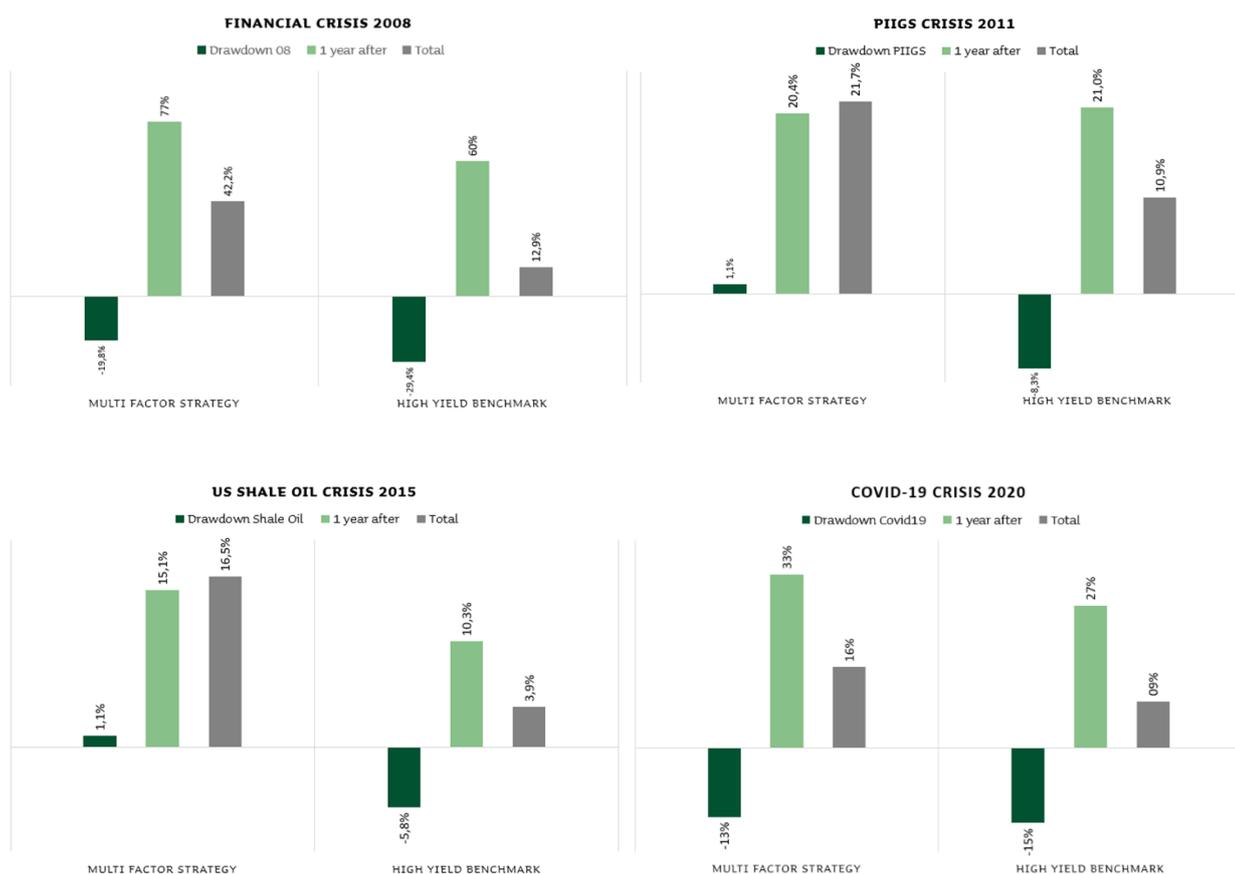
During March 2020, the high yield market was under severe stress followed by a significant rebound in April through to December. However, during the first leg of the crisis, the Multi-Factor strategy (constructed from the top quintile scoring bonds) outperformed the high yield benchmark with 2.9% to the end of March. The combined strategy continued

its course towards a total benchmark outperformance of 7,3% at the end of 2020.

A more interesting feature is the performance pattern of the single factor strategies for Value, Quality, Momentum and the traditional Carry factor. As expected, they played their role during the market crash and rebound. Value initially underperforms significantly with -5.8%, while the Quality and Momentum factors both drag performance in the opposite direction with outperformance of 4.3% and 2.9% respectively. Clearly, the "flight to quality" effect of the Quality factor as well as signals from Momentum worked to protect performance at the time. Towards the end of the period, Value acts as the performance driver through the positive market cycle outperforming the two other factors. These results are coherent with the results during former crisis periods as we discuss further below.

While the long-term market effect of the Covid-19 crisis is still unknown, we believe one can argue for the superior properties of combining Value, Momentum and Quality in corporate bond research.

Next, we want to compare the Multi Factor model's results across previous cycles of credit stress, i.e. the financial crisis of 2008, the PIIGS crisis of 2011 and the oil crisis of 2015. The Covid-19 crisis of 2020 is displayed in a similar format for consistency. Again, the model has proven to be robust with respect to identifying bonds that have less drawdown and better performance than those in the benchmark. Furthermore, the multi-factor strategy consistently outperforms the benchmark the first year after the market bottomed. It is only slightly lagging the benchmark on the rebound in 2011, however the strategy outperforms in aggregate due to a lower drawdown in the crisis. The pattern across previous market crashes is that the multi-factor strategy is able to reduce the drawdown without removing the upside when the market turns around.



The graphs compare the maximum drawdown returns for the multifactor strategy and for the strategy’s high yield benchmark during past crises. The returns 1 year after are calculated as total return 1 year after trough in benchmark value. Returns are ex. cost. Source: Jyske Capital and ICE

## Implementation challenges

The main problem with a multi-factor strategy in corporate bonds is the very high complexity of corporate bonds. Many corporations issue bonds with different maturities, calls, different seniorities and different covenants. The liquidity of bonds changes over time and even for the individual corporation there can be differences in the liquidity between their bonds. All making it significantly harder to build a model and implement it compared to equity.

Implementation therefore becomes the key to utilize the factor risk premiums in corporate bonds. Even in a normal business environment, it is more complex to manoeuvre around the high yield market com-

pared to the stock market. The complexity is significantly magnified during a market crash. During the Covid-19 crisis we saw corporate bond ETF’s struggling to maintain a low tracking error<sup>1</sup> and some of the index providers cancelled the rebalancing of their high yield benchmark in March. The reason was the evaporation of liquidity during March and April 2020, where bid/offer spreads widened significantly.

Another topic of ongoing debate is whether Value as a factor is “still working”. While this is referring to discussions amongst equity investors the topic has important implication for corporate bond investors. Considering the vast amount of ETF’s, that are now offering generic equity factor strategies, there is a risk that the factor premiums has been arbitrated

<sup>1</sup> <https://www.bloomberg.com/opinion/articles/2021-01-04/bond-etfs-survived-2020-liquidity-scare-but-just-barely>

away in the equity markets. This is not the case for corporate bonds, most prominently because “value” has many different definitions among credit investors, and it is estimated completely differently and not necessarily correlated with equity value. Secondly, because only a few asset managers have embarked on the factor premium journey in corporate bonds, the risk premiums we harvest through our Multi Factor model seems to be intact.

Lastly, any credit risk model is constructed from simplified assumptions and inputs and one should therefore exercise caution when using them. We point towards a couple of such issues, most prominently the model’s assumptions on abundant liquidity, zero cost trading conditions and absence of any diversification constraints. Implementing such additional parameters within the model’s portfolio construction algorithm will naturally curb the performance results in absolute and relative terms.

### **Conclusion: “It works”**

We have provided evidence to our argument that factor risk premia do in fact exist within the global high yield corporate bond market and that proper modeling of such risk factors can lead to superior performance results that show resilience during draw-downs. We also argue that it is essential for the model to be properly anchored within a qualitative research and portfolio construction framework.

With an active management element, the manager can create excess value from the model’s input by maintaining focus on the most attractive issues within the investment universe. Fundamental issuer research must include a careful investigation of e.g. the issuer’s sector characteristics, business strategy, competitive strength, the strength of the future financial position, the terms of funding and capital structure in addition to the market characteristic, liquidity and investor base of each bond.

Combining the multi-factor strategy with a strong fundamental credit analysis and a thoroughly portfolio implementation can utilize the best of both

worlds, hereby achieving superior and robust performance through the cycle – even in an extreme v-shaped crisis like the Covid-19 crisis.

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