Fixed income and multi-asset alternative risk premia strategies take diversification to a new level. Philippe Vannerem, PhD, Portfolio Manager Fixed Income at Quoniam, explains. A brief summary of his presentation.

Many systematic effects in global capital markets are driven by the same factor themes across asset classes. For corporate bonds, simple single factor strategies often produce mediocre results under realistic assumptions such as limited liquidity in smaller issues. Bottom-up multi-factor selection analysis allows to exploit inefficiencies and generates added value for the investor. Meet Philippe Vannerem from Quoniam. His key message is that multi-factor investing in fixed income is a less well-known approach that investors should seriously consider. Although for equity investing this is familiar territory, a multi-factor approach for fixed income is uncharted ground to many. Quoniam has been engaged in multi-factor investing for 20 years, Vannerem states.

Innovative systematic investment strategies

‘As a partner-driven, active quantitative asset manager, Quoniam is known for its freedom to devise innovative systematic investment strategies’, says Vannerem. The quant asset manager performed, for example, an empirical research study to find out whether there is any relationship between Twitter, social media microblogs and the stock market S&P 500 returns and volatility. Statistical Learning was used to identify experts on Twitter out of a total of 14.4 million tweets from 1 January 2010 to 21 December 2014, and natural language processing (NLP) was applied to determine market sentiment signals. To reduce the impact of noise, statistical text processing tools were used in a first step to identify expert subsets of Twitter users based on their linguistic fingerprint. Having identified such user subgroups, simple daily sentiment and topic disagreement metrics were constructed for the user groups. In a second step, the relation of sentiment measures and S&P 500 returns were examined as well as the relation between disagreement measures and the S&P 500 volatility.

What were the conclusions?

‘It showed that Twitter experts may work as a reliable source for a sentiment factor, but only when used in high frequency trading at very low cost. Obviously, this is not meant to work for the average fiduciary mandate but indicates that the opportunities of data analytics are worth considering and researching further.’

The more indirect implication is also that it is still valid to analyse asset price data with a number of key fundamental ideas that investors take into consideration when investing in, which Vannerem would call, ‘factor themes’. ‘These are well known since everyone agrees that there are systematic effects structuring capital markets across asset classes, such as Risk, Value, Quality and Sentiment.’

Could you highlight any of these effects?

‘Value is an interesting one. Among investors, there is this general idea that, if cheaply priced, assets are attractive, and should yield higher returns. But in practice many cheap investments incur higher risk or are of inferior quality, such as higher leverage or

Figure 1: Multi-factor bond selection outperforms simple factors with only average risk/return

Realistic backtests:

• Turnover restrictions
• Transaction costs
• Rules-based risk management
• Capital-weighted benchmark

Each factor portfolio is optimised considering the above mentioned points; portfolios have liquidity profile comparable to capital-weighted benchmark

Source: Quoniam
low profitability.’ What would this mean for portfolios in fixed income factor investing? To this end, Quoniam performed an empirical factor investing study, comparing single factor strategies, a top down ‘factor mix’ of single factors, and a bottom up multi-factor selection strategy. Vannerem: ‘The multi-factor bond selection outperforms simple factors which have only average risk/return profiles’ (see Figure 1).

Some more observations
‘A fixed-income quality strategy tends to ‘buy expensive’. First, on average, Quality tends to be more expensive than the market. In addition, high Quality is very expensive during a crisis, whereas poor Quality is expensive at peak levels, with ‘expensive’ meaning: lower returns going forward. It should also be noted that the ECB purchases (remember Draghi’s ‘Whatever it takes’) had a substantial impact on EUR bonds.’ Another observation made in the study is that a single factor fixed-income value strategy ‘buys cheap’ but incurs significant higher drawdowns than a much less risky multi-factor strategy.

Any explanation for the lack of interest in multi-factor investing in fixed income?
‘It is a field with less academic attention and less publications than in equity but this is changing. Actually, currently there are many institutions and researchers publishing papers showing different factors particularly in corporate bond strategies. The search is about finding inefficiencies in fixed income investing and exploiting them. In the old schemes there were hardly any data available as these were controlled by brokers who would not give away the data unless you were trading with them. Due to academic researchers not having access to the datasets, very few results were published. Also, available history was very limited until recently. This is changing, fixed-income data is more widespread and is no longer controlled by brokers.’

Increased cost pressure
Today sees the shift towards independent data providers such as Bloomberg, Capital IQ, FactSet and Thomson Reuters Eikon. In addition, there is the fact that yield reduction has increased the cost pressure. ‘Clients want their portfolio manager to deliver added value every year. The other effect is that some of the traditional tools that a fundamental portfolio manager had in the portfolio (longer duration, higher spreads) worked fine. As long as the interest rates were falling this gave an extra return, or they would have better carry with higher spreads than the benchmark. But the financial crisis clearly showed such a one dimensional strategy can lead to catastrophic results when markets turn sour.’

Data sources are useful tools
‘Typically, people look at better data sources and/or larger datasets in order to harvest their premia. Amazon systematically measures what products people tend to buy based on previous purchases, and it’s analytics can be used, for example for targeted marketing. In theory, this could be very useful for investment, too. One example: using satellite images near real time to look at the harvested crops in the fields might give some upfront information for trading in agricultural commodities. Obviously, we’re talking about huge amounts of unstructured visual data. This is quite different from traditional financial analysis based on balance sheet data. It requires new technology and data science.

CV
Dr. Philippe Vannerem, Associate Partner, has been working as a Portfolio Manager in Fixed Income at Quoniam since August 2014. Previously he worked at Barclays Capital (London), where he was responsible for the German market in the area of index, portfolio and risk solutions. Before that he was responsible for product development in the field of equity indices at MSCI Barra in Geneva, and for institutional client advisory in multi-asset strategies and analytics. Other experience includes management and strategy advisory at McKinsey & Co., Switzerland.
skills. On the other hand, only very few direct applications of big data currently exist in asset management. Capital markets are extremely good at processing information, relationships between data and returns are very weak and often unstable. This makes it very difficult to use big data and artificial intelligence to pick stocks or bonds.’

**What is your key message?**

‘We believe that you should apply a multi-factor approach to corporate bond investing. So we have defined value, momentum and quality factors in a systematic and transparent way. Our finding is that if you look at single factors these have only little outperformance on a risk adjusted basis, in other words they are risk premia but they do not systematically add value. Only a strategy that combines multiple factors in an efficient way achieves superior results.’

**Would this also work in a multi-asset market portfolio?**

‘Compared to a classic allocation you can get a better Sharpe ratio, a better return for a given risk level by tapping into factor based risk premia across asset classes, including alternative ones. The key factor themes (Value, Quality, Sentiment, Carry, et cetera) that we all know can be implemented in a market neutral manner in Equities, Fixed Income, FX markets and other asset classes. This diversifies much better than traditional 50:50 balanced portfolios, which have a huge exposure to equity beta and interest rate duration. Especially when considering drawdown risk, such multi-asset risk premia portfolios are far superior to traditional balanced portfolios, the maximum drawdown for a given level of target volatility is much lower (see Figure 2).’

**How does this reflect in Quoniam’s performance?**

‘We aim to generate extra return versus the benchmark for a given risk budget in most of our fixed income mandates. And the track record for Euro corporates against the relevant Euro benchmark since inception is about 80bps up annually or about 20% more absolute return than the benchmark since 2005 with a tracking error that is in the same range with an information ratio slightly better than 1. If you compare this to other managers’ performance in a consultant database you would find that this performance is extremely good, probably at the top decile when it comes to the information ratio but somewhat lower with respect to the extra return versus the benchmark compared to some other managers who have larger tracking errors, hence the strategy is more risk-controlled.’

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2. Covering senior investment grade bonds excluding subordinates issued in EUR, USD, GBP, and based on Bloomberg (Barclays) & ICE (BOAML) indexes from January 2005-December 2017, excess credit return excluding interest and currency effects
3. Made up ‘top down’ from 3 portfolios: 40% FI Value, 40% Enhanced Momentum and 20% Quality
4. The ‘multi-factor’ strategy mixes signals ‘bottom up’ at the single bond level (again 40% / 40% / 20%), and constructs portfolio only afterwards.

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**Multi-factor strategies in fixed income take investment style diversification to a new level.**

**New types of premia and the composition of the portfolio will determine the risk/return profile.**

**Don’t get distracted by big data and noise.**

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**About Quoniam:**

Quoniam, founded in 1999, is a pioneer in quantitative asset management and invests in public equity, fixed income, and multi-asset markets across the globe. Quoniam is using a scientific approach to investing called ‘quantitative investment engineering’. This is a transparent, high-tech investment process, which analyses particular factors that are both economically plausible and empirically verifiable. With offices in Frankfurt and London, Quoniam employs 120 people and manages € 30 billion in assets for global investors. [www.quoniam.com](http://www.quoniam.com)