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INVESTING TOGETHER

ADORA FI – FIXING THE INCOME SIDE.

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Over the past decade, fixed income investments have lived a life in the realms of subordinated significance with low to negative interest rates and ever-increasing stock market valuations. With the seminal shift in macroeconomic forces beginning with the high inflationary regimes and the respective reactions from the central banks, fixed income has regained their fair attention.[1] Yields now range from 2.6% for 10-year German government bonds up to 4.5% for 10-year US Treasuries Notes.[2]

AN ASSET CLASS RETURNS TO THE SPOTLIGHT

The return of the asset class however did not come without an impediment. With the sharp increase of the interest beyond 5% by the Fed that began in March 2022, and the first deviation from a zero-interest rate environment since a decade by the ECB in July 2022, losses shattered through the fixed income sector. That is, an exposure to the 10Y German Bund would have experienced a loss of -19.43% in 2022, while the 10Y US Treasury Notes would have faced a loss of -13.89%.[3] Losses that dissolved the save heaven characteristic of these investments. At the same time, the higher interest rates weighted heavily on the equity market sector, letting the often-exploited negative correlation between equity and fixed income instruments break down. Once again, the desperately needed diversification vanished in times when it was needed most. With the market still upholding such regime shift today, the investor is required to look for solutions to manage the duration risk of their fixed income portfolio.

THE IMPORTANCE OF ACTIVE DURATION MANAGEMENT

Fixed income investment is commonly perceived as a low volatility asset and often treated as a buy-and-hold position expected to earn a steady coupon income. However, with the rise in inflation the risk exposure of the asset class has changed. With central banks closer monitoring inflationary developments and adjusting interest rates policies accordingly, the fixed income bucket is nowadays more exposed to value changes depending on its duration. With this higher uncertainty, the investor is advised to actively hedge the individual interest rate exposures to reduce this risk.

At the same time, the relationships in the fixed income sector are inherently non-linear. As portfolio managers hold fixed income positions along the whole yield curve, the duration management is more complex than simply adjusting a single fixed income posi-

1) We have coined this significant shift as the metamorphosis of the financial markets. The interested reader is referred to: www.la-francaise-systematic-am.com/fileadmin/news/marktkommentar/ADORA_EQ_in_Review_-_Navigating_the_Financial_Metamorphosis_EN_final.pdf
2) Values as of 24.05.2024; Source: Bloomberg.
3) Source: Bloomberg, Time period: 30.12.2021 – 30.12.2022.

tion. Furthermore, while central banks set short term interest rates, the expectations for longer tenors are most efficiently extracted looking at current OTC swap implied rates, which are driven by the supply and demand of the market participants.

The above-mentioned effects make the modelling of the fixed income market inherently complex and far from trivial. Resorting to e.g. more simplified (often linear) models does not capture the complexity of interacting variables. To optimally account for the markets high dimensionality an overlay strategy needs to utilize the appropriate methods to evaluate all the input variables as well as their interactions.

To reach this goal, the fixed income overlay strategy developed by La Française Systematic AM applies state-of-the-art supervised machine learning methods to tackle these challenges and derive an optimal hedging exposure. The machine learning approach is combined with a component based on behavioural finance and follows a model pooling approach, highlighting the fact that different models produce more accurate results in different market scenarios. While the system is recalibrated regularly, each model is selected based on forecasting accuracy and model stability.

For the calibration of the models, La Française Systematic AM's fixed income overlay strategy makes extensive use of a large breadth of input data: macroeconomic, fundamental, cross-asset, momentum, and sentiment to model the complex dependencies in the bond market.

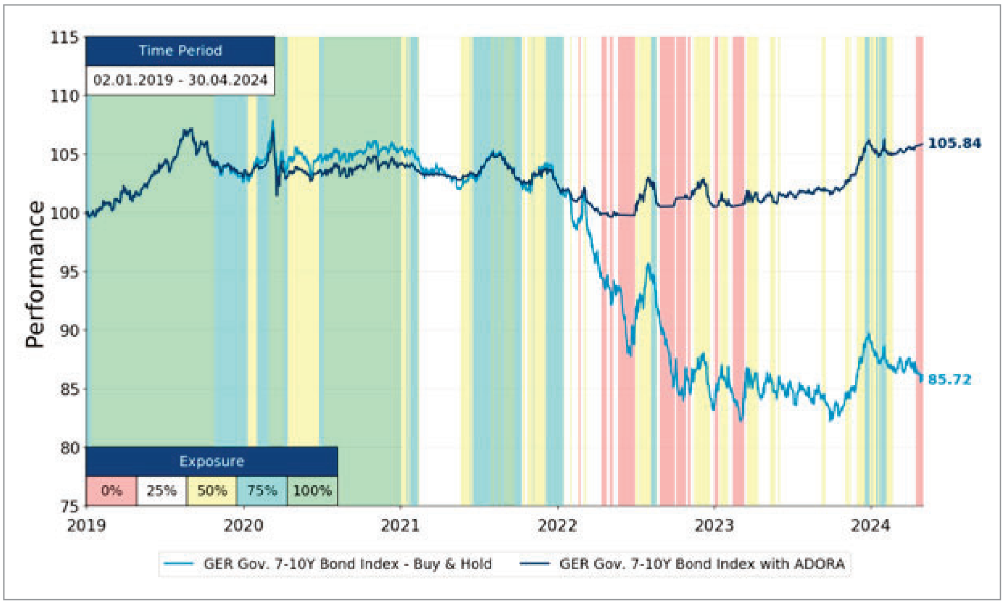
At the same time, it demystifies the black box character of the machine learning model, as it is the quant researcher who influences the hedging characteristics of the strategy by selecting the relevant input data and by identifying the high-risk periods in the model's training phase. The machine learning algorithms learn and select the appropriate settings and parameter values to identify such high-risk periods in the future.

HEDGING GERMAN GOVERNMENT BONDS – AN EXAMPLE

Figure 1 illustrates the potential performance of our dynamic hedging strategy developed by La Francaise Systematic AM applied on the Bloomberg German Government 7-10 Year Bond Index. Over the whole period the strategy returns a positive performance of 5.8%, as compared to -14.3% of the static Buy and Hold approach. At the same time the dynamic hedging strategy only reports a Maximum Drawdown of 7.0%, as compared to 23.8% for the Buy and Hold strategy.

The strength of the combination between a machine learning and a momentum model is especially prone in the years 2022 and 2023. While the Momentum model fully hedged the bond index right in Q3 2022 and nearly continuously hold on to this exposure until the end of 2023, the ML model adds a factor of agility to the overall performance. The latter allows the overlay strategy to partially unwind the hedge at the end of 2023 and to exploit even complicated sideways markets – such as those in 2023. Furthermore, it levers on short term reversal like the one in mid-2022.

FIGURE 1
Simulated performance of Advanced Data Operating Risk Agent (ADORA-FI)



	Return	Return p.a.	Volatility p.a.	Sharpe Ratio	Max Drawdown
GER Gov. 7-10Y Bond Index - Buy and Hold	-14.3%	-2.9%	6.5%	-0.53	-23.8%
GER Gov. 7-10Y Bond Index with ADORA	5.8%	1.1%	3.2%	0.14	-7.0%

Source:
La Française Systematic Asset Management GmbH, Bloomberg, Own calculations; Simulated back calculation: 01/2019-04/2024. For illustration purposes only. Past and simulated performance is not a reliable indicator of future performance.

HEDGING GERMAN GOVERNMENT BONDS - AN EXAMPLE

The fixed income overlay strategy, developed by La Francaise Systematic AM allows the investor to exploit the benefits of the fixed income sector while not needing to worry about potential regime shifts in monetary policy. By applying state-of-the-art machine learning methods and combining it with a behavioural component the system is equipped to weather not only trend reversals but difficult sideways markets.

Main risks: interest rate risk, capital loss risk. The investor is notified that his capital is not guaranteed and therefore might not be returned.
Model risk: The model may not always behave as expected. Therefore, the model cannot guarantee to reduce losses in value.
Risk associated with derivatives: The model uses derivatives. These are financial instruments whose value depends on the underlying asset. Minor fluctuations in the price of the underlying asset can lead to significant changes in the price of the derivative.

Do you have any further questions? – We are pleased to help you.

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