Our Smart Beta approach on Global Sovereign Bonds

Factor investing and Smart Beta strategies have been a major trend among equity investors in the recent years. The trend came hand in hand with a growing demand for passive investment solutions, lower management costs and most importantly better risk-adjusted return investments.

Less common in the Fixed Income universe, it was not until very recently that the Smart Beta Fixed Income funds started to occur. This delay is caused by the complex characteristics of the asset class (i.e., tracking rate sensitivity, curve/duration, spreads, correlations etc.). Another reason why smart beta equity strategies have been more successful is the relative lack of historical data available to study and the marginal difference in terms of management fees between active and passive fixed income solutions.

In this paper we would like to address our findings relative to fixed income smart beta and why such strategies are interesting from an investor’s stand point. At Natixis Asset Management we believe that hybrid solutions combining pure passive and active discretionary approaches could be a better fit for Fixed Income. This conclusion was also the starting point of our Natixis Enhanced Beta strategy (applied to sovereign debt only) which brings together our active in-house capabilities with a Smart Beta approach.

We also believe that this pairing provides better results, and therefore built our investment process on three main pillars:

1. constructing a customized Smart Beta index*
2. installing a tool that optimizes the performance and limits both absolute and relative risk
3. while taking into account our active Sovereign views

Overview of the investment process

* Our smart beta index: 30% Barclays US Treasury Index, 20% Barclays Euro Treasury, 5% Barclays Asia Pacific JPY TSY, 5% Barclays Sterling Gilt, 40% Barclays EM Local Currency Government / 10% country-capped. Before 08/2008, JP Morgan GBI EM Global Div is used as a proxy for the emerging block.
But, what is a Smart Beta Index?

It is important to note that the main fixed income indices are dominated by the size of debt issuance or said differently “market cap”, which is not an optimal way to build a smart Beta index or a portfolio in Fixed Income. GDP-weighted indices on the other hand, would be a more logical approach since bond prices tend to move contrariwise to GDP growth. This methodology therefore increases the relative weight of countries when their economies are growing and inversely decreases the exposure to countries which are in the contraction phase.

For instance, our GDP-weighted smart index allocates more to low-debt countries which are better placed to pay off the debt since they have low leverage. We therefore built a customized systematic reference index that is representative of the global economy on a purchasing-power-parity basis, counter-cyclical, forward-looking, and efficient. The reference index uses a blend of indices to develop a GDP by PPP*-weighted global government index as follows:

- 30% Barclays US Treasury Index (USD)
- 20% Barclays Euro Treasury (EUR)
- 5% Barclays Asia Pacific JPY TSY (USD unhedged)
- 5% Barclays Sterling Gilt (GBP)
- 40% Barclays EM Local Currency Government / 10% country-capped (local currencies).

The weights within this index are capped at 10% for any one country.

How do we apply a quantitative optimizer?

Our Global Enhanced Beta strategy blends a systematic approach and qualitative inputs. It uses Natixis AM’s proprietary quantitative research, and active management. Therefore our Enhanced Beta strategy can bridge the gap between market-weighted passive strategies and active strategies.

The second step is to maximize the portfolio’s yield over volatility, constrained for tracking error (vs its smart benchmark). An optimization tool, MaxYield@Risk, is used. The innovative facet of the MaxYield@Risk optimization process is its incorporation of both relative and absolute risk. It is an approach which recognizes carry as the main empirical contributor to long term fixed income returns and also assumes that yield to maturity is a relevant estimate of future carry (income return).
Our internal teams produce thorough research on global and local markets. For this reason, in the recent years, we have extended our global investment solutions offering with strategies such as Global Bonds, Global Aggregate, Global Multi Asset Income, Global Convertibles, Global Emerging or Global High Yield to name a few.

With regards to the Global Enhanced Beta strategy, the final step consists of enhancing the abovementioned process with proprietary Natixis AM’s views on interest rates and country fundamentals. Back tests show that (i) thorough research on global and local markets and (ii) Fixed Income investment skills are key in delivering value but also decreasing absolute risk in case of high drawdown. We therefore chose to enhance the above mentioned process with Natixis AM’s proprietary views on interest rates and countries fundamentals as the final step of our Global Enhanced Beta strategy. These views are developed by portfolio managers, economists, and strategists, most notably the Interest Rates Committee and quantified on a periodic basis, typically weekly, and recorded concurrently.

Lastly, overlay with Natixis AM skills

The Global Enhanced Beta portfolio aims to deliver outperformance and protect against downside risk across the market cycle. Performance should be stronger in a stable interest rate and/or stable dollar scenario, or in a declining interest rate/declining dollar context.

In terms of relative performance, the ‘smart’ benchmark should outperform the traditional benchmark based on the structurally higher allocation to emerging markets. In bear markets, the active views aim to improve relative performance by adapting duration, country selection, and currency to mitigate downside risk.

We have illustrated our findings on the chart below going as far as June 2011 on the back-test and August 2015 on the live track record of the portfolio.

Source: Barclays, Natixis AM - Data as of 31.05.2017. The simulated track record was carried out for indicative purposes until 30.06.2015, on the basis of hypothetical investments, and does not constitute a contractual agreement from the part of Natixis AM. Figures mentioned refer to previous years. Past performance does not guarantee future results. * Both Max Yield@Risk and Enhanced Beta skills overlay stages include transaction costs.
How does it fit within a client allocation?
We have looked at the different scenarios of how such an investment solution fits in the context of a portfolio allocation. Whether this be in a pure treasuries or in a multi fixed income allocation portfolio.
In fact the efficient frontier between a “standard” global treasuries index and our smart beta government bonds strategy provides a theoretical optimum allocation portfolio as illustrated below. It is important to highlight that the optimum frontiers are largely dependent on the currency of denomination. We have illustrated below our findings in a euro denominated optimised portfolio, composed of: 18% Smart Index EUR unhedged + 82% Bloomberg Barclays Global Treasury EUR hedged.

Return over Volatility ratio

Source: Bloomberg/Barclays, Natixis AM - Data as of June 2017. Past performances are not a guarantee for future results.* Enhanced Beta skills overlay stages includes transaction costs.
On the other hand, should we change the currency and build a theoretical “optimal allocation” on a pure absolute risk/return perspective we obtain: 73% Smart index USD unhedged and 27% Bloomberg Barcalys Global Treasury USD unhedged as shown below.

These allocations have been compared to Bloomberg Barclay’s global treasury in terms of realized Excess return and realized tracking error from January 2003 to June 2017. We have illustrated the analysis in the graph below and how our smart beta solution fits in such an allocation:

Lastly, we also looked at the efficient frontier for diversified fixed income portfolios with a risk return profile oscillating from pure global government bonds to global aggregate solutions. For the purpose of this study, we tested all the possible static allocations between global aggregate index ex treasury, standard global treasury indices and our smart index.
The red line represents as of end June 2017 the split of the global aggregate between treasuries (around 80%) and non-treasury (around 20%) bonds. The bottom line of our illustration is that, switching from a global treasury index to our “smart index” improves the realised excess return compared to the initial starting universe (Bloomberg Barclays Global Aggregate). As expected with a smart beta approach the added risk seems to be better rewarded with an “optimal static allocation” within the ranges of 43% Smart index and 37% Bloomberg Barclays Global Treasury. These are a few case studies of how a smart beta solution fits in a portfolio allocation and how it can improve the risk adjusted return profile of the client’s portfolio.
INVESTMENT TEAM

Olivier de Larouzière – Head of Interest Rates

Olivier de Larouzière began his career in 1994 at Ecureuil Gestion, the fund management arm of the French Savings Bank. He successively managed money market, European and global fixed income funds. He joined BNP-Paribas in 1998 as fixed income proprietary trader and then Credit Lyonnais Asset Management in 2001 as senior fixed income portfolio manager. Olivier de Larouzière joined Ixis Asset Management in 2003 as Head of Euro Aggregate investment team. In 2005, he became Head of the Euro Government and Aggregate investment team and in 2007, he became head of the Govies and inflation team within Natixis Asset Management. Since 2010, Olivier heads the Interest Rates team (comprising Sovereign debt & Inflation, Sovereign debt plus and Aggregate business lines).

Olivier de Larouzière holds a Diploma of Advanced Studies in Mathematics Applied to Economic Studies from the University of Paris IX – Dauphine.

Sophie Potard – Head of Sovereign debt & Inflation

Sophie Potard began her career with the Caisse des Dépôts & Consignations Group in 1993. She then joined Natixis AM in 1994 as a Portfolio Manager assistant. She became Global Bonds & Absolute Return Portfolio Manager in 2002. The investment scope included global bonds, inflation-linked bonds, emerging markets and absolute return strategy.

In 2009, she was appointed deputy Head of the Euro Govies & Inflation team before taking the head of the team in 2010.

Sophie holds a Master's Degree in Mathematics from the University of Grenoble and a diploma of Advanced Studies in Mathematical Engineering with a major in Finance from the University of Lyon.

Brigitte Le Bris – Head of Currency & Global emerging markets

Brigitte Le Bris began her career in 1986 at Credit Lyonnais London before becoming a trader at the BBL in Paris in 1989. In 1993, she joined CDC Asset Management where she successively held money market and fixed income portfolio management positions. In 2000, she joined Société Générale Asset Management (now Amundi), where she became in 2003, Head of currency and global fixed income. She successfully developed expertise on Global Fixed, Absolute return and more specifically on Forex. She was also the dedicated fund manager for large Asian central bank mandates.

Brigitte joined Natixis Asset Management in September 2010 as Head of Currency and Global Fixed Income.

Brigitte Le Bris post-graduated as a civil engineer from the ESTP School, a French leading institution. She also holds a Master's degree in Finance from the University of Paris Panthéon Sorbonne.

Dieudonné Djimi – Portfolio manager

Dieudonné Djimi began his career in 1997 as a portfolio manager in charge of emerging markets debts in the New York branch of CDC Investment Management.

In 1999, Dieudonné joined the group as a portfolio manager in charge of managing long-only multistrategies portfolios and absolute return strategies. He also contributed in the launch of quantitative-led absolute return strategies in fixed income space. In 2010, he joined the global fixed income team to manage global bond portfolios. He worked within the Sovereign debt & inflation team since 2012.

Dieudonné Djimi holds a postgraduate degree in Economics and Econometrics as well as a Diploma of Advanced Studies in Finance from the University of Paris - Panthéon Sorbonne.
**Clothilde Malaussène – Portfolio manager**

Clothilde Malaussène began her career in 1989 at Société Générale Corporate and Investment Banking, as a trader on forward currencies. In 1996, she joined Société Générale Asset Management (now Amundi) as a currency strategist and money market portfolio manager. In 2004, she joined the global fixed income team as a currency portfolio manager where she has successfully managed absolute return funds (multi-strategies and currencies) and global bond funds.

In September 2010, Clothilde joined Natixis Asset Management as Currency and Global Emerging markets debt portfolio manager. Clothilde Malaussène is post-graduated from ESC Montpellier, a French business school.

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**Xavier-André Audoli – Head of interest rates quantitative engineering**

Xavier-André Audoli began his career in 1999 as risk manager on equity derivatives in Frankfurt am Maine within BNP. He joined Arthur Andersen in 2000, and then Ernst & Young, as a consultant where he was involved in many projects related to market finance for banks, treasury and asset manager all around Europe. He then was in charge of the Financial and Commodities Risk Management practice for France.

In 2007, Xavier-André joined Natixis Asset Management as the Head of interest rates quantitative engineering team within the Quantitative Research & Analysis team.

Xavier-André Audoli is a graduate from Ecole Supérieure d’Optique with a major in quantum physics, a French engineering school. He also graduated from ESSEC French business school.

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