

# DIVERSIFICATION DASHBOARD

February 2016

# Diversification Ratios®

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Universes	DR <sup>2</sup> Index diversification	DR <sup>2</sup> Maximum diversification®	% diversification used by index
All Countries World	3.89	10.61	36.7 %
World	3.55	9.99	35.5 %
Emerging Markets	4.26	7.57	56.2 %
Canada	3.46	7.40	46.7 %
US Equity	2.42	5.48	44.2 %
Pacific Ex-Japan	2.23	4.81	46.4 %
EMU	1.72	3.57	48.1 %
UK Equity	2.10	3.49	60.3 %
Japan	1.95	3.34	58.5 %
US Credit	2.76	3.67	75.1 %

Source: TOBAM, figures as of January 29, 2016

## 20 months in the Life of the Anti-Benchmark US Credit

Having applied the Anti-Benchmark® to equities since 2006, TOBAM successfully implemented its strategy to corporate bonds for the first time in May 2014.

The Anti-Benchmark investment process aims at delivering the full risk premium via diversification. To achieve this in the context of the credit asset class, the Anti-Benchmark US Credit strategy matches the duration and the average spread of the benchmark.

The strategy has attracted over US\$ 200 million of net new inflows since its launch in mid-2014, validating TOBAM's innovation efforts in adapting the Maximum Diversification® approach to fixed income markets. We designed the strategy to offer an innovative solution to investors targeting these markets, rather than to conform to existing offers and, after 20 months of track record, investors have embraced that innovation.

TOBAM's research team worked on product development for three years prior to launch in order to effectively apply the firm's trademark Anti-Benchmark® approach to the complexities of the corporate debt market. The strategy has established a successful track record since launch, outperforming the Merrill Lynch US Corporate & HY Index by 199 basis points per annum (as of January 29, 2016).



#### 1. Introduction

The successful implementation of the Anti-Benchmark strategy for the first time to corporate bonds represented a significant breakthrough in TOBAM's research and execution capabilities. Bringing together the research contributions of 15 investment experts, the strategy has been designed to implement the Anti-Benchmark attributes while taking into account the specificities of the corporate debt market.

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The heavy structural biases that plague market-cap weighted equity indices are also observed in issuer-weighted bond indices. In fact, corporate bond indices are usually weighted according to the volume of debt issued, a situation that can lead to heavy concentrations and biases towards a limited number of sources of risks.

Financials and financial services issuers, as well as the energy sector, have historically been over-represented in US Corporate Credit indices, as illustrated in Chart 1.

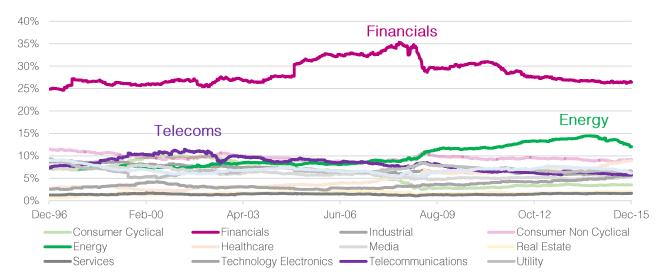


Chart 1: Concentration in the Merrill Lynch US Corporate & High Yield Index: Sector weights

Source: TOBAM. Figures from December 1996 to December 2015.

# 2. "AB US Credit Confidential"

To better understand the specificities of our strategy and the benefits of the approach applied to fixed income, we have interviewed Yves Choueifaty, President & CIO of TOBAM and Raphaël Thuin, Lead Portfolio Manager of AB US Credit to share their experiences

After having being a pioneer in the equity smart beta field since 2006, TOBAM distinguishes itself once again as one of the pioneer in fixed income smart beta strategies. Why did you decide to enter the fixed income space? And why with a US Credit strategy?

Yves Choueifaty: Fixed income was an obvious next step for us after years of experience in Maximum Diversification® applied to equities. The corporate credit space in its mechanism shares a lot of characteristics with the equity space. Given our experience in equity it was a logical next step to enter the fixed income field via corporate credit. The US credit being by far the most liquid and largest corporate bonds market in the world, our choice was... quite logical!



### What are the benefits of the Maximum Diversification® approach applied to Fixed Income?

Yves Choueifaty: The Anti-Benchmark® US Credit strategy aims at avoiding the concentration risks inherent in issuer-weighted bond indices through superior diversification. Investors are coming to realize that issuer-weighted corporate bond indices do not provide a diversified risk allocation.

This unique strategy in the fixed income world is designed to capture the credit risk premium from as many independent and effective risk factors as possible. By maintaining a well-diversified portfolio, the strategy aims to enhance performance by 150-200 bps p.a. over a full market cycle, while keeping the duration and average spread in line with those of the benchmark.

Is your process 100% systematic like in the equity space, when one could argue that systematic credit strategies do not generally work?

Raphaël Thuin: It is not possible to be 100% systematic in the credit space. The way the corporate bonds market trades requires a knowledge and a ground involvement that do not allow for systematic trading. Fundamental factors, covenants analysis, collateral value or extension risk are complex items very difficult to model. In addition, adjustments have to be made based on liquidity and flows, through permanent market monitoring, as well as involvement in the new issue market.

All in all, the job requires a fair mix of fundamental and technical analysis. And if there is no way to forecast a default with certainty, you can at least try through a rigorous analysis to take into account the effective risk factors, and diversify your portfolio's exposure to the different default risks. The Diversification Ratio® adds tremendous value to the investment process.

Yves Choueifaty: That was for us part of the challenge when we started to work on this asset class. Coming from a 100% systematic approach in the equity space, we quickly realized that it was totally unrealistic to have the same exact approach to fixed income.

Raphaël, your background is on pure discretionary trading, what was your first impression when you joined TOBAM, one of the pioneers of smart beta in quantitative asset management?

Raphaël Thuin: Two things stroke me. First, the power of the investment philosophy, its simplicity and clarity. Every money manager has in mind to keep a well-diversified exposure to the market. But this can only be done in a very basic, unprecise way, mostly based on intuitions and experience. The expertise TOBAM developed to create a measure for this essential portfolio management tool adds tremendous value to managing money: intuition is now replaced by a rigorous, undisputable metric.

Secondly, I was very impressed by the quality of the IT and Research team. We have developed in a record time a set of impressive trading and analysis tools. They provide a very robust technical framework to the investment and portfolio management process.

What are the benefits for a fund manager to have a team of 15 investment experts involved in research?

Raphaël Thuin: First, the core members of this team have been working together for almost 10 years now and their only focus is the Anti-Benchmark® strategy and the Maximum Diversification® approach, meaning that they have a knowledge on TOBAM's unique strategy that I had never seen before for another strategy. Then for a firm of 41 employees, having 15 people involved in research is quite unique. It implies an intense dedication on long term projects which is rare nowadays in our industry.

Lastly from my perspective, it means that I have a full team of experts with different backgrounds (engineers, economists, quantitative analysts and mathematicians) to support me in terms of research and analysis, which is an incredible asset.

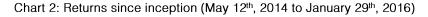


# What impact has the current global financial environment on the strategy?

Raphaël Thuin: Let me take one example. Over the past few years, the discovery and exploitation of massive shale oil and gas fields in the U.S. required significant investments by energy companies, mostly financed through the issuance of new debt. Consequently, the proportion of bonds issued by energy firms ballooned, reaching at its peak close to 15% of the total market value of the index. This created a massive concentration of risks in the US corporate bonds market. Obviously, the subsequent collapse of commodity prices stressed revenues and earnings, which left the industry with an unstainable amount of debt and triggered a wave of downgrades and defaults we are still going through right now. This is the perfect illustration of the risks inherent to concentration of bets in the benchmarks and why our approach based on diversification makes sense for investors looking to access the credit risk premium in an unbiased way.

## 3. The live track record

# a. Anti-Benchmark® US Credit vs. ML US Corporate & High Yield Index





Source: TOBAM. Figures as of January 29, 2016. Returns are stated in USD and Gross of Fees.

Past Performance is not indicative of future results.

Since inception, the Anti-Benchmark US Credit strategy posted an annualized excess return of 1.99% versus its benchmark, increasing the Sharpe Ratio to 0.57 versus 0.05 for the Merrill Lynch US Corporate & High Yield Index.

#### b. Understanding the Anti-Benchmark Relative Performance

## i. The benefits of diversification

Chart 3 below shows the drivers of the performance of the Anti-Benchmark US Credit and the benchmark respectively, by breaking it down into various factors.



10%
5%
0%
-5%
-10%
-15%
-15%

Income Effect Treasury Effect Spread Effect Selection Effect Total Effect

Chart 3: Fixed Income Performance Attribution (May 12th, 2014 to January 29th, 2016)

Source: TOBAM

Unsurprisingly, since duration and spreads are matched with the ones of the benchmark, the "income", "treasury" and "spread" effects have no explanatory power. The main driver of the outperformance is the so-called "selection effect", in our approach: the benefits of the bonds' diversification. The Anti-Benchmark methodology applied to the corporate bonds universe succeeded in providing superior performance by delivering greater diversification.

## 4. Conclusion

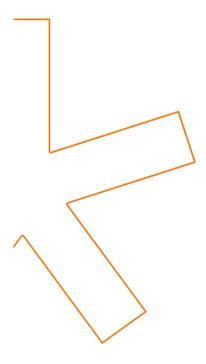
Since launch, the Anti-Benchmark AB US Credit returned +4.09% (gross of fees) vs. +0.64% for the Merrill Lynch US Corporate & High Yield Index.

The outperformance was steady, the benchmark suffered notably from its unrewarded concentrations in the energy sector while the AB US Credit strategy demonstrated its ability to provide greater diversification.

The Anti-Benchmark US Credit has attracted over US\$ 200 million of net new inflows since its launch in mid-2014, validating TOBAM's innovation efforts. We believe that the capital coming into the Anti-Benchmark US Credit strategy from high profile investors shows their trust in our approach and rewards the positive track record since launch.

Having brought our pioneering research to the equity and fixed income spaces, we are continuing to explore ways of applying our unique approach across global markets.





# For more information

TOBAM is an asset management company offering innovative investment capabilities whose aim is to maximize diversification. TOBAM's Maximum Diversification® approach, supported by original, patented research and a mathematical definition of diversification, provides clients with diversified core exposure, in both the equity and fixed income markets. The company manages \$8 billion (as of December 2015) via its Anti-Benchmark® strategies in Equities and Fixed Income. Its team includes 41 investment professionals.

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