

DIVERSIFICATION DASHBOARD

December 2018

Diversification Ratios®

TOBAM's Diversification Ratio® (DR) measures to what extent a portfolio is diversified. The DR² (square of the diversification ratio) measures the number of independent sources of risk to which a portfolio is exposed. As the table shows, the "broad market" indices do not fully utilise diversification capabilities. In addition to a snapshot of each market's DR², the table shows the DR² of a well-diversified portfolio, and the fraction of available diversification used by the index.

| Universes | DR ² DR ² Index Maximum diversification Diversification | | % diversification used by index |
|---|---|-------|---------------------------------|
| MSCI All Countries World | 4.25 | 15.66 | 27.1% |
| MSCI World | 4.00 | 12.94 | 30.9% |
| MSCI World ex USA | 4.12 | 10.67 | 38.6% |
| MSCI US Equity | 3.32 | 10.20 | 32.6% |
| MSCI Emerging Markets | 3.99 | 8.61 | 46.4% |
| MSCI EMU | 3.46 | 8.24 | 42.0% |
| MSCI Pacific Ex-Japan | 3.48 | 7.77 | 44.7% |
| MSCI UK Equity | 3.91 | 6.49 | 60.3% |
| MSCI Japan | 3.19 | 6.41 | 49.8% |
| BofA Merrill Lynch US Corporate & High Yield | 4.38 | 5.58 | 78.5% |
| BofA Merrill Lynch Global High Yield | 6.38 | 7.86 | 81.2% |

Source: TOBAM, figures as of November 2018

Sustainability

This Diversification Dashboard is a summary of TOBAM's Sustainability Report for 2018.

Sustainable development has been a core value of TOBAM since it was founded in 2006. This note summarizes TOBAM's main initiatives in the field of Sustainable Investments and Corporate and Social Responsibility.

Introduction

TOBAM's mission is to provide rational and professional solutions to long term investors in the context of efficient markets.

Growing social issues (population growth, economic and social development, etc.) combined with environmental constraints (limited natural resources, greenhouse gas emissions, climate change, etc.) lead to an unavoidable shift in economic models.

Deeply aware of these overriding issues, TOBAM set up its "Sustainable Way" of investing responsibly, in line with its clients' best interests as long-term investors.

TOBAM is committed to incorporate sustainability focused actions and procedures into its investment process, through its Socially Responsible Investment policy, but also in its day to day activity, through its Corporate Social Responsibility approach.



1. A Sustainable Investor

As part of its fiduciary duty, TOBAM is committed to protecting its clients' interests by taking all aspects into account which could impact the financial performance and/or risk profile of investee companies.

Most of our clients have a long-term investment horizon and actively address the major sustainability-related challenges that have a tangible impact on investment portfolios (stricter ESG-related regulatory framework, multiplication of norms and standards, pressure from stakeholders, etc.). As a result, ESG issues can no longer be considered as "extra-financial" criteria, as they now form an integral part of the elements to be considered, alongside traditional ones.

We do not incorporate ESG within our investment process for moral or ethical reasons, nor to provide additional performance. We incorporate ESG as it is instrumental in managing long-term risks and therefore makes absolute sense in the context of long-term investments.

A. Exclusion policy

Suited to its quantitative investment approach, TOBAM's exclusion policy excludes from its investment universe companies that have ESG practices considered unacceptable and are consequently exposed to material impacts arising from significant risks (reputational, legal, etc.).

Applied to equity and fixed income strategies, respectively since 2007 and 2015, as well as to Maximum Diversification® indices since their creation in 2011, this negative screening is based on the exclusion list published by a renowned investment institution (Norges Bank) as well as some other leading institutions and founding members of the PRI.

Pioneer in the field of SRI, Norges Bank's exclusion policy is:

- Transparent and readily accessible
- Aligned with the PRI guidelines, without seeking to impart a moral judgement
- Associated with an engagement approach which respects TOBAM's belief in the need to establish constructive dialogue with economic players

This negative screening lists companies involved in **controversial products** (*Tobacco, Coal, Weapons*) as well as **controversial behaviours** (*Human rights, Environment and International Laws severe damages or breaches*).

B. A systematic carbon footprint reduction

In 2017, TOBAM began to research the possibility of applying a carbon footprint constraint to its portfolios. After over a year of exploratory research and exhaustive back testing, TOBAM approved a systematic carbon footprint reduction of at least 20% to all of its equity portfolios and Maximum Diversification® indices.

TOBAM's unique investment approach is developed in such a way, that this carbon constraint is applied with a negligible, non-significant impact on returns, volatility, DR®, tracking error, active share and sector weights. TOBAM implements its carbon footprint reduction without excluding or constraining sectors from its investment universe but as a 100% bottom-up penalty applied at the stock level. TOBAM's patented quantitative investment process does not exclude carbon heavy industries like utilities or energy from the



portfolio to implement this reduction. It applies the constraint while maximizing the DR® and maintaining its exposure to each independent source of risk.

An example summary of this negligible impact is provided below, focusing on Anti-Benchmark® World:

Figure 1: Carbon constraint effect on multiple metrics – Anti-Benchmark® World Strategy

| | | | | 2017 Sector Weights | |
|--------------------------------|---------|------------|-------|---------------------|-----------|
| Strategy | Returns | Volatility | DR® | Energy | Utilities |
| AB® World | 5.17% | 9.90% | 3.371 | 1.78% | 4.33% |
| AB® World w/ carbon constraint | 5.23% | 9.90% | 3.365 | 1.76% | 4.28% |

Source: TOBAM. Performance returns reflect back tested data from December 2013 to December 2017. Back tested results are for information purposes only. They are intended to illustrate how the strategy would have behaved and to ensure comparable simulations. Performance shown is stated in USD, gross of tax and exclude costs of transactions and fee assumptions. Past performance is not indicative of future results.

This illustrates to investors that there is no compromise on performance nor exposure to risk relative to the approach without the constraint.

The carbon footprint reduction was implemented in August 2018 to all Anti-Benchmark® equities strategies and in September 2018 to the Maximum Diversification® equity indices.

TOBAM's research department continues to dedicate significant resources to analyse methods in which ESG criteria can be integrated into the investment process without disrupting its Maximum Diversification® investment philosophy. In 2017, TOBAM dedicated 24% of its research capabilities to sustainability topics. Of note, TOBAM is currently conducting research on its Fixed Income portfolios and testing the most efficient and effective way of applying this systematic carbon footprint reduction process in a Fixed Income universe.

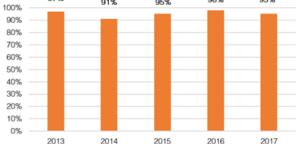
C. A responsible shareholding and engagement approach

Exercise of Voting Rights

In addition to incorporating ESG criteria into TOBAM's investment process, another way of acting responsibly as an asset manager is to leverage equity ownership in companies and act as a responsible shareholder.

We believe that over the long run, good corporate governance should lead to both better corporate performance and improved shareholder value. Therefore, on behalf of clients, we use our ownership position in companies to further demonstrate our commitment to socially responsible investing and to improve corporate governance by exercising proxy voting rights.

Figure 2: TOBAM Participation Rate (% of meetings voted)



Source: TOBAM. Extract of TOBAM's Voting Report 2017.



While the overall exercise of TOBAM's voting rights is based on ISS's "SRI International Proxy Voting guidelines", TOBAM has gone one step further by defining its own voting principles on certain key corporate governance issues. We believe that our role as a shareholder is to make sure the appropriate governance systems are in place in the companies we invest in, rather than judging management decisions per se.

Additionally, as we consider sustainability as a risk management and performance factor over the long run, our proprietary voting principles support shareholder proposals asking for more transparency on sustainability issues (ESG board committee, Improvement of Human Rights Standards or Policies, etc.)

Engagement

We consider engagement with third parties, the industry and the investee companies as another crucial step towards the promotion and development of responsible investment.

Since 2017, we have been actively communicating with companies that have been placed on the Norges Bank's exclusion list and resultantly excluded from our investment universe. Being excluded by Norges Bank can have significant consequences for listed companies - first on their reputation, and second, on their general ability to access financial markets.

Norway's Government Pension Fund Global is Europe's largest pension fund in terms of assets under management and is also one of the largest equity holders in the world. As a pioneer in Sustainable and Responsible Investment, their recommendations are followed by numerous asset owners and managers, hence further increasing the impact of their exclusions.

We believe our engagement approach will contribute to further develop best practices and encourage the adoption of sound ESG policies by a wider range of companies worldwide.

2. A Sustainable Company

Like any rational economic agent, we take sustainability issues into consideration in our daily operations and, as an investor, we have an additional duty to be exemplary so as to indirectly encourage issuers to improve their ESG practices. This is done by showing that we apply a stringent Corporate Social Responsibility policy to our own daily operations, in line with the ESG requirements expressed towards investee companies in our Responsible Investment approach.

TOBAM has set up its own "Sustainable Way" of working towards greater Corporate & Social Responsibility in line with the 10 Principles of the UN-Global Compact, which TOBAM signed in 2010. Our policy covers the entire scope of ESG issues and most of the Sustainable Development Goals (SDGs) but focuses mainly on key areas where impacts and levers for improvement are significant.

A. Developing a responsible and collaborative Governance

Sustainability is deeply anchored in TOBAM's core values and in its daily operations and processes. This comprehensive implementation is the result of a responsible and collaborative governance approach to sustainability initiatives, relying on aligned interests, employee contribution and structured oversight.



Alignment of interests: TOBAM is majority owned by employees. In addition to this, TOBAM's largest client is a shareholder, as is one of its major distribution partners. This strong alignment of interests creates mutual benefits and a win-win situation for all parties involved.

Employee contribution & Transparency: Employees, as shareholders, are regularly informed of the company's strategy, which is shared with them during a monthly informational meeting. Each employee is invited to take part in TOBAM's efforts towards sustainability by suggesting new areas for improvement to senior management. Ideas are shared with the CEO on a monthly basis by TOBAM employees' representatives. Of note also, an internal award rewards the best idea in the field of E, S, or G, submitted by employees. This helps employees to consider TOBAM's Corporate & Social Responsibility approach as their very own.

Structured oversight - Sustainability Committee: SRI and CSR projects and efforts are monitored by a Steering Committee set up in 2015, and dedicated to sustainability topics to challenge and monitor TOBAM's approach and maintain a high level of commitment over time.

B. Managing our Environmental impact

Monitoring

As an asset manager, TOBAM's direct environmental impact is fairly limited compared with the pollution generated by industrial activities. Despite our low level of environmental externalities, we are keen to play our role in the global sustainability challenge by controlling our impact through a proportionate two-tier approach, relying on both mitigation and offsetting.

TOBAM annually assesses its carbon footprint¹. 2017's report made by South Pole takes the following metrics into consideration:

- Business Travels
- Office Supplies
- Commuting
- General Energy Consumption

Each year, there is a firm-wide effort which is led by the sustainability committee to try to improve these metrics.

Emissions (tCO2e) by emission source - 2017 Waste O% Stationary combustion Paper, IT and .3% office supplies Mobile combustion Fugitive O% Emissions 11% Fuel and energy related activities 4% Electricity travel 12% 2%

Source: TOBAM's Carbon Footprint Report 2017, provided by South Pole.

Offsetting

As a tangible method of directly helping the environment, TOBAM offsets its carbon footprint. While we strive to introduce mitigation efforts wherever possible, some of the impacts cannot be significantly reduced. Air travel, for instance, is unavoidable for TOBAM considering its international scope of clients. In these cases, carbon offsetting is a concrete contribution to deal with environmental issues.

We therefore decided to set up an annual carbon offsetting program in 2011, which involves offsetting 150% of our CO2 emissions by subsidizing green projects.

For example, offsetting our operations in 2017 enabled the funding of a reforesting project in the North-East and North-West regions of Colombia.





C. Promoting Social progress

Asset managers' activities rely strongly on the talent and motivation of their staff, particularly when the business model is focused on complex and innovative quantitative investment processes such as TOBAM's. Talent retention not only depends on remuneration but also on a fulfilling and motivating work environment. We aim at gathering the best standard practices in every region. We are therefore committed to providing our employees with a balanced system, targeting both stimulating working conditions and fair human resources practices.

Employee shareholding program: 73% of TOBAM's equity is owned by its employees. All staff with a tenure of at least six months have the opportunity to become shareholder of TOBAM.

Professional Support to teams:

- Annual Appraisals and Professional Development Interviews
- Structured Training Program internally (eg. Maximum Diversification® for beginners, Research topics presented to other departments) and externally (eg. CFA)
- Mentoring Program set up to develop employees' skills, share expertise and promote career development

Support to Human Rights via a donation mechanism: Since the beginning of the sponsoring initiative in 2011, TOBAM has donated to our two partner NGO's,

- Amnesty International, since 2011
- Human Rights Watch, since 2015

The Youth Sponsoring Project: TOBAM initiated the Youth Sponsoring Project in 2014, as a sponsorship effort to support initiatives by young individuals to excel, to challenge their own limits and develop skills that are unusual for athletes or students their age. TOBAM is now a proud sponsor of Justin Bécret, one of the most promising young (16) surfers in the world.

Current TOBAM ESG update:

Change starts from within, and requires everyone to contribute. This was the reasoning behind the creation of the Employee Sustainability Initiative. The Initiative was set up in 2013 and has generated numerous ideas and suggestions to improve TOBAM's 'Sustainable Way'.

Three suggestions were taken on-board in the 2018 edition (September 2018) of the initiative:

- 1. Plastic bottle free office
- 2. Donation Drive set up in partnership with NGOs in Paris, New York and Dublin
- 3. TOBAM Women's Organization

Examples of previous winning suggestions were:

- 1. Hiring recycling service who employs disabled people
- 2. TOBAM Bee-hives at TOBAM Paris



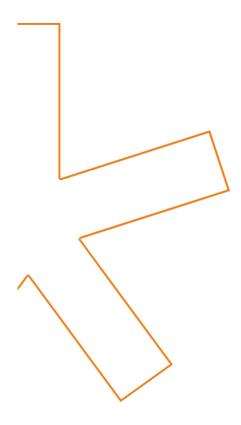
Conclusion

The process of addressing ESG factors at TOBAM is a continuous one. Each year we build on our previous year's work in a constant effort to learn, grow and improve. We believe we have an important part to play in the sustainability of our planet as well as our industry.

We believe our actions have the ability to create real changes in the asset management industry and for our future in general. We hope to push the importance of these critical topics and play our part in inspiring other firms and establishments to follow their own 'Sustainable Way'. Just as we hope to be thought leaders in terms of asset management, we also want to be thought leaders with regards to sustainability in the industry.

We do not, however, believe that we have all the answers or are perfect when it comes to this subject, so we welcome feedback, thoughts, suggestions, ideas and inspiration from anyone who has something to share. ESG factors should be viewed as collective performance metrics that we can work to improve together.





For more information

TOBAM is an asset management company offering innovative investment capabilities designed to increase diversification. Its mission is to provide rational and professional solutions to long term investors in the context of efficient markets.

The Maximum Diversification® approach, TOBAM's flagship investment process founded in 2006, is supported by original, patented research and a mathematical definition of diversification and provides clients with diversified core exposure, in both the equity and fixed income markets.

In line with its mission statement and commitment to diversification, TOBAM also launched a separate activity on cryptocurrencies in 2017.

TOBAM currently manages over US\$10billion (at September 29, 2017). TOBAM's team is composed of 54 professionals.

Contacts

Paris

49-53, Avenue des Champs-Elysées 75008 Paris France

New York Dublin Hong Kong

Client Service clientservice@tobam.fr www.tobam.fr



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