

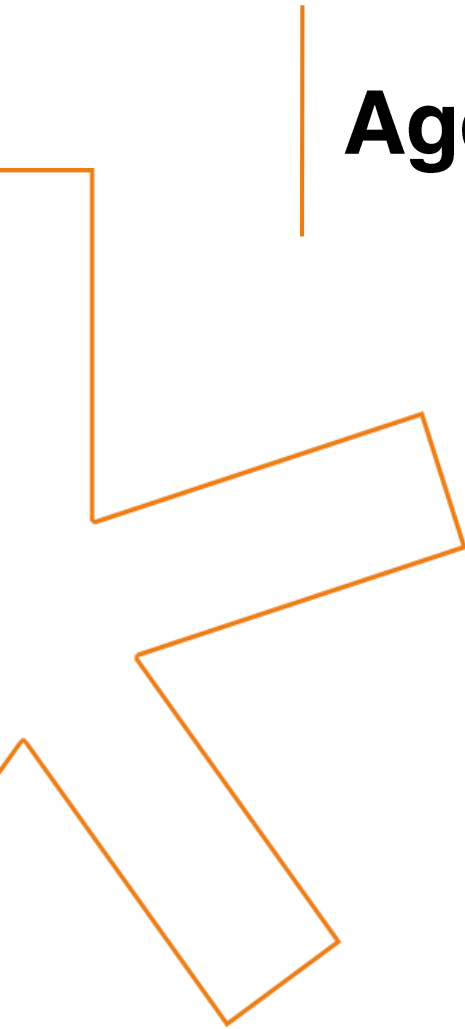
Anti-Benchmark Credit

Les avantages de la diversification

Une proposition originale et pleine de bon sens

Mai 2019





Agenda

- * TOBAM
- * L'approche Anti-Benchmark® Crédit et sa performance
- * Les avantages de l'approche
- * Conclusion

Profil

La société:

TOBAM est une société indépendante détenue par ses employés

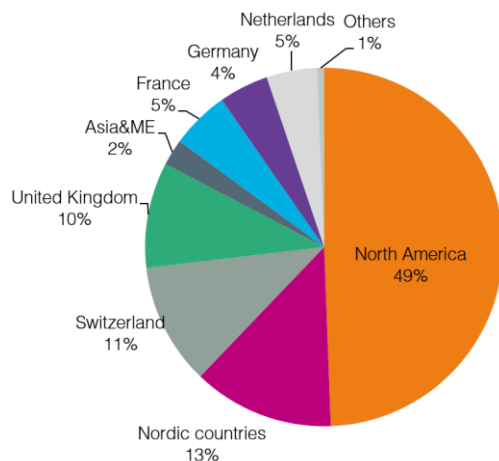
- Créée en 2005
- Actifs sous gestion de 13 milliards \$ CAD
- 54 professionnels de la finance, 18 nationalités

Le fondateur:

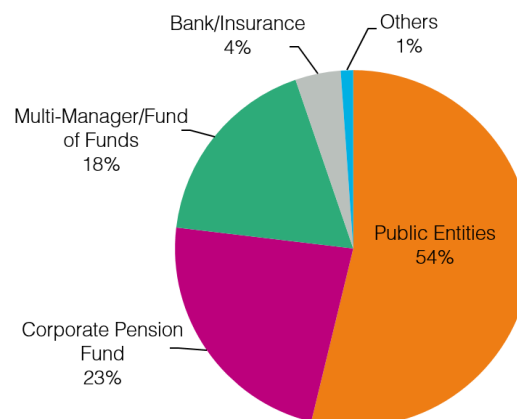
Yves Choueifaty, président et responsable en chef des placements (25 années d'expérience en placement), auparavant :

- Directeur général de Crédit Lyonnais Asset Management (70 milliards € d'actifs sous gestion)
- Diplômé de l'ENSAE (1992) en statistiques, actuariat, finance et intelligence artificielle

Actifs sous gestion par géographie

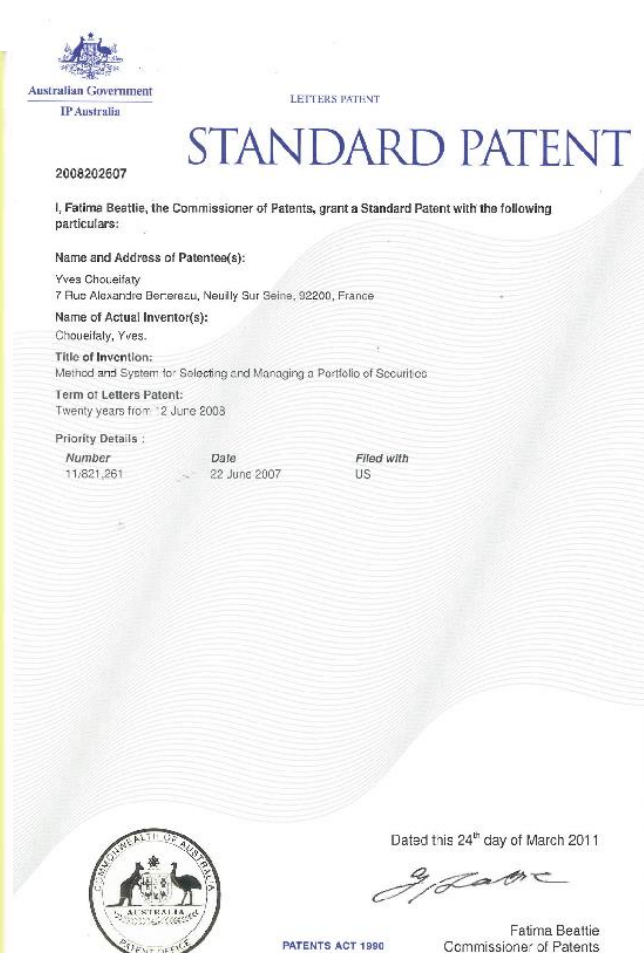
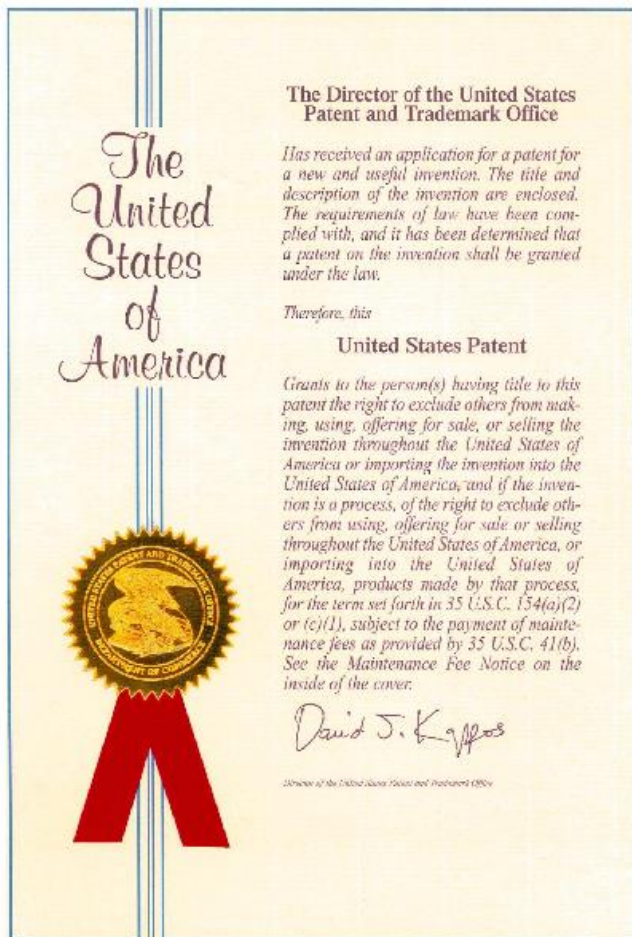


Actifs sous gestion par type de client



Source: TOBAM. Chiffres au 29 mars 2019

Brevets



Recompenses

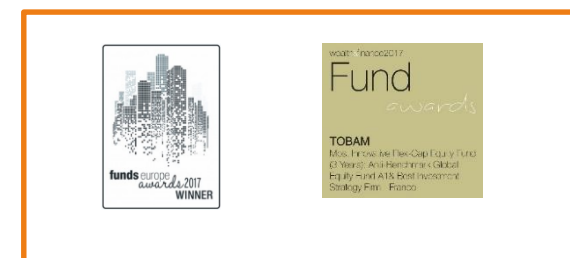
2018

- “European Smart Beta Manager of the Year”
Funds Europe Awards 2018, London



2017

- “European Asset Management Firm of the Year”
Funds Europe Awards 2017, London
- “Best Investment Strategy Firm (France) ” & Most Innovative Flex -
Cap Equity Fund: Anti-Benchmark Global
Funds Awards 2017 – London



2016

- “AM Leader of the Year”
Grands Prix de la Gestion d'Actifs 2016 - Paris
- “European Asset Manager of the Year”
Funds Europe Awards 2016 – London

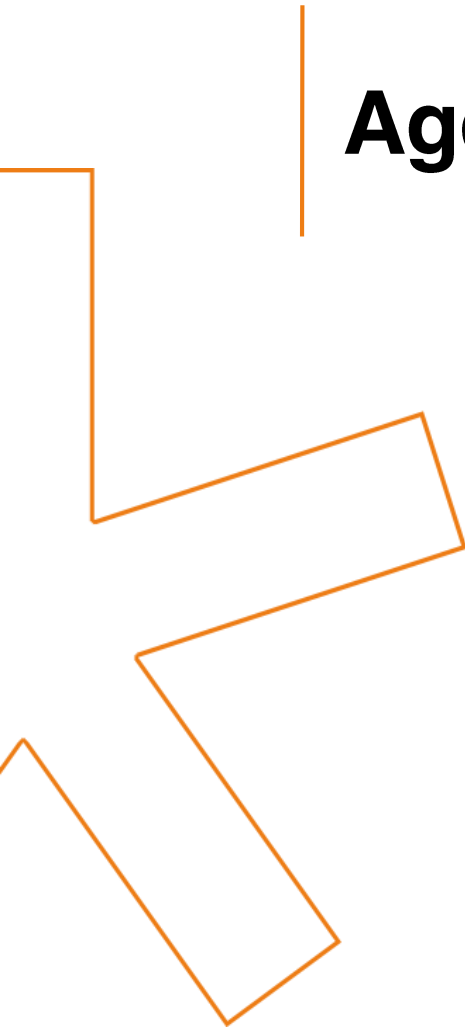


2015

TOBAM awarded twice in 2015 for “pioneering role in the foundation of the alternative/smart beta movement”

- “Equities Manager of the Year”
CIO Industry Innovation Awards 2015
New York
- “CIO of the Year”
Funds Europe Awards 2015
London





Agenda

- ✧ TOBAM
- ✧ L'approche Anti-Benchmark® Credit et sa performance
- ✧ Les avantages de l'approche
- ✧ Conclusion

En quoi consiste l'approche Maximum Diversification®?

Maximum Diversification® est une approche de placement quantitative fondée sur un principe unique : procurer une diversification accrue

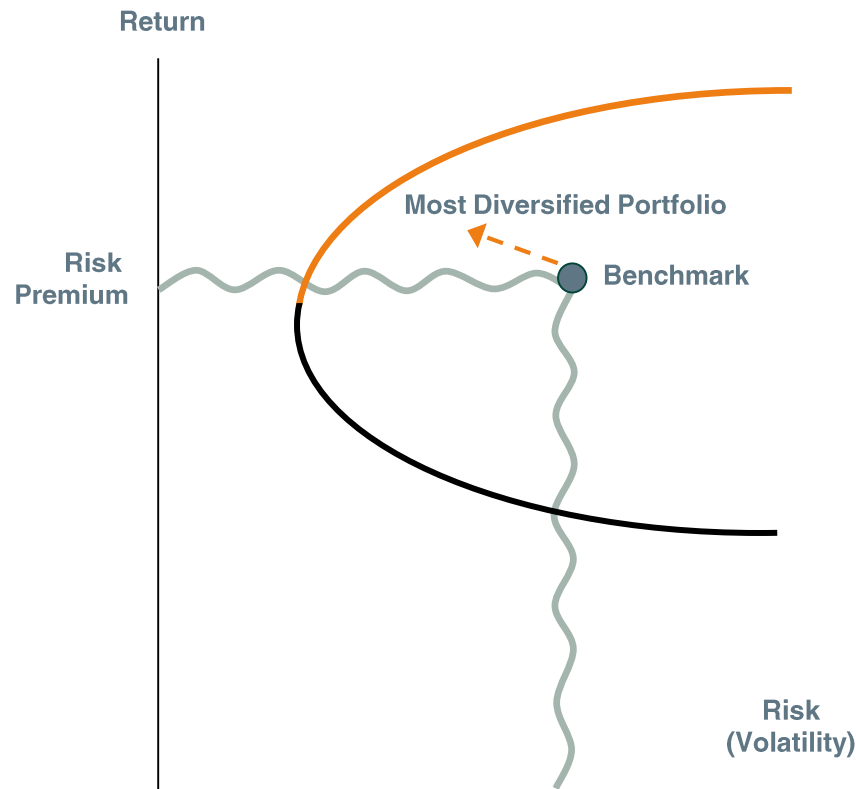
Pour maximiser la diversification, il nous faut une mesure :

- TOBAM a mis au point une mesure de diversification : le Diversification Ratio®
- L'approche Maximum Diversification® a un seul but : accroître le DR

Offrir à l'investisseur une meilleure expérience grâce à l'augmentation de la diversification

- Stratégie à positions acheteur seulement, aucun levier et 100 % investis

L'approche Maximum Diversification®[®] définit et augmente la diversification



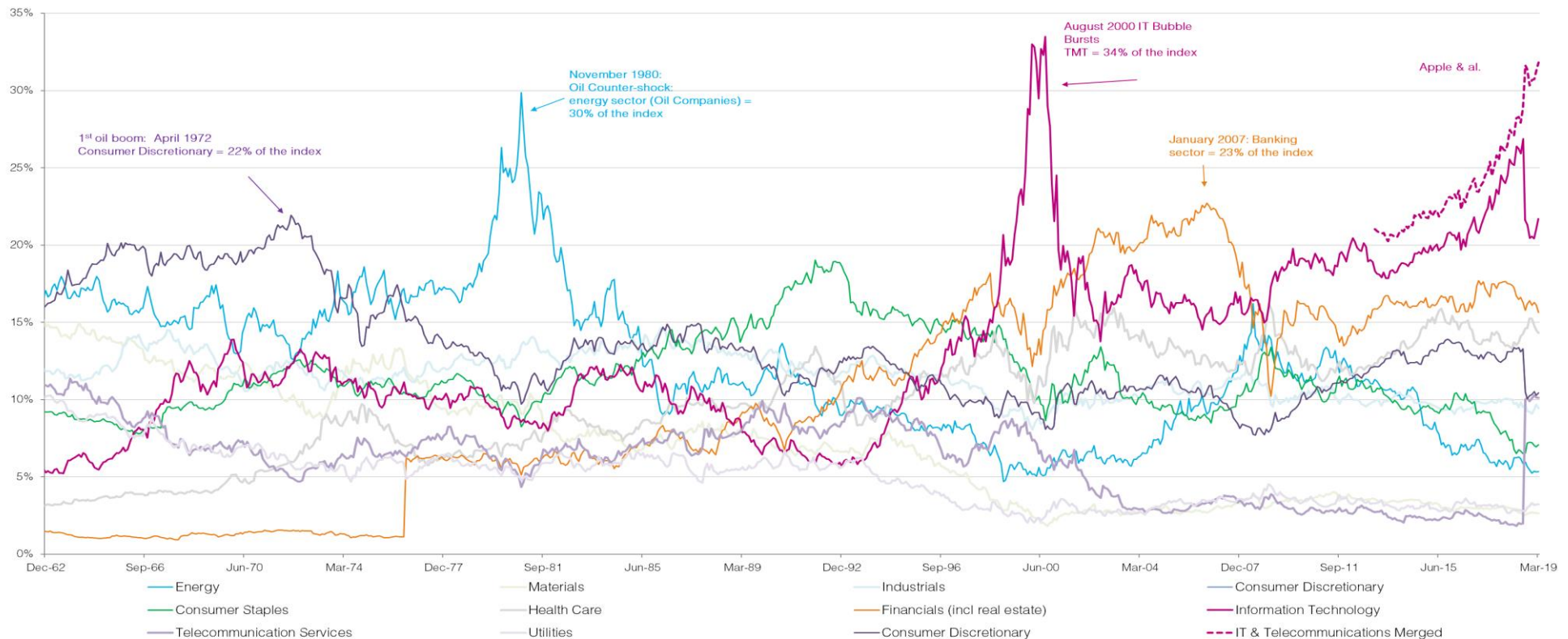
- L'approche Maximum Diversification®[®] vise à procurer une vaste exposition au marché, laquelle devrait fournir à long terme une performance supérieure, avec moins de risque.
- Le processus Maximum Diversification®[®] tente de capter une plus grande part de la prime de risque associée au marché boursier.
- Nous estimons que des rendements plus élevés résultent d'une meilleure saisie de la prime de risque.

Risque: la valeur de votre investissement et les revenus y afférents ne sont pas fixes. L'investissement initial n'est pas garanti. Les allocations peuvent varier au cours du temps.

Les indices capi-pondérés ne sont pas efficaces...

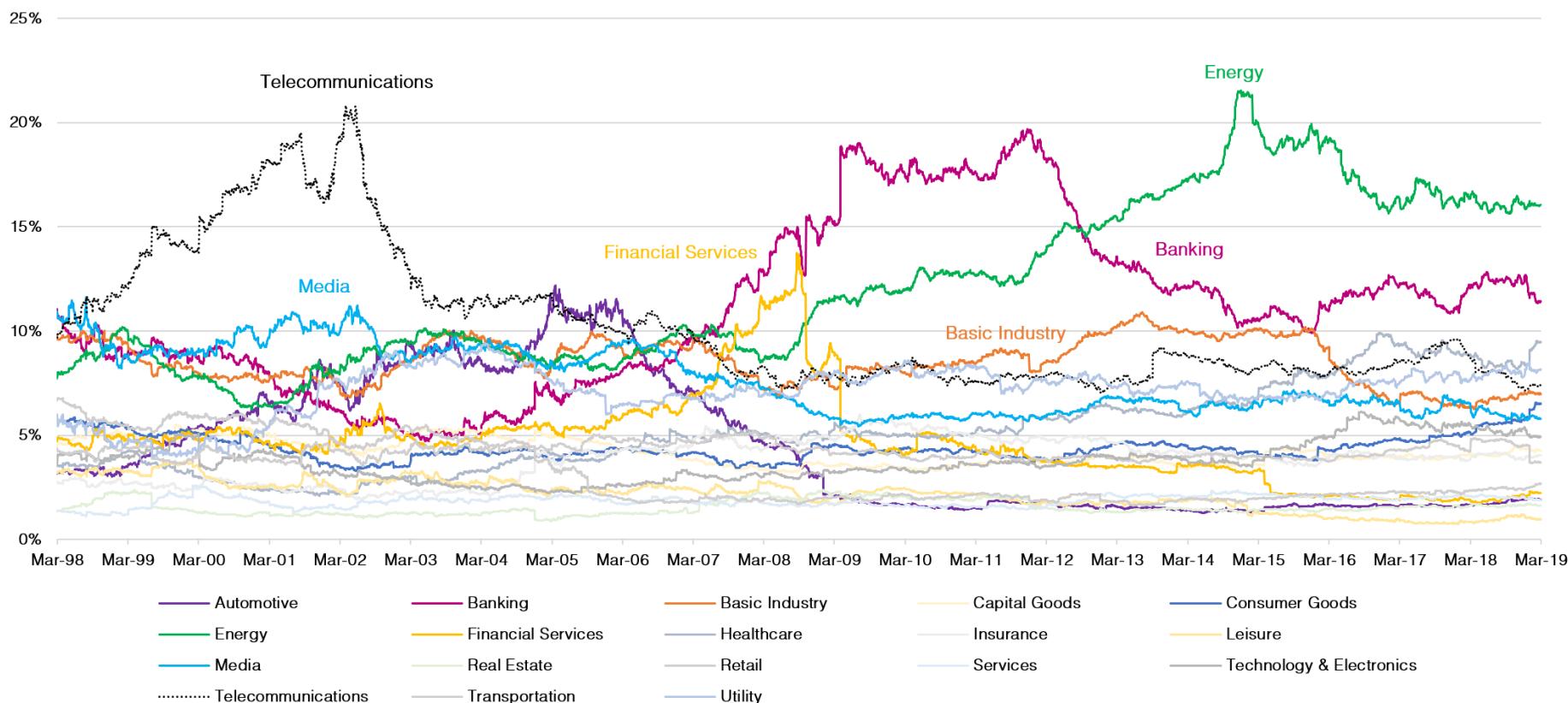
- Les indices capi-pondérés ne sont pas toujours diversifiés et peuvent être fortement biaisés
- L'allocation varie au fil du temps : c'est un allocataire dynamique de risque dont la stratégie est implicite
- Ils n'accèdent pas à la totalité de la prime de risque actions

Poids sectoriel dans le marché US



...et les indices obligataires le sont encore moins

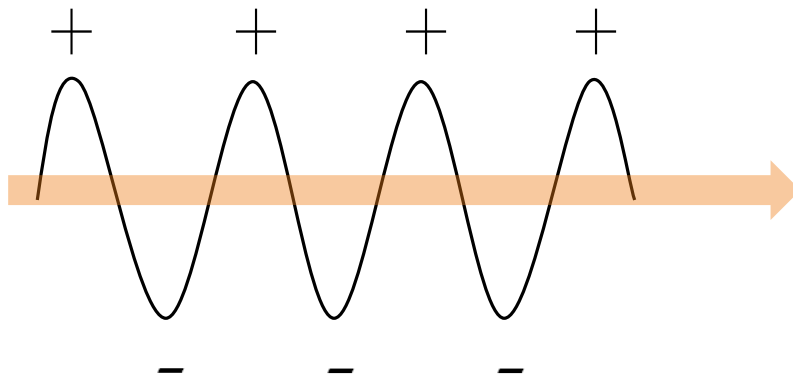
BofA Merrill Lynch US IG & High Yield Corporate Index: poids sectoriels ponderes par le risque



Source: Merrill Lynch, MSCI, Bloomberg, TOBAM. **Risque:** la valeur de votre investissement et les revenus y afférents ne sont pas fixes. L'investissement initial n'est pas garanti. Les allocations peuvent varier au cours du temps. DTS weighted data from January 1998 to March 2019. The index data referenced herein is the property of Merrill Lynch, Pierce, Fenner & Smith Incorporated ("BofAML") and/or its licensors and has been licensed for use by TOBAM. BofAML and its licensors accept no liability in connection with its use

Les indices capi-pondérés ne sont pas efficaces

- Les indices capi-pondérés allouent à chaque titre individuel selon sa capitalisation boursière => Les indices de référence représentent la totalité de tous les paris



Maximiser l'allocation lorsque le cours du titre est le plus élevé : création de richesse?

- Les indices du marché effectuent une allocation dynamique de risque au fil de temps; comme tel, ils ne sont pas réellement diversifiés

Risque: la valeur de votre investissement et les revenus y afférents ne sont pas fixes. L'investissement initial n'est pas garanti. Les allocations peuvent varier au cours du temps.

Comment mesurer la diversification?

Qu'est-ce que la diversification?

Risque de la combinaison

<

Combinaison des risques

$$\sigma_{(80\%A+20\%B)} < 80\%\sigma_A + 20\%\sigma_B$$

If A & B, two different assets (not perfectly correlated)

$$\Leftrightarrow \rho_{A,B} \neq 1$$

Le Diversification Ratio®

$$DR(P) = \frac{\text{Combinaison des risques}}{\text{Risque de la combinaison}}$$

$$= \frac{(w_1\sigma_1 + w_2\sigma_2 + \dots + w_n\sigma_n)}{\sigma_P}$$

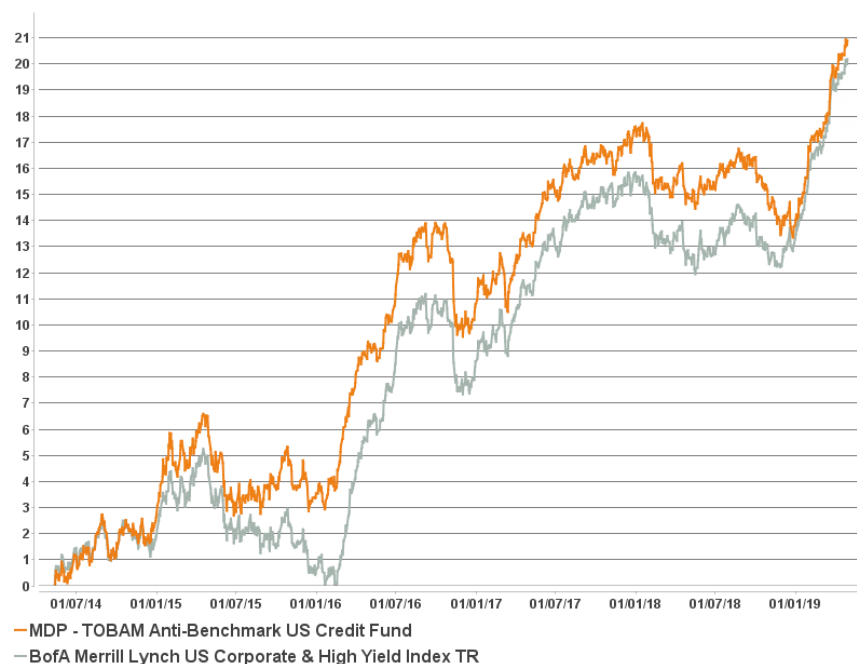
σ_i = Risk of asset i measured by Duration Time Spread (DTS)

$P = (w_1, w_2, \dots, w_n)$ = The vector of asset weights

ρ = Correlation of issuers estimated on equities

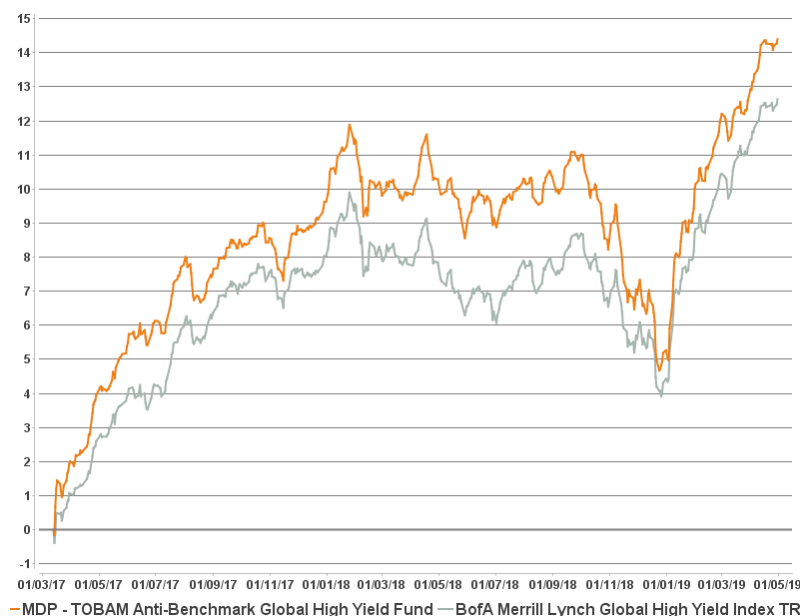
Performance

Anti-Benchmark® US Credit Strategy Performance Brutte
de la creation (12 mai 2014) au 30 avril 2019



MDP AB US Credit		ML US IG & HY TR		Excess return:	0.71%
Return:	20.90%	Return:	20.19%	Vol reduction:	2.78%
Annualized return:	3.89%	Annualized return:	3.77%	Excess annual. return:	0.12%
Hist vol:	3.31%	Hist vol:	3.22%	Tracking error:	1.55%
Sharpe ratio:	0.94	Sharpe ratio:	0.93		
Sortino ratio:	1.57	Sortino ratio:	1.54		

Anti-Benchmark® Global High Yield Strategy Performance brute
De la creation (13 mars 2017) au 30 avril 2019

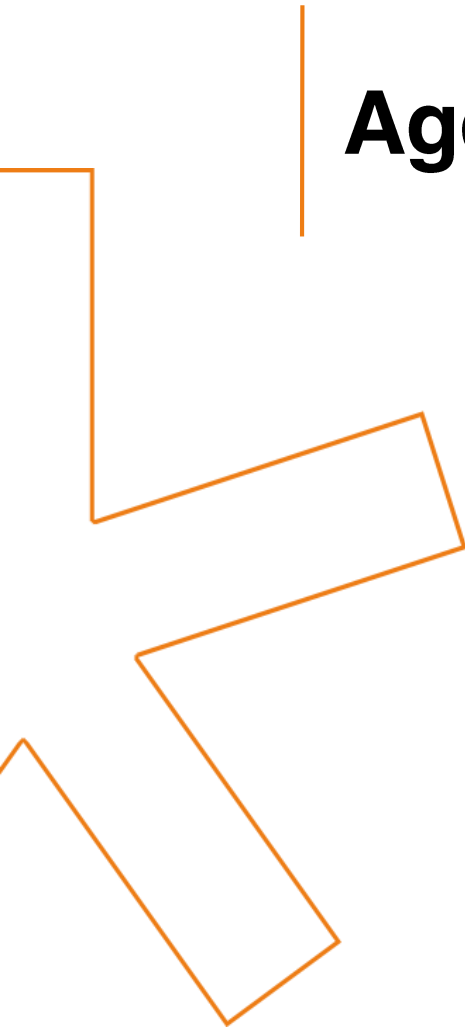


MDP AB Global HY		ML Global HY TR		Excess return:	1.76%
Return:	14.40%	Return:	12.64%	Vol reduction:	9.14%
Annualized return:	6.51%	Annualized return:	5.74%	Excess annual. return:	0.77%
Hist vol:	3.06%	Hist vol:	2.80%	Tracking error:	1.17%
Sharpe ratio:	1.68	Sharpe ratio:	1.55		
Sortino ratio:	2.94	Sortino ratio:	2.65		

Warning: Past performance is not an indicator or a guarantee of future performance. The value of your investment and income received from it can go down as well as up and you may not get back the full amount invested. Performance details provided are in USD and may include reinvested dividends.

Performance returns and/or charts illustrating performance provided on this page are gross of fees. The clients return will be reduced by the advisory fees and any other expenses it may incur in the management of its account. Advisory fees are described in Part II of the advisors Form ADV. The net performance of AB US Credit over the live period ending April 30, 2019 (including management/advisory, administrative & subscription fee) would be 18.22%.

The net performance of AB Global High Yield over the live period ending April 30, 2019 (including management/advisory, administrative & subscription fee) would be 13.06%. Source: TOBAM, Merrill Lynch, Pierce, Fenner & Smith Incorporated ("BofAML"), used with permission. BofAML permits use of the BofAML indices and related data on an "as is" basis, makes no warranties regarding same, does not guarantee the suitability, quality, accuracy, timeliness, and/or completeness of BofAML indices or any data included in, related to, or derived therefrom, assumes no liability in connection with the use of the foregoing, and does not sponsor, endorse, or recommend TOBAM or any of its products or services.



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Les avantages de la diversification

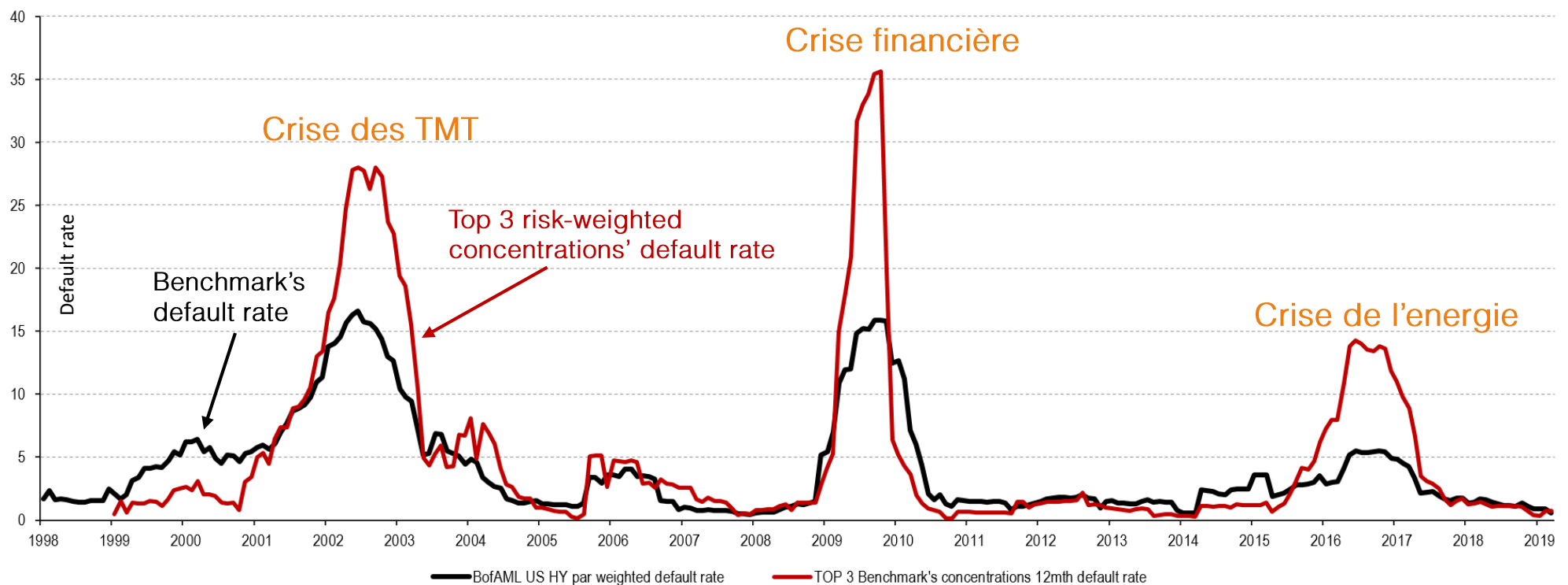
L'Anti-Benchmark® Credit: une approche originale et innovante pour s'exposer au crédit.

Les avantages d'une diversification accrue:

1. **Performance**: une plus grande diversification permet de collecter l'entière de la prime de risque d'une classe d'actif
2. **Réduire le risque de défaut**: en évitant d'être pris dans une vague de défauts
3. **Se prémunir des exagérations des indices**: réduire les risques de concentrations inhérents aux indices
4. **Une exposition cœur de portefeuille** : réduire l'exposition aux facteurs de risques implicites

Reduire le risque de défauts

- Les défauts sont des **phénomènes concentrés**
- La gestion passive **maximise l'impact des défauts** au plus mauvais moment



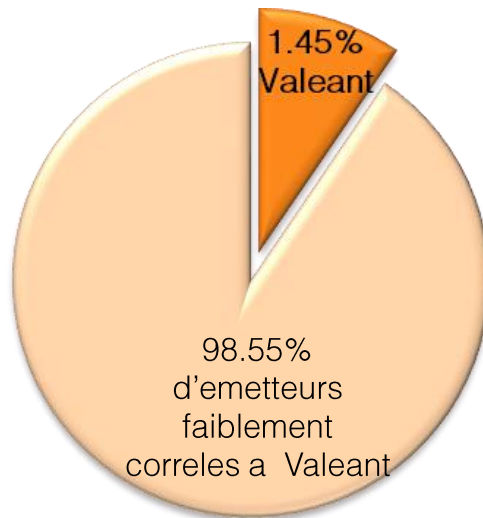
Source: BofA. As of March 2019, TOBAM calculations.. Default rates are computed using Last Twelve Months rolling windows. Concentrations expressed in Duration Times Spread (DTS) weight.



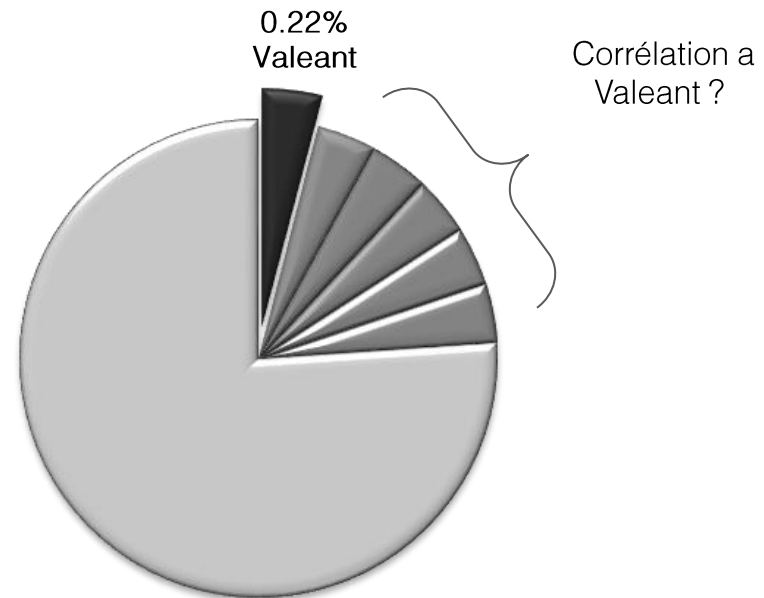
S'éloigner des concentrations de marché permet aux investisseurs de se prémunir des risques de défaut.

Se prémunir des biais de l'indice

Exemple: Valeant



AB US Credit



Benchmark

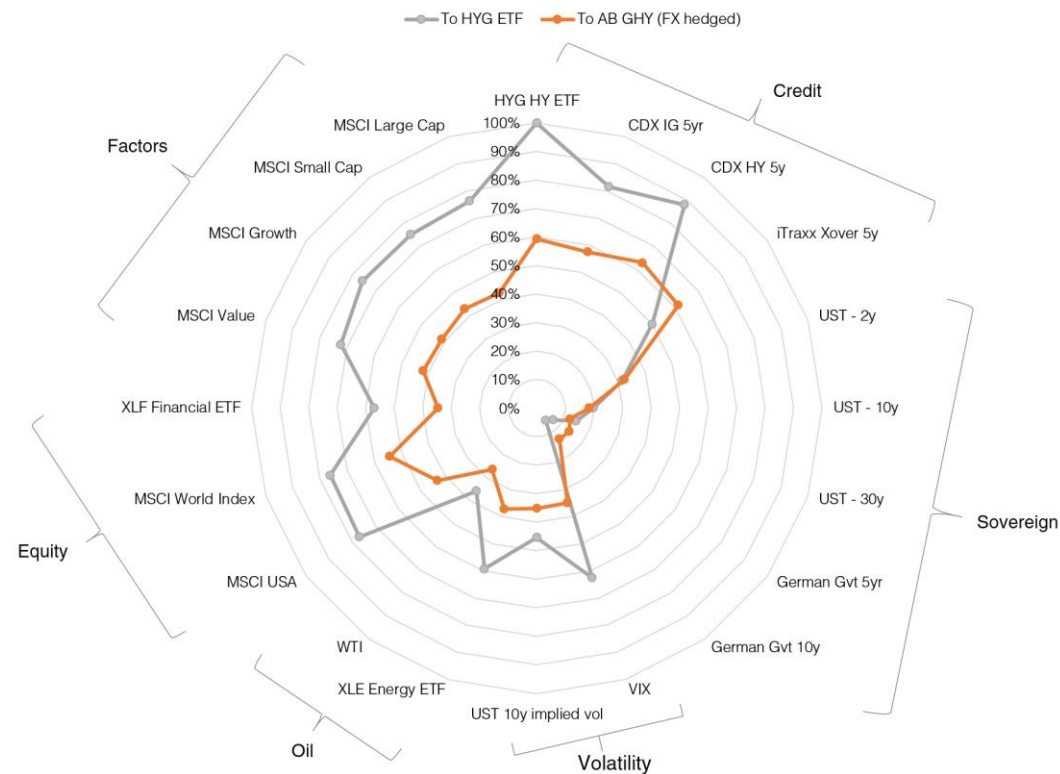
L'Anti-Benchmark® est la combinaison d'un titre et de l'Anti-Titre" ce qui le prémunit de ses propres erreurs: il réduit le risque spécifique

Un vrai cœur de portefeuille

Le cas de l'AB Global High Yield

L'Anti-Benchmark® crédit est de manière générale le **moins expose aux différents facteurs/risques de marche**

Back test et realise: correlation aux facteurs de risque
Dec 28, 2008 – Dec 28, 2018



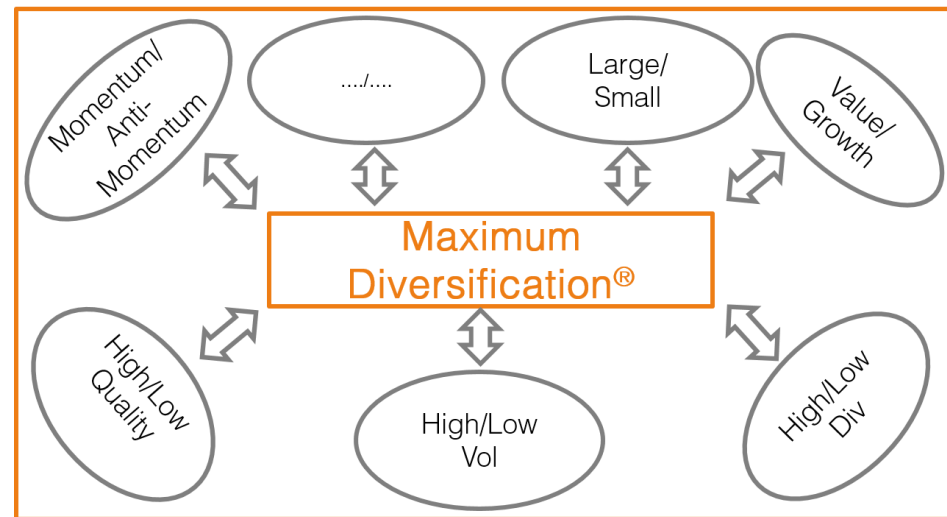
Source: TOBAM, CBOE, ICE-BoA, MSCI, Bloomberg, HIS-Markit, Blackrock.

Correlations reflect back tested data from September 28, 2008 to March 13, 2017, plus live data for the TOBAM AB Global High Yield (AB) from March 13, 2017 to December 28, 2018. Back tested results are for information purposes only. They are intended to illustrate how the Strategy may have behaved had it been launched prior to March 13, 2017.

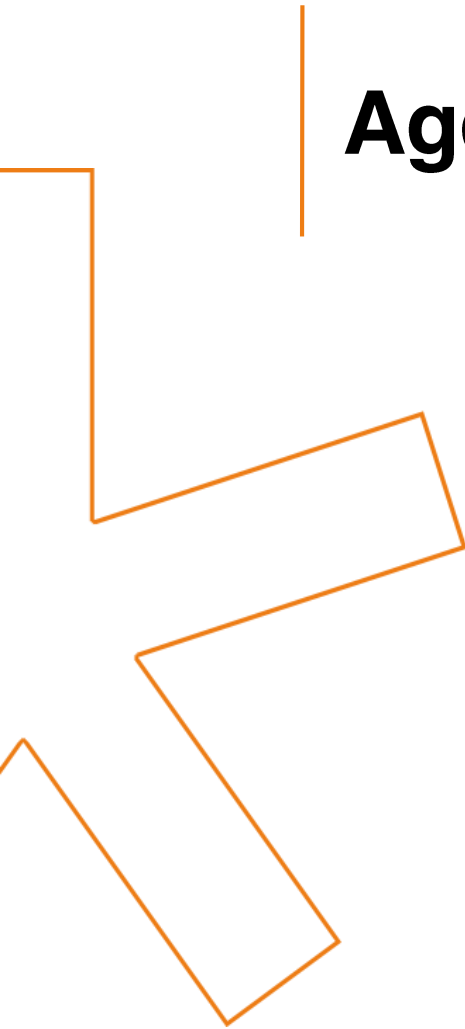
Key Risks: The value of your investment and the income from it will vary and your initial investment amount is not guaranteed. Allocations are subject to change.

Un vrai cœur de portefeuille

...les portefeuilles bien diversifiés sont **idéaux pour être au cœur du portefeuille** et pour être combinés avec des stratégies satellites.



➡ Approche rationnelle: approche Cœur / Satellite utilisant l'AB comme Cœur de portefeuille.



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Conclusion

L'Anti-Benchmark® Credit vise à améliorer la performance par rapport aux indices de marches par une plus grande diversification

- ✓ Philosophie et processus d'investissement de TOBAM
- ✓ La rigueur d'une approche quantitative
- ✓ Combine à l'expertise de gestionnaires dédiés à la stratégie



Une manière de récolter l'entièreté de la prime de risque crédit sur un cycle de marche

About TOBAM

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 US\$10.2 billion (at March 29, 2019). TOBAM's team is composed of 53 professionals.

For more information, visit www.tobam.fr

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