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Scoring Against ESG? Avoiding the Pitfalls of ESG Scores in Portfolio Construction

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Table of Contents

ntroduction
1. The Limitations of Individual ESG Scores
2. The Problems with Using Portfolio-Average ESG Scores15
Conclusion18
References
About Scientific Beta23
Scientific Beta Publications

Abstract

Traditional scores/ratings for a company's Environmental, Social and Governance (ESG) credentials attempt to translate assessments across a host of criteria into one convenient number representative of overall corporate performance. They have been advertised to investors as relevant metrics that support comparisons across companies as well as computation of aggregate portfolio performance indicators for purposes of reporting and fund selection.

Whereas exclusionary screening, which remains the most widely applied ESG strategy globally, does not rely on ESG scores, other popular strategies often do. This is notably the case for:

- best-in-class strategies that retain as constituents those companies achieving the best ESG scores within their sector;
- composite strategies that determine constituent weight by mixing issuer-level ESG data with financial inputs; and ;
- optimisation-based strategies that weight constituents to achieve ESG and financial constraints or objectives in particular linked to average ESG scores simultaneously at the level of the portfolio.

While this serves the commercial interests of rating providers, academic research has underlined that these scores could not guide investors concerned with social welfare and environmental sustainability. International organisations as diverse as the OECD and the WWF have warned against viewing ESG scores as a meaningful indicator of an investment strategy's contribution to the achievement of ESG goals, in particular the fight against climate change.

These dire warnings are buttressed by the amply documented lack of convergence of ESG scores across the different providers. This divergence, which we analyse in the first section of this paper, is due not only to differing objectives, definitions, methodologies and data, but also to the inherent subjectivity of assessment.

In the second part, we highlight the additional concerns linked to averaging ESG scores across a portfolio and using such an average as a goal or constraint in the portfolio construction. Portfolio optimisations based on average ESG scores magnify the estimations errors of individual ESG scores. Moreover, average ESG scores can only be viewed as relevant if one makes questionable assumptions on investors' utility functions with respect to ESG performances and/or unrealistic assumptions about the link between ESG scores and the ESG risks of companies.

The lack of convergence of ESG scores is nevertheless not an indictment of all ESG data. Indeed, the ESG screens incorporated in Scientific Beta's off-the-shelf ESG and Climate options do not seek to manage an average score at the level of the index but impose the same minimum ESG standards on all constituents. Thus, concerns about portfolio-level financial or ESG performances are not permitted to distract from the removal of securities of issuers whose activities or behaviours violate global ESG norms – violations that can documented with reasonable objectivity. Scientific Beta prefers involvement indicators shedding lights on inconvenient truths to the convenience of portfolio averages which may obscure issues.

Abstract

4

To address the most important and pressing ESG issue facing investors, i.e. the fight against climate change, Scientific Beta indices can combine such norms-based divestment with filtering or weighting on the basis of greenhouse gas emissions data of sufficient specificity. Focusing on emissions data with reasonable convergence is a more sensible way to tackle climate change than relying on divergent environmental scores, which an OECD study recently described as ineffective tools to assess the environmental impact of companies and counter-productive indicators from the point of view of climate change mitigation.

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Introduction

Introduction

With the surge of assets under management applying an Environmental, Social and Governance (ESG) investment strategy, the use of ESG scores/ratings, which blend together a multitude of underlying ESG criteria in one handy number, is becoming more widespread. While exclusionary screening, which is the most widely applied ESG strategy globally, does not rely on ESG scores, and norms-based screening, which is particularly strong in Europe, need not do so either, other popular strategies often include them. This is notably the case for:

• best-in-class strategies that retain as constituents those companies achieving the best ESG scores within their sector;

• composite strategies that determine constituent weight by mixing issuer-level ESG data with financial inputs; and

• optimisation-based strategies that weight constituents to achieve ESG and financial constraints or objectives simultaneously at the level of the portfolio.

Such systematic uses of ESG scores for portfolio construction raise several concerns: in the first part of this paper, we discuss some of the problems of the individual ESG scores themselves. The lack of convergence of ESG scores across providers, which is documented in numerous studies, puts their reliability into question. It has consequently led international organisations as diverse as the World Wide Fund for Nature, the OECD and the European Fund and Asset Management Association to warn against viewing them as a useful measurement of a company's or a portfolio's contribution to ESG goals. We also show that these reservations on the use of ESG scores, including environmental scores, do not mean that all ESG data are questionable: for example, some carbon emissions data and other climate change-related data can be relied upon to build portfolios that address the challenge of climate change.

In the second part, we highlight some of the additional concerns linked to averaging ESG scores across a portfolio and using such an average as a goal or constraint in the portfolio construction. Average ESG scores can only be viewed as relevant if one makes questionable assumptions on investors' utility functions with respect to ESG performances and/or unrealistic assumptions about the link between ESG scores and the ESG risks of companies. Moreover, since ESG scores typically suffer from certain biases, such as a geographic and company size-related biases, which their use in portfolio construction can translate into financial risks.



1. The Limitations of Individual ESG Scores

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1.1. The Divergence of ESG Scores Across Providers Questions their Reliability

The overall informational potential of ESG scores is low, as ESG scores are derived from heterogeneous data and idiosyncratic methodologies, and may therefore diverge significantly from one data provider to another. For a start, there is not even a consensus on the number of ESG pillars. While most providers allocate ESG issues to three pillars, others, including foremost providers, prefer a more granular approach.¹

This lack of convergence has been documented in academic studies and has raised concerns regarding the use of ESG scores as a way to measure and to report on the ESG performance of indices. For example, in its feedback to the Technical Expert Group's (TEG) proposals on the update of European Benchmark Regulation, the European Fund and Asset Management Association noted:

"The TEG also calls for ESG scores to be shown for sustainable benchmarks, but there is currently a wide disparity on third party rating agencies on ESG scoring, a lack of transparency in this area. This absence of common understanding and definitions will necessarily lead to overreliance to the third party ESG data and ESG ratings providers, which would still be subjective and also present other risks for conflicts of interest, lack of transparency and competition issues" (EFAMA, 2019).

Casual comparisons of ESG scores by practitioners, such as that made by the Government Pension Investment Fund of Japan (GPIF, 2017) which looked at the coherence of rankings from overall ESG scores and whose results appear on Figure 1², illustrate that there is little consistency in scores prepared by different data providers.



Figure 1: Comparison of rankings for 430 Japanese companies commonly surveyed by MSCI and FTSE (as at July 2016)

Source: GPIF (2017), x coordinate is for MSCI and y coordinate for FTSE, from 1 (best) to 430 (worst).

1 - For illustration, V.E (formerly known as Vigeo-Eiris) recognises six ESG domains: Human Rights, Business Behaviour, Environment, Community Involvement, Corporate Governance and Human Resources.

2 - For the avoidance of doubt, a straight line with a slope of 45 degrees would signal perfect alignment of rankings based on ratings.

1. The Limitations of Individual ESG Scores

Figure 2: Correlation of S&P 500 ESG ratings by different ESG score providers, 2019

The same type of divergence has been observed in other markets, with Figure 2 being an illustration from the US market.



Note: Providers' name pairs in the legend correspond to the Y axis when on the left and to the X axis on the right. Source: Bloomberg, MSCI, Refinitiv, Calculations from OECD (2020, Chapter 1, Robert Patalano and Riccardo Boffo).

This divergence of ESG scores originates from divergences of objectives (what), methodologies (how) and assessments. Scores could (and do) diverge because they relate to fundamentally different concepts, such as measurement of the ESG impact or performance of a company versus measurement of the financial materiality of ESG issues for a company. They also diverge on the choice and weighting of criteria (as a result of divergences of focus or disagreements with respect to the proper manner in which to approach the same issue), and/or because of differences in data sources and treatment, including arising from subjectivity.

This means that the ESG scoring of the same portfolio with two different datasets, e.g. one using the asset manager's or index provider's own ESG scores and one based on the ESG scores of a third-party ESG reporting provider³, would lead to very different performance assessments. As an illustration, the average ESG score of a portfolio could be above that of a benchmark when using one set of scores and below the benchmark with the other. It is very optimistic to assume that users would be able to identify and appreciate differences of objectives and methodologies across providers of ESG scores, in order to understand why the assessments diverge. It is completely unrealistic to assume that users would have the wherewithal to adjust reported scores for these differences so as to make them comparable. Even if they had such resources, the comparison-relevant data that could be extracted from largely disparate scores would be extremely limited and the relevance of such data would still depend on the validity of the underlying assessments, which as we shall see are very much at doubt.

Moreover, the class of methodologies that dominate the market for ESG scores would produce little relevant information for decision making even in a perfect world in which convergent scores for homogeneous constructs would be available. Indeed academic research establishes that even

3 - Many asset owners rely on a single provider to produce their ESG reporting across various portfolios and asset classes. This prevents inconsistencies when the same corporate issuer is assessed within an equity portfolio and within a corporate bond portfolio.

1. The Limitations of Individual ESG Scores

in a world in which different raters agree on a definition of ESG performance as well as on a set and weighting of evaluation criteria, variability in assessment would still be sufficiently material to frustrate meaningful comparisons.

Chatterji et al. (2016) assess the agreement of six prominent ESG ratings (MSCI KLD and Innovest, Thomson Reuters Asset4, FTSE4Good, DJSI, and Calvert) and find low convergence in these raters' assessments of corporate social responsibility. The authors explain that this lack of agreement is not only attributable to stated differences of approaches (which are found to be very stark) but also that all or almost all of the ratings have low validity (relative to their idiosyncratic definitions). Hence even if users were able to appreciate how the variability of approaches impacts scores, they would not be able to extract relevant information from these divergent scores. The authors conclude that these metrics cannot guide issuers and that, in the worst-case scenarios, well-intended managerial attention to social metrics could reduce social welfare. Likewise, they note that investment on the basis of these invalid metrics will fail to direct capital toward the most responsible firms. Finally, they observe that the lack of validity or the inconsistence of ESG scores should cast doubt on the validity of score-based academic research on the effects of ESG on performance.

An additional problem, when it comes to the validity of studies trying to link ESG scores to financial performance, is that the scoring history is sometimes rewritten, creating a risk of hindsight bias. Berg, Fabisik and Sautner (2020) illustrate this risk by examining the widespread changes to the historical ESG scores of Refinitiv ESG (formerly known as Asset4), a rating provider whose ESG data has been used in more than 1,000 academic articles over the past 15 years. While some recent studies have claimed that firms with good ESG scores fared better during the unfolding of the Covid-19 crisis, the authors show that, as far as the Refinitiv ESG data are concerned, such a conclusion depends on whether the initial scores or the rewritten ones are used:

"Retrospectively, one would attribute a positive performance effect during the Covid-19 pandemic to high-E&S firms if one were to classify firms based on the rewritten data. However, this performance would not have been achievable using the data (or information) available to investors at the onset of (or before) the pandemic."

Berg et al. (2019) find an average correlation of 0.61 (and a range of 0.42 to 0.73) between ratings provided by KLD (part of MSCI)⁴, Sustainalytics, V.E (Vigeo-Eiris), Thomson Reuters Asset4 (now Refinitiv ESG), and RobecoSAM (whose ESG data activity was acquired by S&P Global).⁵ For comparison, they compute the correlation of credit ratings from Moody's and Standard & Poor's to be 0.994. The stark contrast between the level of convergence of ESG scores and that of credit ratings was also shown in a study by the OECD (OECD, 2020) and illustrated by Figure 3 below.

^{4 -} The KLD dataset does not contain an aggregate score – such a score is created in most academic studies by summing all strengths and subtracting all weaknesses across the seven dimensions covered by the dataset.

^{5 -} In an updated version of the paper, Berg, Kölbel and Rigobon (2020) add the MSCI dataset to the study and observe an even lower average correlation of 0.54 (with range from 0.38 to 0.71).

1. The Limitations of Individual ESG Scores



Note: Sample of public companies selected by largest market capitalisation to represent different industries in the US. The issuer credit ratings are transformed using a projection to the scale from 0 to 20, where 0 represents the lowest rating (C/D) and 20 the highest rating (Aaa/AAA). Source: Refinitiv, Bloomberg, MSCI, Yahoo finance, Moody's, Fitch, S&P; Calculations from OECD (2020, Chapter 1, Robert Patalano and Riccardo Boffo).

An even lower level of convergence for ESG scores is documented by Gibson et al. (2019), who find that the average correlation between the overall ESG scores across six databases is 0.46 (Asset 4, Sustainalytics, Inrate, Bloomberg, MSCI KLD and IVA).

Note that the same variability is observed at the pillar level. For illustration, on the environmental dimension, Semenova and Hassel (2015) find that ratings provided by MSCI KLD, Thomson Reuters Asset4 and Global Engagement Services (now part of Sustainalytics) do not converge. Gibson et al. (2019) find that the average correlation is lowest for the governance (0.19) and highest for the environmental dimension (0.43).

Berg et al. (2019) observe that the low convergence has consequences for asset pricing (i.e. even if a large fraction of investors have a preference for ESG performance, ratings divergence disperses the effect on asset prices⁶), corporate incentives (due to the sending of mixed signals) and empirical research (whose results risk being unreliable) and conclude: "Taken together, the ambiguity around ESG ratings is an impediment to prudent decision-making that would contribute to an environmentally sustainable and socially just economy." Consistent with Chatterji et al. (2016), the authors find that more than half the divergence observed is explained by differences in assessment.⁷ They also observe that assessment in individual ESG categories seems to be influenced by the rating agency's view of the analysed company as a whole.

In conclusion, observing the lack of convergence of ESG scores, the OECD warned that "if high ESG scores are simply a judgment that varies significantly across firms, the extent to which investors can be assured that this approach either provides enhanced returns or aligns with particular societal values merits further scrutiny by policy makers and the investment community." (See OECD, 2020, chapter 1, Robert Patalano and Riccardo Boffo.)

Figure 3: Selected ESG ratings and issuer credit ratings by sector in the US, 2019

^{6 -} Avramov et al. (2020) analyse the equilibrium implications of ESG rating disagreement for portfolio choice and asset pricing and bring support to the notion that the lack of consistency in ESG ratings could distort the risk-return trade-off.

^{7 -} The other sources studied are scope divergence, i.e. the selection of different sets of categories and weight divergence, i.e. the relative importance of categories in the computation of the aggregate ESG score.

1. The Limitations of Individual ESG Scores

1.2. The Difference Between Reliable ESG Data and ESG Scores – The Example of Environmental Performance

We must nevertheless underline that the above observations on the lack of convergence of ESG scores are not an indictment of all ESG data. They do not apply to issuer-reported data that are accepted as valid or objective data that may be directly measured or modelled with reasonable precision.

Taking the environmental dimension as an example, ESG scores may be viewed as contributing to greenwashing. At the issuer level, ESG scores are typically averages of indicators of corporate strengths and weaknesses over multiple criteria. Averaging allows certain issuers to achieve strong scores despite association with material ESG concerns and provides rich opportunities for astute and well-endowed companies to take a "strategic" approach to ESG scores by orientating ESG investments and reporting towards "low-hanging fruits". This leads to some questioning the very relevance of ESG scores. As an illustration, the World Wide Fund for Nature European Policy Office (WWF, 2019) noted in its feedback on the update of the EU Benchmark Regulation that it was not convinced that ESG scores were very robust. Their consideration of secondary ESG issues (what the WWF called "nice to have") could lead to overlooking critical ESG issues (what it called "strategic core business issues") and a focus on process indicators ("tick boxing") could lead to overlooking impact indicators. The non-governmental organisation also objected to the relative nature of most ESG ratings, which leads to distinguishing sustainable companies within non-sustainable sectors.

Focusing on climate change, we observe that academic studies looking at the correlation across greenhouse gas emissions data distributed by different providers find it to be strong for direct emissions (scope 1) and indirect emissions linked to consumption of purchased electricity, heating or cooling (scope 2).⁸ Busch et al. (2018) conclude their comparison of emissions provided by Bloomberg, CDP, ISS ESG, MSCI, Sustainalytics, Thomson Reuters and Trucost with these words:

"When outliers are removed from the data samples, data concerning scope 1 and 2 emissions provides a rather homogeneous picture. Notably, a high level of consistency can be achieved when data gathering and reporting practices follow the GHG Protocol. At the same time, the aggregated consideration of estimated data for scope 1 and 2 emissions provides a surprisingly homogeneous result. While the consistency of estimated data – as can be expected – is lower as compared to reported data, the different estimation methods being applied seem to close data gaps in an adequate manner."

This suggests that climate change metrics based on scope 1+2 carbon emissions data may be much more relevant than environmental scores when analysing a portfolio's exposure to climate transition risks or an investor's contribution to climate change.

Indeed, the quantitative analyses performed by the OECD (OECD, 2020, from chapter 2, Robert Patalano and Catriona Marshall) highlighted the risks of relying on environmental scores when

8 - Importantly, no such convergence is observed for value-chain emissions data (scope 3), where reporting lacks density and standardisation and where modelling is very challenging.

1. The Limitations of Individual ESG Scores

defining investment strategies aimed at addressing climate change: "the E score in its current form is not an effective tool to differentiate between companies' activities related to outputs that affect the environment, climate risk mitigation to improve risk-adjusted returns, and medium-term strategies to align portfolios with lower-carbon activities." For some of the scoring providers analysed they even, worryingly, found that good environmental scores positively correlated with high emissions. They also underlined that the scores "can be difficult to interpret due to the multitude of diverse metrics on environmental factors".



2. The Problems with Using Portfolio-Average ESG Scores

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Average ESG scores at the portfolio-level are only meaningful from a socially responsible investment standpoint if one assumes that the utility of ESG performance is linear, e.g. that holding a company facing a critical ESG controversy could be neutralised by investing in a company that has earned a corporate sustainability award. From an ESG risk management angle, average ESG scores provide useful insights only if one assumes that scores very accurately proxy for ESG risks and furthermore that these risks are linear. None of these assumptions are substantiated by academic studies, or even by intuition or casual observation.

2.1. Rejecting Average Indicators of ESG Performance from a Responsible Investment Standpoint

The investment performance of a portfolio, expressed in dollar terms, is the arithmetic sum of the constituent-level performance, expressed in the same unit. While the distribution of gains and losses across constituents may provide different utilities to different investors, we need not rely on subjective utility to compute the portfolio-level investment performance as we have an objective exchange value for the performance of each constituent. In the absence of such a numeraire for non-financial performance, we need to question the relevance of averaging constituent performance to represent portfolio performance for a variety of agents.

With respect to the assumption of linearity that supports averaging, let us note that high ESG performance at the corporate level rarely attracts as much attention or elicits as much passion as poor ESG performance – companies that are known to be failing basic standards of corporate responsibility receive disproportionately more coverage than those companies that greatly exceed standards – likewise, consumers have traditionally been found to consider the ESG performance of companies as a hygiene factor rather than a motivator (Meijer and Schuyt, 2005).

Hence, for the average investor with progressive ESG motivations it is unlikely that the non-financial impact of holding a company facing a critical controversy could be neutralised by an investment of the same amount in a company that has earned a corporate sustainability award; and for investors following a deontological approach, the suggestion is offensive. Even for a business-as-usual investor, the mere assumption of controversy risk aversion invalidates the possibility of a linear relationship between ESG performance and its utility that would support the use of an average of performance as an average of utility at the investor level.

2.2 Rejecting Average Indicators of ESG Performance from an ESG Risk Management Angle

Investors may wish to rely on ESG performance indicators as a proxy for "ESG risks" with potential financial materiality. By assuming that the impact of these risks is meant to be assessed financially, we avoid retracing the subjective utility issues described above. In this context, the use of an average indicator is consistent with the risk contribution of each constituent being given by the weight of

2. The Problems with Using Portfolio-Average ESG Scores

the constituent (exposure) times the constituent-level ESG metric serving as a proxy for the product of frequency by severity expressed in dollars terms. Whatever the nature of risk, we are to accept that there is an exact linear relationship between the ESG performance at the constituent level and the expected value of the financial impact of the risk realisation.

These high-bar assumptions are required to give relevance to the reporting of portfolio-averages of ESG scores as risk proxies and to portfolio construction approaches that rely on averages of ESG indicators across assets as objectives or constraints (e.g. imposing a weighted average ESG score above that of a standard benchmark). While such assumptions may be convenient, we do not regard them as conservative, especially for downside risk management.

By contrast, exclusions of companies that fail certain demanding standards or thresholds (controversial weapons producers or coal-related companies) focuses on companies that can be viewed as high risk. Supportive of this orientation are studies such as that by Oikonomou, Brooks and Pavelin (2012) that finds that ESG strengths are negatively but insignificantly associated with systematic firm risk – including downside risk measures – while ESG weaknesses are significantly positively related to these measures; the association is particularly strong for socially irresponsible actions.

2.3 Risk of Introducing Biases

It should also be observed that, in spite of their idiosyncrasies, ESG scores as a group have been shown to suffer from biases with respect to company size (Drempetic, Klein and Zwergel, 2019), geography (Breedt et al., 2019) and industry (ACCF, 2018). This can have important consequences for portfolio construction, in particular if a global equity portfolio is built by an optimiser using an average ESG score as a goal or constraint (e.g. imposing an average ESG score above that of a standard market benchmark). The optimised ESG portfolio would tend to have the same biases as the ESG scores, for example overweighting European companies and large cap stocks, which would create financial risks without contributing to the achievement of ESG goals in any meaningful way.



Conclusion

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Traditional ESG scores/ratings attempt to translate measures or assessments of performance across a host of criteria into one convenient number representative of overall corporate performance. They have been advertised to investors as relevant metrics to support comparisons across companies for purposes of asset selection and weighting as well as computation of aggregate portfolio performance indicators for purposes of reporting and fund selection.

Whereas exclusionary screening, which remains the most widely applied ESG strategy globally, does not rely on ESG scores, other popular strategies often make use of these data. This is notably the case for

• best-in-class strategies that retain as constituents those companies achieving the best ESG scores within their sector,

• composite strategies that determine constituent weight by mixing issuer-level ESG data with financial inputs; and

• optimisation-based strategies that weight constituents to achieve ESG and financial constraints or objectives simultaneously at the level of the portfolio.

While this serves the commercial interests of rating providers, academic research has underlined that these scores could not guide issuers or investors concerned with social welfare and environmental sustainability. International organisations as diverse as the OECD and the WWF have warned against viewing ESG scores as a meaningful indicator of an investment strategy's contribution to the achievement of ESG goals, in particular the fight against climate change. These dire warnings are buttressed by the amply documented lack of convergence of ESG scores across the different providers. This divergence is due not only to differing objectives, definitions, methodologies and data, but also to the inherent subjectivity of assessment.

Scientific Beta therefore eschews weighting index constituents on the basis of ESG scores, which would magnify the estimation errors associated with them, and refrains altogether from using these scores for its off-the-shelf ESG and Climate options.

The ESG screens incorporated in these options do not seek to manage an average score at the level of the index but impose the same minimum ESG standards on all constituents. Thus, concerns about portfolio-level financial or ESG performances are not permitted to distract from the removal of securities of issuers whose activities or behaviours violate global ESG norms.

Consistently, Scientific Beta does not report ESG scores and limits the reporting of portfolio averages of ESG indicators to cases where they are grounded in physical and/or financial realities or correspond to industry standards. The ESG Norms analytics of Scientific Beta's enhanced ESG Reporting disclose the cumulative weight of index constituents with documented involvement in activities incompatible with global ESG norms, e.g. controversial weapons, tobacco or coal exploitation, or that fail basic norms of responsible business behaviour or corporate governance. Thus, the attention is focused not on irrelevant constructs built on unreliable data but instead on

Conclusion

objective and robust exposure data, pertaining to key ESG issues. To the convenience of portfolio averages which may obscure issues, Scientific Beta prefers involvement indicators shedding lights on inconvenient truths.

To address the most important and pressing ESG issue facing investors, i.e., the fight against climate change, Scientific Beta indices may combine negative filters with positive filtering or weighting on the basis of greenhouse gas emissions data of sufficient specificity. Focusing on reported emissions and modelled emissions with reasonable convergence is more sensible to tackle climate change than relying on divergent environmental scores, which an OECD study recently described as ineffective tools to assess the environmental impact of companies and counter-productive indicators from the point of view of climate change mitigation. As emissions are physical realities, the Climate Change analytics of Scientific Beta's enhanced ESG Reporting include portfolio-level emissions-based metrics of carbon exposure and footprint, along with fossil-fuel involvement metrics and information on fuel mix of controlled power generation.



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About Scientific Beta

About Scientific Beta

EDHEC-Risk Institute set up Scientific Beta in December 2012 as part of its policy of transferring know-how to the industry. In January 2020, Singapore Exchange (SGX) acquired a majority stake in Scientific Beta and is maintaining the strong collaboration with EDHEC Business School and principles of independent, empirical-based academic research that have benefited Scientific Beta's development to date. Scientific Beta is an original initiative which aims to favour the adoption of the latest advances in "smart beta" design and implementation by the whole investment industry. Its academic origin provides the foundation for its strategy: offer, in the best economic conditions possible, the smart beta solutions that are most proven scientifically with full transparency of both the methods and the associated risks. Smart beta is an approach that deviates from the default solution for indexing or benchmarking of using market capitalisation as the sole criterion for weighting and constituent selection.

Scientific Beta considers that new forms of indices represent a major opportunity to put into practice the results of the considerable research efforts conducted over the last 30 years on portfolio construction. Although these new benchmarks may constitute better investment references than poorly-diversified cap-weighted indices, they nevertheless expose investors to new systematic and specific risk factors related to the portfolio construction model selected.

Consistent with a full control of the risks of investment in smart beta benchmarks, Scientific Beta not only provides exhaustive information on the construction methods of these new benchmarks but also enables investors to conduct the most advanced analyses of the risks of the indices in the best possible economic conditions.

Lastly, within the context of a Smart Beta 2.0 approach, Scientific Beta provides the opportunity for investors not only to measure the risks of smart beta indices, but also to choose and manage them. This new aspect in the construction of smart beta indices has led Scientific Beta to build the most extensive smart beta benchmarks platform available which currently provides access to a wide range of smart beta indices.

Scientific Beta Publications

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2020 Publications

• Christiansen, E. and F. Ducoulombier. Scoring Against ESG? Avoiding the Pitfalls of ESG Scores in Portfolio Construction (December).

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