Scientific Beta Days Europe 2023

Robust Innovations in Passive Investing

The Fundamentals of Factor Investing Innovation

> The Importance of Robustness in Factor Choice and Construction

> Revisiting Diversification

Being Serious with Sustainable Investing

> Take a Small Step Back on the Performance of ESG

> What Data to Construct Sustainable Investment Strategies?

Scientific Beta
An SGX and EDHEC Venture

November 14 & 15, 2023
Barbizon Palace, Amsterdam

This conference will have a federating theme of "how to innovate in passive investment strategies without forgetting the fundamentals that form the basis of the robustness of the value propositions."

The conference will take place over two days with a shorter first day, 10am to 5.30pm, and a second day from 9am to 5pm.

14 November — Day 1

The Fundamentals of Factor Investing Innovation

The objective of this first day is to allow participants to be able to analyse the limitations and challenges of constructing factor strategies. It will not only involve evaluating the usefulness of recent innovations in the area of factor investing but will also provide new avenues for constructing efficient and robust strategies.

The Importance of Robustness in Factor Choice and Construction

> Fake factors are everywhere
> The limitations of in-sample factor optimisation: the case of multi-criteria factor construction

Revisiting Diversification

> Beyond the diversification of idiosyncratic risk
> How to reconcile diversification and maintain strong factor intensity: the case of sector neutrality
> Climate transition risk in multi-factor portfolios

15 November — Day 2

Being Serious with Sustainable Investing

This day will provide a genuinely critical state of the art of the data, concepts, and techniques in the area of sustainable investing. It will also outline the prospects for better evaluation of the financial consequences of climate change.

Take a Small Step Back on the Performance of ESG

> The false alphas of the research into the performance of ESG
> Sustainability alpha in the real world: evidence from exchange-traded funds

What data to Construct Sustainable Investment Strategies?

> Does climate data meet the challenge of the climate transition?
> Can we trust ESG scores to construct portfolios?
> Must we choose between ESG and climate objectives?

The Challenges in Measuring Climate Risk

> Beyond climate risk scenarios

14 November

Day 1 — The Fundamentals of Factor Investing Innovation

The Importance of Robustness in Factor Choice and Construction

This important conference session addresses a key point for the construction of robust portfolios in the sense that these portfolios display stable out-of-sample risk and performance characteristics. In this area, investors are confronted with two major difficulties that will be addressed by two comprehensive presentations.

The first difficulty is proper qualification of a risk factor and the dangers of sample-dependent or purely model-dependent approaches to factor selection, as is the case with machine learning, or the confusion between the desire to integrate ESG into the portfolio characteristics and the use of ESG characteristics to construct ESG risk factors.

The second difficulty is related to the manner in which traditional risk factors are constructed and the robustness problem posed by constructions that aim to maximise the returns associated with these factors in-sample, whether it involves the disappointing out-of-sample performance of these optimised multi-criteria factors, or the poor risk allocation relating to factors that already carry risk overlaps and risk instability themselves due to their construction.

9.00 - 10.00 - Breakfast & Registration

10:00 – 11:00 Fake Factors are Everywhere

> Differentiating between rewarded and non-rewarded; how to validate the existence of a rewarded factor
> The risk of machine learning (ML) approaches in creating or selecting factors
> When a false ESG factor can hide a true financial risk
> Case study: the dangers of allocating to fake factors

Q&A session with audience

Speaker:
Felix Goltz, PhD, Research Director, ***Scientific Beta***

Discussant:
Dr Henrique Schneider, Chief Economist, ***SGV***

11:00 – 11:40 The Limitations of In-Sample Factor Optimisation: the Case of Multi-Criteria Factor Construction

> When single factor indices are actually multi-factor indices: the case of the profitability-value index
> Questioning the robustness of optimising factor index construction criteria in-sample: the case of non-equal-weighted criteria
> The risks of allocating to optimised multi-criteria indices

Q&A session with audience

Speaker:
Ben Luyten, Senior Research Analyst, ***Scientific Beta***

Discussant:
Olivier Rousseau, Executive Director, ***FRR***

11:40 – 12:00 Break

14 November

Day 1 — The Fundamentals of Factor Investing Innovation

Revisiting Diversification

This session maps out the outlook for real progress in the area of portfolio diversification, which corresponds to one of the key value-added proxies in the area of smart beta offerings.
It is broken down into two presentations that address important questions for investors who wish to move away from cap-weighted indices.

One of the first subjects that has been addressed historically in the area of stock diversification has been that of controlling the consequences of applying popular weighting schemes in the area of intense exposure to traditional micro factors (such as value, size, etc.). Scientific Beta was a pioneer in the area of controlling these exposures and reconciling idiosyncratic risk diversification and factor allocation. More recently, with the growth in macroeconomic risks, notably inflation and interest rates, investor attention has been drawn to their portfolio's exposure to these risks. Also on this subject, Scientific Beta has provided a decisive contribution to the proper measurement of these risks in an equity portfolio framework. The first presentation associated with this session will allow investors to benefit from and discuss the results of the research that has been conducted.

The second subject is directly related to observations made during the COVID-19 crisis, when smart beta portfolios, even when they were constructed with sector allocations that were neutral with respect to cap-weighting, exhibited large tracking errors. These tracking errors, which were the consequence of considerable performance disparities, could be observed within the same sector, due for example to the teleworking capability of the firm. This inability to control industry risk through simple sector neutrality naturally raises questions, and all the more so in that this same sector neutrality is a strong constraint in constructing high factor intensity portfolios. Scientific Beta has recently developed a new approach to controlling the industry risk factor that not only has less impact on the portfolio's factor intensity, but also provides better control of the true drivers of inter and intra-sector return dispersion.

Finally, the third challenge of portfolio diversification is integrating climate transition risk. This challenge corresponds to a new approach to constructing climate transition risk factor portfolios, whereby this risk can be integrated into and taken into account in a multi-factor portfolio.

12:00 – 1:00 Beyond the Diversification of Idiosyncratic Risk

> The limitations of classic diversification approaches: the unintended consequences of popular weighting schemes
> The importance of taking systematic but unrewarded factors into account in portfolio construction
> Case study: the diversification of macro risk factors

Q&A session with audience

Chair:
Dr Henrique Schneider, Chief Economist, ***SGV***

Speaker:
Felix Goltz, PhD, Research Director, ***Scientific Beta***

1:00– 2:00 Lunch

2:00 – 3:00 How to Reconcile Diversification and Maintain Strong Factor Intensity: the Case of Sector Neutrality versus Industry Risk Control

> Documenting the sector biases of factor strategies
> The impact of traditional sector-neutrality approaches on the quality of factor exposure
> Taking the drivers of sector risks into account ; the case of industry risk factors
> Case study: a high factor intensity index with relative industry risk control

Q&A session with audience

Chair:
Michael Ashworth, Principal Investments Manager (Public Markets), ***Greater Manchester Pension Fund***

Speaker:
Daniel Aguet, Deputy CEO and Index Director, ***Scientific Beta***

Discussant:
Allan Japhetson, Head of Investment Strategy, ***ATP***

14 November

Day 1 — The Fundamentals of Factor Investing Innovation

3:00 – 4:00 Climate Transition Risk in Multi-Factor Portfolios

> What proxy for the transition risk factor?
> Does transition risk correspond to a rewarded factor?
> What overlap between the transition risk factor and traditional factors?
> Case study: how to integrate the transition risk factor into a multi-factor portfolio

Q&A session with audience

Chair:
Michal Bartek, Senior Lead Listed Equity, ***PRI***

Speaker:
Erik Christiansen, ESG and Low Carbon Investment Specialist, ***Scientific Beta***

4.00 - 4.30 Break

4.30 - 5.30 Roundtable: Future Trends for Quant investing

> How to challenge the performance concentration on the Magnificent Seven for diversified quant strategies?
> AI: impact of new technologies, a threat or an opportunity?
> High macro-economic volatility: can the models keep up the pace?

Moderator:
Marianne Piquerel, Senior Business Development & Sales Manager, ***Scientific Beta***

Panellists:
Christophe Boucher, Chief Investment Officer, ***ABN AMRO Investment Solutions***
Felix Goltz, Research Director, ***Scientific Beta***
Raul Leote de Carvalho, Deputy Head of the Quant Research Group, ***BNP Paribas Asset Management***
Guillaume Rabault, Global CIO Quantitative Strategies, ETF and Indexing, ***HSBC Global Asset Management***

5.30 - 6.30 Drinks Reception

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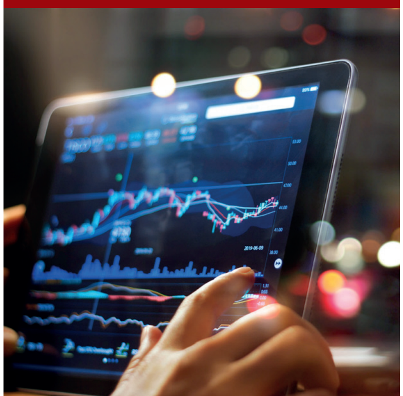
Scientific Beta | Best Specialist ESG Index Provider



15 November

Day 2 — Being Serious with Sustainable Investing

Take a Small Step back on the Performance of ESG

In recent years, the promoters of ESG data or index solutions have highlighted the capacity to generate outperformance by taking account of stocks' ESG characteristics. Attractive in-sample, this performance does not stand up to a serious analysis of the real sources of the performance of ESG portfolios, which is the subject of the first presentation in this session.

The second presentation in this session will focus on ESG performance based on analysis of the risk and performance of ESG ETFs and will raise the crucial question of the existence of specific ESG performance.

9:00 – 10:00 The False Alphas of the Research into the Performance of ESG

> What are the limitations of alpha oriented ESG research?
> What are the results after correcting for the biases of alpha oriented ESG research?
> Why is it unlikely that ESG strategies will generate alpha?

Q&A session with audience

Chair:
Jaap Van Dam, Principal Director, Investment Strategy, ***PGGM***
Speaker:
Felix Goltz, PhD, Research Director, ***Scientific Beta***

10:00 – 10:40 Sustainability Alpha in the Real World: Evidence from Exchange-Traded Funds

> Real world ESG performance: how to analyse the performance of ESG ETFs?
> What are the drivers of ESG performance?
> Can we speak of specific ESG performance?

Q&A session with audience

Speaker:
Giovanni Bruno, PhD, Senior Quantitative Research Analyst, ***Scientific Beta***

10:40 – 11:00 Break

15 November

Day 2 — Being Serious with Sustainable Investing

What Data to Construct Sustainable investment Strategies?

The development of regulatory requirements in the area of sustainability reporting and the development of climate-aligned benchmarks, added to the constant desire of ESG and climate solutions providers to innovate, raises the issue of the quality and relevance of the data used to build these reports and strategies. This question is the subject of two presentations.

The first is devoted to the quality of climate data. Organisations identify a lack of access to robust data as the number one hurdle preventing (further) integration of ESG dimensions into financial decision-making. While climate change is now considered doubly material, investors face data challenges pertaining to limited availability – in particular of forward-looking information – and quality issues related to data materiality, accuracy, reliability, and comparability. In this session, academic and industry experts will describe the data demands placed upon investors by the net-zero agenda, discuss the dos and don'ts of data usage, shed light on issues of fitness for purpose of data and metrics advanced by regulators and standard setters, and discuss how forthcoming regulatory changes and technological innovations may change the transition data landscape for the better.

The second presentation is devoted to the highly controversial question of ESG scores in a context in which these have shown, with the occurrence of several ESG "accidents" or controversies, that they were not necessarily very predictive of the firm's real ESG performance, and in which the recent setbacks for major institutional investors who had used these same ESG scores to construct their portfolio have shown that they could lead to strong exposure to risk of extreme financial losses.

Finally, the question of accounting for ESG objectives between themselves will be the subject of a presentation of new results from research conducted by the Scientific Beta team in a context in which investors who are always concerned about doing better multiply the ESG objectives assigned to their portfolio. The question of "is better the enemy of good?" will arise as part of a study on the dilution of the impact of a portfolio that has ambitious objectives for both climate and ESG.

11:00 – 12:00 Does Climate Data Meet the Challenge of the Climate Transition?

> Limitations of the climate performance indicators promoted by the regulator
> What value to attribute to climate alignment data
> What are the expected innovations in the area of climate impact data?

Q&A session with audience

Chair:
Rasmus Bessing, Managing Director, ***COO, PFA***

Speaker:
Frédéric Ducoulombier, Director, ***EDHEC-Risk Climate Impact Institute***

Panelists:
Julien Grolee, Programme Manager, ***IIGCC***
Dr. Bernd Spendig, Head of ESG - Client Risk Management, ***HypoVereinsbank - Unicredit***
Jakob Thomä, Co-Founder & Research Director, ***Theia Finance Labs***

12:00 – 12:40 Can we Trust ESG Scores to Construct Portfolios?

> What are the limitations of the construction of ESG scores?
> Do ESG scores provide relevant information in the area of ESG performance?
> Are ESG scores a good indicator of stocks' risks?

Q&A session with audience

Chair:
Dr. Bernd Spendig, Head of ESG - Client Risk Management, ***HypoVereinsbank - Unicredit***

Speaker:
Erik Christiansen, ESG and Low Carbon Investment Specialist, ***Scientific Beta***

Discussant:
Rasmus Bessing, Managing Director, ***COO, PFA***

12:40 – 2:00 Lunch

15 November

Day 2 — Being Serious with Sustainable Investing

2:00 – 3:00 Must we Choose between ESG and Climate Objectives?

> Is there compatibility between the pursuit of popular ESG objectives and climate performance?
> When the use of ESG scores leads to the dilution of the portfolio's climate impact
> Case study: comparison between exclusion and score weighting in reducing the portfolio's climate performance

Q&A session with audience

Chair:
Ingrid Albinsson, Vice-Chair and Member of the Board of Directors, ***AP2***

Speaker:
Felix Goltz, PhD, Research Director, ***Scientific Beta***

3:00 – 3:30 Break

The Challenges in Measuring Climate Risk

The uncertainties associated with climate change are unprecedented. Precisely because statistical analysis based on past historical data has obvious shortcomings, models must play a unique role. To provide useful guidance to our understanding and actions, models must reflect both our degree of ignorance, and what we do know about the interaction between the physics and the economics of the problem. We use state-of-the-art modelling (such as recursive utility functions and Dynamic Bayesian Nets) to explore both optimal policies, and what the impact on asset prices will be under sub-optimal policies. In particular, we can associate probabilities to climate scenarios (something currently missing), offer insight about the climate risk premium, and estimate which climate outcomes current asset prices seem to reflect.

3:30 – 5:00 Beyond Climate Risk Scenarios

> What is the state of the art in climate risk modelling?
> What are the limitations of the climate scenarios used in calculating extreme climate risks?
> How to take account of uncertainty in the economic climate calculation?
> Initial results of the EDHEC-Risk Climate Impact Institute research on evaluating the impact of climate change on asset prices

Q&A session with audience

Chair:
Frédéric Ducoulombier, Director, ***EDHEC-Risk Climate Impact Institute***

Speaker:
Riccardo Rebonato, Scientific Director, ***EDHEC-Risk Climate Impact Institute***

Our Speakers

Daniel Aguet is Deputy CEO & Index Director at Scientific Beta. He has been involved in the development and the management of smart beta portfolios both in a long-only and a long/short framework, as well as in research on the quantitative implementation of socially responsible investment.

Giovanni Bruno is a Senior Quantitative Analyst at Scientific Beta and a member of the EDHEC Scientific Beta research chair. His research focuses on asset pricing. He earned his PhD in finance at the Norwegian School of Economics, where he also worked as a Teaching Assistant delivering courses on Investments, Derivatives and Risk Management and Quantitative Investment.

Erik Christiansen is an ESG and Low Carbon Solutions Specialist with Scientific Beta. He was previously Head of Investment Strategy with the Etablissement de Retraite Additionnelle de la Fonction Publique (ERAFP), the mandatory pension scheme for French civil servants, where he was responsible for implementing the equity and ESG strategies.

Frederic Ducoulombier is the founding director of EDHEC-Risk Climate Impact Institute at EDHEC Business School. As director, he is in charge of defining and steering implementation of the Institute's research strategy, developing partnerships and relationships with public and private stakeholders, and overseeing research dissemination and communications.

Felix Goltz, PhD, is Research Director at Scientific Beta. He carries out research in empirical finance and asset allocation, with a focus on alternative investments and indexing strategies. His work has appeared in various international academic and practitioner journals and handbooks.

Ben Luyten is a Senior Research Analyst at Scientific Beta. He graduated from the Financial Markets Master at EDHEC Business School in Nice and he previously obtained a master's degree in Business Engineering from Hasselt University in Belgium.

Riccardo Rebonato, is Scientific Director of EDHEC-Risk Climate Impact Institute and Professor of Finance at EDHEC Business School. He heads EDHEC-Risk Climate Impact Institute's "Impact of Climate Change on Asset Prices" research programme. He has published an extensive body of academic work. His latest book deals with using economics to tackle climate change. *The Journal of Portfolio Management* named him 2022's "PMR Quant Researcher of the Year".

About Scientific Beta

Scientific Beta aims to encourage the entire investment industry to adopt the latest advances in smart factor and ESG/Climate index design and implementation. Established in December 2012 by EDHEC-Risk Institute, one of the top academic institutions in the field of fundamental and applied research for the investment industry, as part of its mission to transfer academic know-how to the financial industry, Scientific Beta shares the same concern for scientific rigour and veracity, which it applies to all the services that it provides to investors and asset managers. We offer the smart factor and ESG/Climate solutions that are most proven scientifically, with full transparency of both methods and associated risks.

On January 31, 2020, Singapore Exchange (SGX) acquired a majority stake in Scientific Beta. SGX 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 has developed two types of expertise over the years corresponding to two major concerns for investors:

Expertise in the area of Smart Beta, and more particularly factor investing
Expertise in the area of ESG, and particularly Climate investing

To date, Scientific Beta is offering two major types of climates objectives:

Since 2015, offerings with financial objectives respecting ESG and Carbon constraints. These offerings correspond to the application of exclusion filters, the design of which allows the financial characteristics of the index to be conserved. This involves reconciling financial objectives and compliance with ESG norms and climate obligations. As such, the Core ESG, Extended ESG and Low Carbon filters can be integrated into smart beta or cap-weighted offerings in line with the financial objectives targeted by the investor.

Since 2021, Scientific Beta has been offering indices with pure climate objectives (Climate Impact Consistent Indices) that allow climate exclusions and weightings to be combined in order to translate companies' climate alignment engagement into portfolio decisions.

Since it was acquired by SGX in January 2020, Scientific Beta has accelerated its investments in the area of Climate Investing as part of the SGX Sustainable Exchange strategy, which is mobilising an investment of SGD 20 million. In addition, EDHEC and Scientific Beta have set up a EUR 1 million/year ESG Research Chair at EDHEC Business School.

With a concern to provide worldwide client servicing, Scientific Beta is present in Boston, London, Nice, Singapore and Tokyo. As of July 31, 2022, the Scientific Beta indices corresponded to USD 52.47bn in assets under replication. Scientific Beta has a dedicated team of 55 people who cover not only client support from Nice, Singapore and Boston, but also the development, production and promotion of its index offering. Scientific Beta signed the United Nations-supported Principles for Responsible Investment (PRI) on September 27, 2016. Scientific Beta became an associate member of the Institutional Investor Group on Climate Change (IIGCC) on April 9, 2021, and a member of the Investor Group on Climate Change (IGCC) on November 28, 2022.

About Scientific Beta

Today, Scientific Beta is devoting more than 40% of its R&D investment to Climate Investing and more than 45% of its assets under replication refer to indices with an ESG or Climate flavour. As a complement to its own research, Scientific Beta supports an important research initiative developed by EDHEC on ESG and climate investing and cooperates with V.E and ISS ESG for the construction of its ESG and climate indices.

On November 27, 2018, Scientific Beta was presented with the Risk Award for Indexing Firm of the Year 2019 by the prestigious professional publication Risk Magazine. On October 31, 2019, Scientific Beta received the Professional Pensions Investment Award for "Equity Factor Index Provider of the Year 2019." On February 2, 2022, Scientific Beta was named 'Best Specialist ESG Index Provider' at the ESG Investing Awards 2022.

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INVITATION ONLY

Conference reserved for asset owners and institutional consultants upon receipt of an invitation. Admission is only valid when confirmed by the organisers, who reserve the right to refuse any registration request in order to preserve the diversity of the audience.

Asset owners include: pension schemes, charities, endowments, foundations, insurance companies, single family offices and financial executives from non-financial companies.

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