Scientific Portfolio Market Review

January 2025

Scientific Portfolio
An EDHEC Venture

Reading the ESG Label Before Use is Not Enough

All Eyes on ESG Labels?

As mentioned in our July 2024 Market Insights, the European Union's financial market regulator has increased its focus on fund names and labels in an attempt to protect investors against unsubstantiated or exaggerated sustainability claims.

Similar action has been taken by the United Kingdom's Financial Conduct Authority (FCA)[1], but also by the U.S. Securities and Exchange Commission (SEC)[2] through its 2023 amendments to the Names Rule. For example, the SEC recently fined Invesco for making misleading claims about the share of its assets under management (AUM) that was deemed "ESG integrated" (i.e., that integrates environmental, social and governance (ESG) factors in investment decisions), while failing to provide any written policy that defined "ESG integration".[3]

Asset managers are also under the scrutiny of market activists. In October, a nonprofit accused BlackRock of making misleading sustainability claims about some of its funds and reported the matter to France' s markets regulator.[4] The nonprofit is specifically questioning whether the funds' holdings are consistent with the ESG-related label used to name the funds.[5]

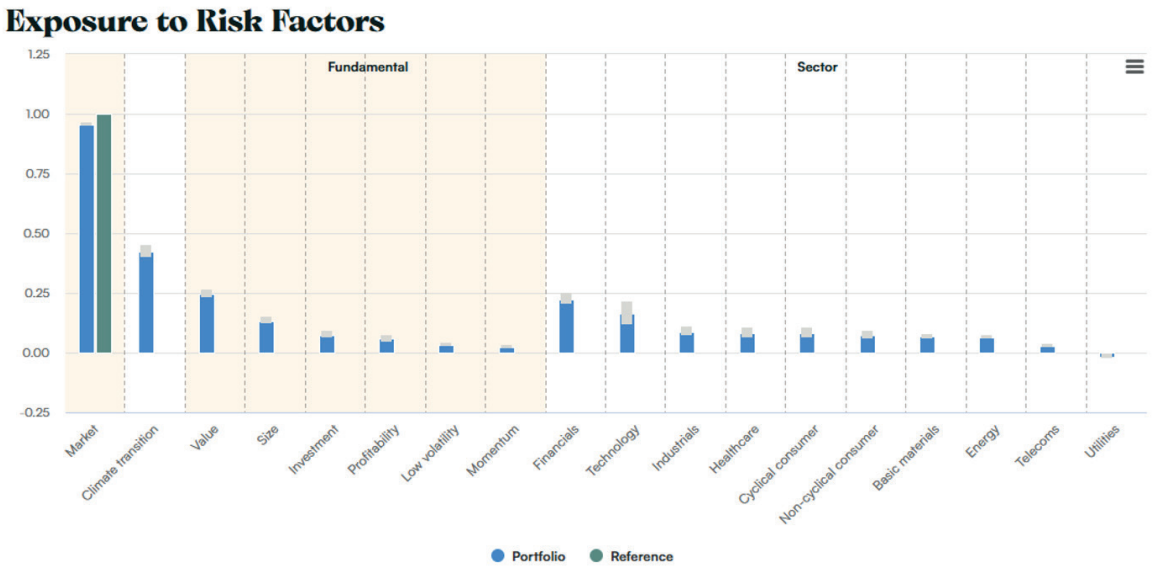
As expected, the heightened focus on ESG labelling has pushed investment players to adapt their offering and MSCI announced earlier in the same month that it will drop the reference to "ESG" from some of its indices, to comply with new labelling rules on sustainability-related products.

Despite new and stricter regulations, it is unlikely a simple label or name will ever be sufficient to precisely qualify the level of sustainability of an investment product and this edition of our Market Reviews claims that investors need to examine the holdings of a portfolio to make a precise assessment. We illustrate this idea through an independent sustainability review of ESG-labelled broad-based large cap equity mutual funds and ETFs primarily invested in US, European or global developed markets (in the remainder of this document, the term *'fund'* will be used to designate both mutual funds and ETFs). We present quantifiable supporting evidence produced by the Scientific Portfolio platform.

Defining a universe of ESG-labelled funds suited for apples-to-apples comparisons

As we plan to engage in fund-level comparisons based on sustainability, it is important we select groups of investment vehicles in our database (which includes over four thousand instruments) that remain overall consistent and homogeneous from a financial standpoint. To first identify broad-based large cap funds, we use each fund's set of systematic risk exposures, also known as its Factor Profile. This is a powerful feature of the platform for it works as a portfolio's unique systematic risk identification card and provides a holistic view of a portfolio's risks and performance potential, like in the illustration below.

1 -https://www.fca.org.uk/publications/finalised-guidance/fg24-3-finalised-non-handbook-guidance-anti-greenwashing-rule
2 - https://www.sec.gov/newsroom/press-releases/2023-188
3 - https://www.pionline.com/esg/sec-hits-invesco-175-million-fine-over-esg-misstatements
4 - https://www.bloomberg.com/news/articles/2024-10-17/blackrock-targeted-by-activist-asking-france-s-amf-for-esg-probe
5 - https://www.ipe.com/news/msci-axes-the-terms-esg-and-impact-from-index-names/10076126.article



Note: Portfolio represents a US multifactor equity fund. Reference represents a market capitalization-weighted benchmark containing the 500 largest US stocks.
Source: Scientific Portfolio platform

As shown in the illustration above, an instrument with significant active risks such as an equity multifactor fund has a rich Factor Profile with multiple exposures to fundamental and sector-based risk factors. Meanwhile, by design, the market-cap weighted (CW) benchmark has a market beta of 1 and no other exposures.

To systematically capture broad-based large cap funds, we look for Factor Profiles that do not deviate too much from that of the CW benchmark. We introduce two simple selection criteria to that purpose: i) Market exposure (i.e., beta) must be greater than +0.6 and ii) the sum of absolute non-Market exposures must be less than the Market exposure. As a safety measure, we also exclude funds whose risk (volatility) is not sufficiently well explained by our proprietary factor-based risk model[6], setting the minimum threshold to an R-squared of 80%. This is also an indirect way of avoiding overly concentrated funds that are primarily driven by specific risks.

Finally, to identify the subset of ESG-labelled funds within the broad-based large cap universe, we adopt a qualitative approach and consider all funds that include at least one of the following keywords in their names: ESG, climate, carbon, renewable, sustainable, sustainability, PAB, SRI, ISR, socially responsible, and ethical. The table below summarizes the fund universes obtained for three investment regions: United States, Developed Europe, Developed (World).

Region	# mutual funds and ETFs	# ESG-labelled mutual funds and ETFs
United States	379	74
Developed Europe	94	31
Developed (World)	106	43

6 - See Scientific Portfolio's Investment Philosophy for more detail.

Sustainable investing starts with doing no harm (DNH)[7]

Reviewing the ESG-labelled ETFs above requires us to first define sustainable investing. Dating back to the 18th century, the notion of sustainability is historically and fundamentally a "Do No Harm" (DNH) injunction. Our first and primary definition of sustainable equity investing is derived from this concept: investing in companies whose business is conducted in a sustainable way, i.e., whose activities and behaviour do no significant harm.[8] With this specific objective in mind, sustainable equity investors can consider two natural levers : either excluding (or divesting from) companies deemed "unsustainable", or engaging with such companies to influence and improve their business conduct. The real impact of exclusion or engagement on the activities and behaviour of corporations, and ultimately on the planet or society, remains hard to measure though because broad outcomes such as a company's greenhouse gas emissions depend on many outside factors. We therefore recommend investors focus on the outputs they can control, e.g., the proportion of stocks excluded or the number of companies engaged.

Is engagement more effective than exclusion when it comes to influencing corporations? The academic literature is still investigating this question[9], but as reported in our June 2024 Market Insights some Oil & Gas CEOs seem to take (climate-related) exclusions seriously. We argue the two levers can be complementary: for instance, exclusion can be envisaged as the consequence of a failed engagement strategy, or as a credible deterrent if publicly announced ex-ante to the engaged companies and other relevant stakeholders. Also, genuine engagement efforts go beyond simple shareholder voting and therefore require to commit engagement (human) resources: exclusion can then become a cost-effective alternative[10] when scarce engagement resources need to be carefully allocated and prioritised. There remains a case where exclusion has been historically considered the more effective if not the only approach: when it is a moral imperative for an investor not to be associated with a company, that is when the aim is not to have an impact on the company but rather to align the portfolio with the values of the investor.

ESG screens are naturally suited to assess DNH-sustainability

Regardless of the approach taken, sustainable investing starts with knowing exactly what portion (if any) of a portfolio is currently unsustainable in order to determine the best course of action, rather than relying on names and labels. In practice, we identify unsustainable (harmful) securities using an ESG screen based on objective exclusion criteria. We recognise the criteria may vary among investors and therefore offer several standardised screens on our platform[11] as well as the ability to design a customised screen by selecting one or several sustainability issues or Sustainable Development Goals (SDGs). We will further cover other ESG screens in future publications pertaining to sustainable investing but for the purpose of this analysis we rely on a "Consensus" screen derived from the review of the exclusion policies of the world's 100 largest institutional asset owners. The four criteria most frequently used by asset owners when assessing a given company are the exposure to the controversial weapons industry, to the tobacco industry, or to the coal industry, and the presence of controversies related to the ten principles of the United Nations Global Compact (UNGC).

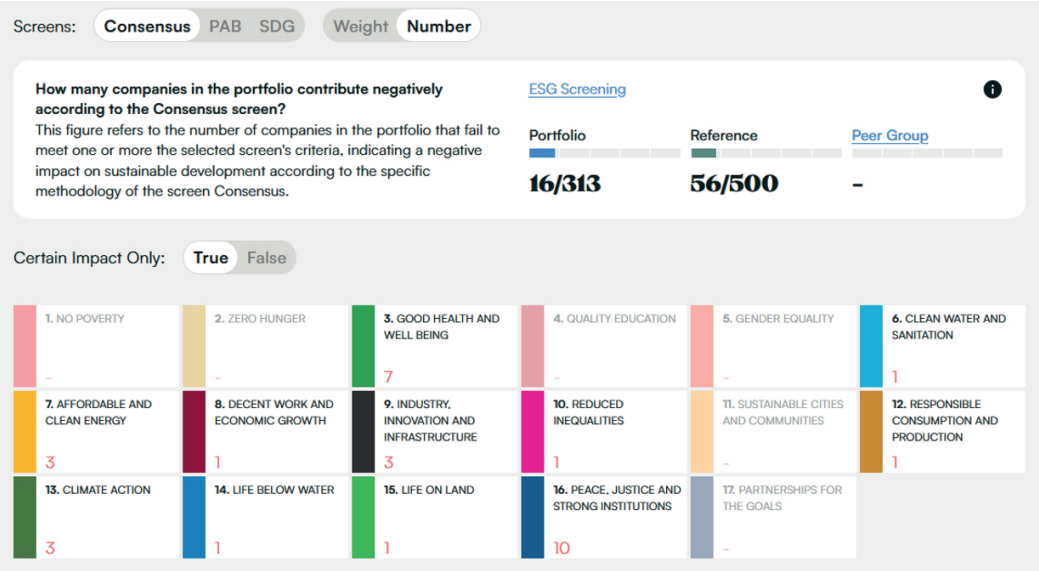
For each fund in our list, Scientific Portfolio's ESG Screening functionality identifies its unsustainable securities (if any) in accordance with the Consensus screen and thus provides a simple holdings-based assessment of its sustainability from a DNH standpoint. This assessment could be viewed as conservative

7 - See also Scientific Portfolio's Investment Philosophy.
8 - For other types of sustainable investing strategies that go beyond simply doing no harm, search for "*Sustainable Investing*" in Scientific Portfolio's Knowledge Center.
9 - Either side of the argument may be found in Berk and van Binsbergen (2021) and in Cheng et al. (2024).
10 - Exclusion may however affect the portfolio's financial risk and performance, as we explain further in this note.
11 - For example, a screen consistent with the climate-related Paris-Aligned Benchmark (PAB) regulation, or a more ambitious screen meant to detect any negative contribution to any Sustainable Development Goal (SDG).

because it assumes no engagement effort by the ETF managers. In other words, the assessment may be refined by accounting for the engagement objectives, resources and strategies of each fund manager towards the unsustainable stocks present in their portfolios.

However, the recent proxy voting trends show a decline among US asset managers in their support for ESG shareholder resolutions.[12] For example, Vanguard did not support any environmental or social shareholder proposal at US corporations in the last proxy season[13], while BlackRock backed only 4% of them compared to more than 20% two years ago[14]. In this context and given the preeminence of US players in the ETF market, we do not include engagement considerations in our review and therefore use a simple metric for DNH-sustainability equal to the number of screened stocks divided by the total number of stocks in the portfolio. The interpretation is that the lower the proportion of screened (detected) stocks in the portfolio, the more sustainable the fund's strategy. Like most investment metrics, this ratio is arguably influenced by the investment universe in which the sustainable strategy is implemented and can only be used to differentiate between somewhat *comparable* strategies. We assume our universe of ESG ETFs meets this condition to the extent it only includes large-cap strategies in developed markets, but we will later introduce a regional distinction to ensure results are homogeneous.

As a concrete example, in the exhibit below, "Portfolio" is deemed more sustainable than "Reference" because it contains only 16 unsustainable stocks out of a total of 313 (a proportion of ~5%), compared to Reference's 56 unsustainable stocks out of a total of 500 (a proportion of ~11%). Our proprietary mapping methodology also makes it possible to identify which SDGs are being harmed by the 16 unsustainable stocks detected by the screen.

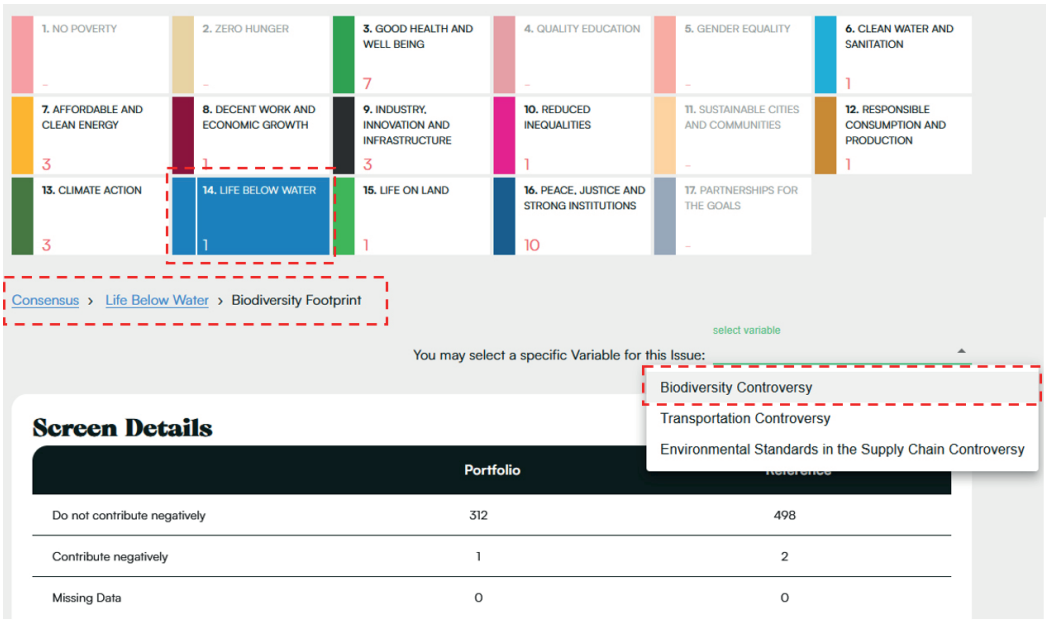


Note: Portfolio is the UBS (Irl) ETF plc - S&P 500 ESG UCITS ETF. Reference is a market cap-weighted benchmark containing the 500 largest US stocks.
Source: Scientific Portfolio platform

For investors considering an engagement strategy and therefore wanting to understand the exact reason why an SDG is deemed to be harmed and why a company is deemed unsustainable, the Scientific Portfolio platform offers a clear and intuitive view of the links between SDGs and the underlying sustainability issues. More specifically, one can drill down into the ESG Screening analysis and visualise

12 - https://www.morningstar.com/lp/esg-proxy-voting.
13 - See the report produced by Vanguard's Investment Stewardship team.
14 - https://www.pionline.com/esg/esg-voting-record-blackrock-shows-support-green-policies-continues-decline.

the underlying issues as well as the type of ESG data that caused one or several stocks to be flagged. For example, in the exhibit below, we see that SDG 14 (Life Below Water) is affected through the issue of Biodiversity Footprint which is in turn detected through a variable measuring the extent to which the company is subject a Biodiversity Controversy.

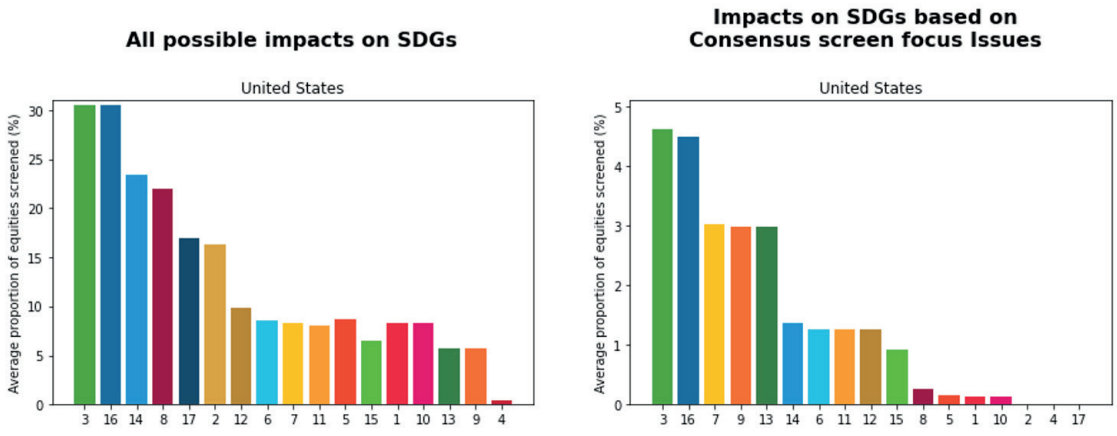


Source: Scientific Portfolio platform

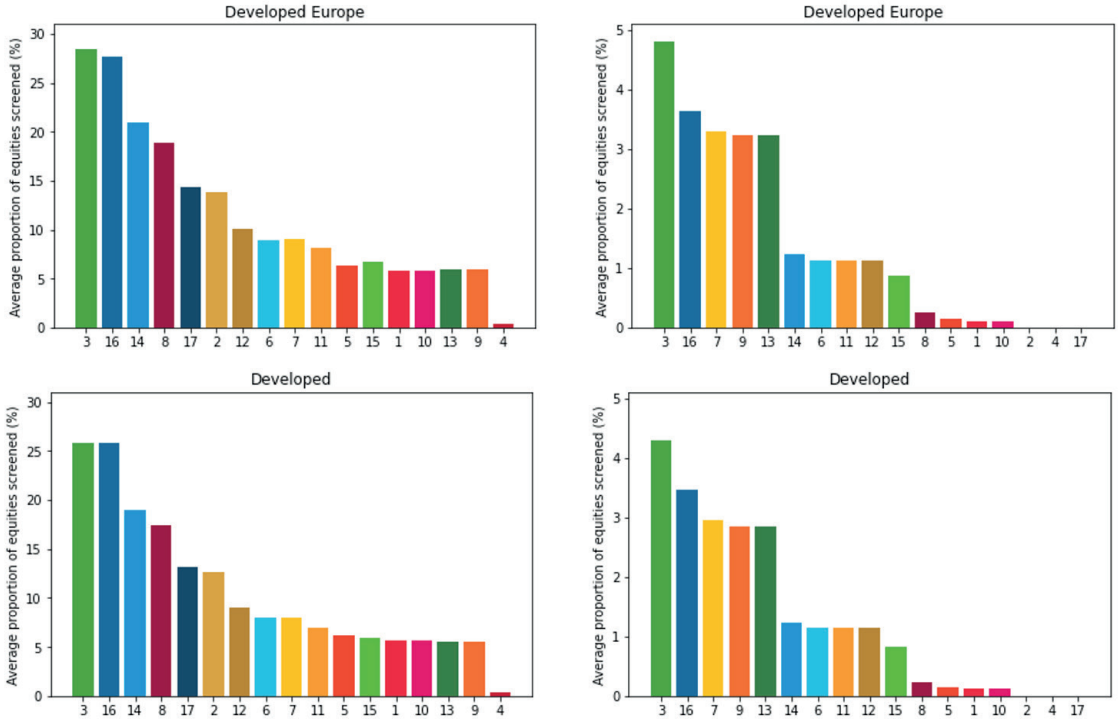
Which SDGs are the most violated by our universe of broad-based large cap funds ?

We now carry out our DNH screening analysis for all the ESG-labelled funds (in each region). First, we aim to obtain a broad picture of the sustainability issues (if any) that are being harmed by the activities or behaviours of companies held by the broad-based large cap funds: Exhibit 1 below reports the average (across all the funds) proportion of unsustainable equities, broken down by (negatively) impacted SDG. In the bar charts on the right-hand side, unsustainable equities are detected and accounted for using the Consensus screen described earlier, while the bar charts on the left-hand side adopt a more ambitious approach and consider a stock to be unsustainable as soon as it harms at least one of the 17 SDGs.[15]

Exhibit 1: Average proportion of equities in the funds that negatively impact each SDG



15 - See our publication Porteu de la Morandière et al. (2024) for more details on our SDG-related methodology.



SDG 1	No Poverty
SDG 2	Zero Hunger
SDG 3	Good Health and Well-being
SDG 4	Quality Education
SDG 5	Gender Equality
SDG 6	Clean Water and Sanitation
SDG 7	Affordable and Clean Energy
SDG 8	Decent Work and Economic Growth
SDG 9	Industry, Innovation and Infrastructure
SDG 10	Reduced Inequality
SDG 11	Sustainable Cities and Communities
SDG 12	Responsible Consumption and Production

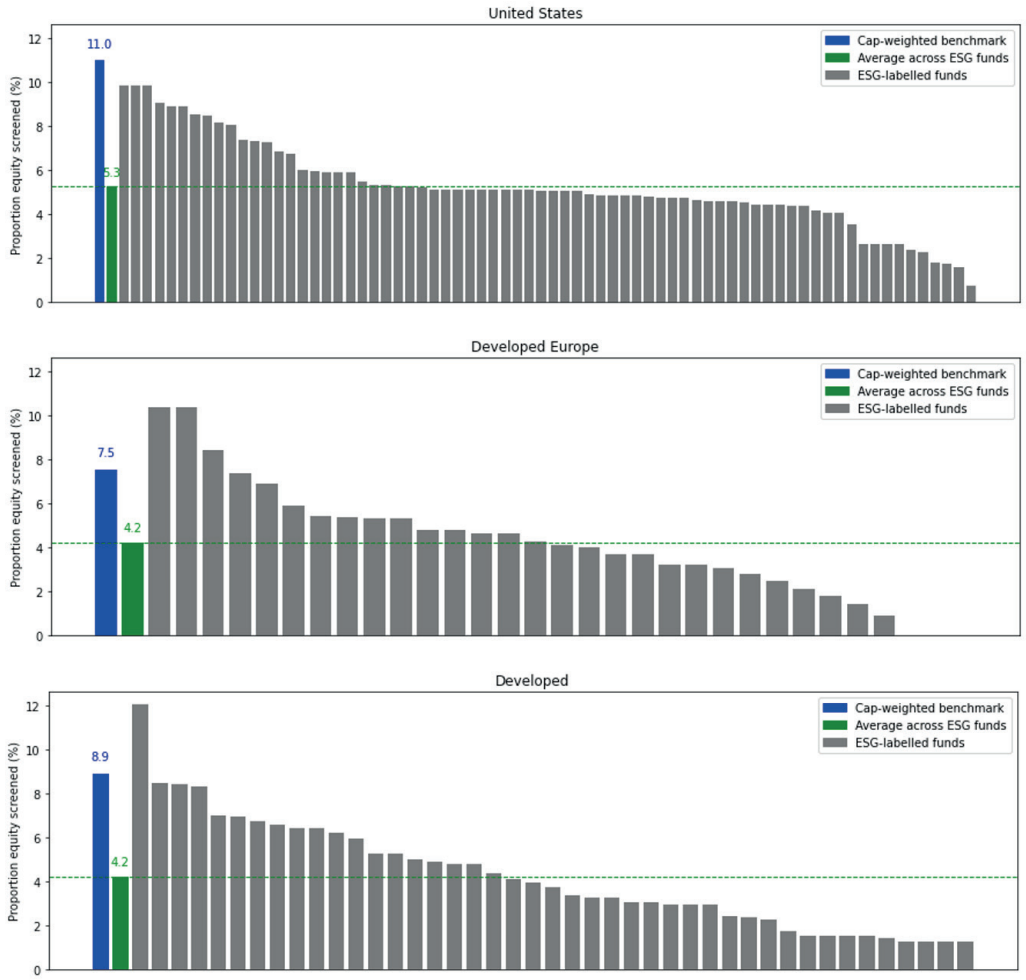
Based on Exhibit 1, we note that the proportions of unsustainable stocks detected by the Consensus screen are overall (as expected) lower than for the more stringent approach, but also that some SDGs (e.g., SDG 14 Life Below Water, or SDG 8 Decent Work & Economic Growth) are largely underrepresented on a relative basis on the right-hand side, indicating that the corresponding sustainability themes could be overlooked if only relying on the Consensus screen. This is because the Consensus screen focuses on a limited set of sustainability issues with effects on only specific SDGs: for instance, tobacco-related issues which directly impact SDG 3 (Good Health and Well-Being), coal-related issues which directly affect SDGs 7 (Affordable and Clean Energy) and 13 (Climate Action), and controversial weapons as well as most issues tied to the UNGC principles which are closely associated with SDG 16 (Peace, Justice, and Strong Institutions).

Results of the review: who are the most sustainable ESG-labelled funds?

We continue to use the Consensus screen and report fund-level results for each of the three regional sub-groups to ensure results are homogeneous and can be compared to that of the regional market cap-weighted (CW) benchmarks.

The three charts in Exhibit 2 below rank ESG-labelled funds (grey bars) from the least DNH-sustainable (on the left) to the most DNH-sustainable (on the right). The average sustainability level across the entire sub-group (respectively the sustainability level of the relevant CW benchmark) is represented by a green (respectively blue) bar.

Exhibit 2: Comparison of the ESG-labelled Funds sustainability level with the regional CW benchmark



On the one hand, the results show that on average, as expected, the ESG-labelled funds include significantly fewer unsustainable names than their relevant CW benchmark (5.3% vs 11.0% for the US region, 4.2% vs 7.5% for the Developed Europe region, and 4.2% vs 8.9% for the Developed region). This implies that a number of DNH exclusions were carefully applied by some fund managers (either directly or indirectly as a result of the underlying index being tracked). On the other hand, the results also show that the presence of an ESG-related label in the name of an instrument has to be interpreted with caution because it may translate into a very wide range of sustainability levels, as measured with

our DNH approach. In fact, we see some ESG strategies being even less DNH-sustainable than their corresponding CW benchmark, confirming that investors should refrain from relying exclusively on labels when selecting an ESG strategy.

Based on our analysis, the five most sustainable funds in each regional sub-group are:

United States	
Fund Name	Proportion of unsustainable equities
Vanguard ESG U.S. Stock ETF	0.7%
Vegan Climate ETF	1.6%
iShares ESG Advanced MSCI USA	1.8%
DFA U.S. Sustainability Core 1 Portfolio	1.8%
Vanguard FTSE Social Index Fund	2.1%
Developed Europe	
Fund Name	Proportion of unsustainable equities
UBS – MSCI Europe Socially Responsible ETF	0%
BNP PARIBAS EASY LOW CARBON 100 EUROPE PAB	0%
Amundi MSCI Europe ex EMU ESG Leaders	0.9%
Xtrackers MSCI Europe ESG UCITS ETF 1C	1.4%
iShares MSCI Europe SRI UCITS ETF	1.8%
Developed	
Fund Name	Proportion of unsustainable equities
UBS ETF (LU) MSCI World Socially Responsible	1.3%
Xtrackers MSCI World ESG ETF	1.4%
BetaShares Global Sustainability Leaders ETF	1.5%
iShares MSCI World SRI UCITS ETF	1.5%
Vanguard Ethically Conscious International Shares Index ETF	1.7%

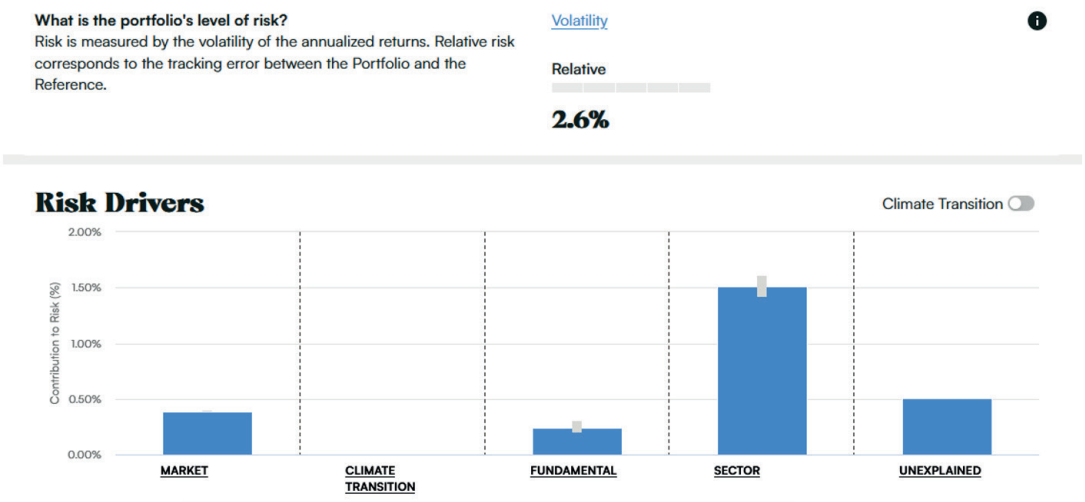
Sustainable investing is also about risk and return

In our July 2024 Market Insights we mentioned the importance of considering the financial consequences of pursuing a sustainable strategy. Indeed, an ESG tilt in a portfolio may lead to material risk and return deviations compared to the CW benchmark, something fiduciary investors (or more generally investors subject to strict risk budgets) should carefully quantify. Scientific Portfolio's Risk & Reward functionalities facilitate this financial analysis by computing and decomposing an ESG ETF's risk relative to the CW benchmark (also known as its active risk or tracking error), using a factor-based risk model[16].

For example, the illustration below shows the active risk of the *Vanguard ESG US Stock ETF* (listed above among the most sustainable US funds) decomposed into four main components that add up to 2.6% per annum:

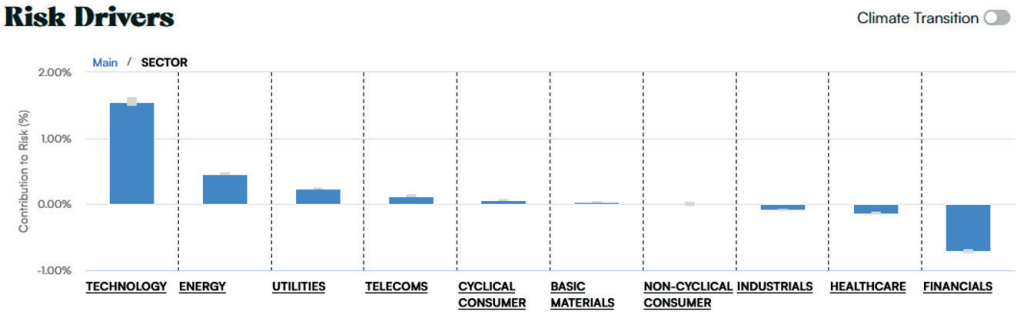
- 'Market', representing deviations from a market beta of 1.0,
- 'Fundamental', representing fundamental equity factor risk deviations,
- 'Sector', representing sector-based risk deviations,
- 'Unexplained', representing non-systematic or idiosyncratic risk deviations.

16 - See Scientific Portfolio's Investment Philosophy for more detail



Source: Scientific Portfolio platform

The decomposition above indicates that the strong level of sustainability achieved by this fund resulted in a material sector-based risk deviation (responsible for ~1.5% of active risk out of 2.6% in total) when compared to the CW. Drilling down a bit further (see illustration below), we see that this active risk is primarily driven by a deviation in the Technology sector, which could in turn lead to a performance deviation in the future.



Source: Scientific Portfolio platform

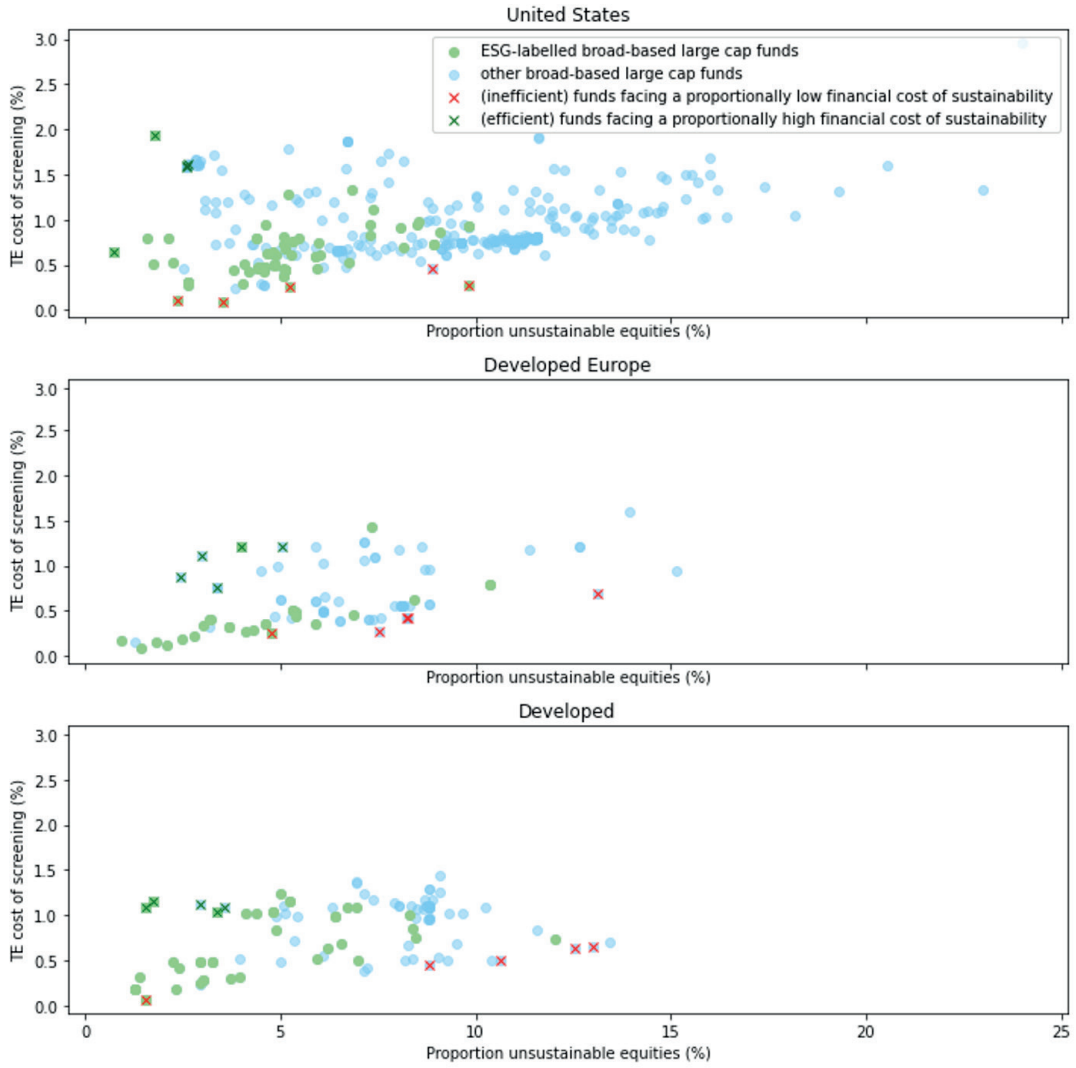
Results of the *risk-aware* sustainability review

The previous example could indicate a possible tradeoff between sustainability on the one hand, and financial risk and return on the other hand. For example, an ESG tilt applied to an existing portfolio with the objective of negatively screening and excluding as many unsustainable stocks as possible could at some point create a significant deviation in the risk and return profile of the portfolio. Note that some stock exclusions would naturally have a greater financial impact than others: this could be because the stock has a large weight in the portfolio, or because its risk profile cannot be easily replicated by/substituted with a combination of other stocks (i.e., because the stock carries a large amount of specific risk), or a combination of both. It is reasonable to expect that fund managers who implement ESG strategies often face this sort of challenge and try to enhance the sustainability of their portfolio, provided the extra sustainability (i.e., the exclusion of remaining harmful stocks) does not jeopardise future financial performance.

We therefore analyze in the Exhibit 3 the ex-ante tracking error (TE) cost of screening as a function of the proportion of screened unsustainable companies within our previously selected set ESG-labelled funds. We calculate the TE cost of screening by measuring the ex-ante tracking error between the fund's portfolio composition after removal of the screened stocks and its initial composition, after having reallocated the divested capital to the remaining stocks only and having optimized the new allocation weights so to minimize the ex-ante tracking error.

Thus, the funds with the highest ratio of TE cost of screening to the proportion of unsustainable companies are those for which the marginal financial costs (quantified by the TE cost of screening) to further enhance sustainability are the most significant. These ESG-labelled funds appear to have efficiently managed the tradeoff between sustainability and financial risk and return, thereby providing a stronger justification for holding unsustainable stocks. Conversely, funds with a low ratio could become more DNH-sustainable with minimal costs in terms of financial risk and have therefore likely managed the tradeoff inefficiently.

Exhibit 3: TE cost of screening as a function of the proportion of unsustainable companies



Based on the analysis described above, the five ESG-labelled funds that appear to have implemented DNH-sustainability the most efficiently (i.e., facing the proportionally highest financial cost of sustainability) in each sub-group are:

United States	
Fund Name	Ratio TE / proportion screened equities
DFA U.S. Sustainability Core 1 Portfolio	1.9% / 1.8%
Vanguard ESG U.S. Stock ETF	0.6% / 0.7%
Vegan Climate ETF	0.8% / 1.6%
Vanguard FTSE Social Index Fund	0.8% / 2.1%
iShares ESG Advanced MSCI USA ETF	0.5% / 1.8%
Developed Europe	
Fund Name	Ratio TE / proportion screened equities
LBPAM ISR Actions Ex-Euro	1.2% / 4.0%
Fidelity Sustainable Research Enhanced Europe Equity ETF	1.4% / 7.3%
Amundi MSCI Europe ex EMU ESG Leaders	0.2% / 0.9%
HSBC MSCI Europe Climate Paris Aligned ETF	0.4% / 3.2%
UBS (Irl) ETF plc – MSCI Europe Climate Paris Aligned ETF	0.4% / 3.2%
Developed	
Fund Name	Ratio TE / proportion screened equities
BetaShares Global Sustainability Leaders ETF	1.1% / 1.5%
Vanguard Ethically Conscious International Shares Index ETF	1.2% / 1.7%
Deka MSCI World Climate Change ESG ETF	1.0% / 3.4%
UBS Climate Aware Global Developed Equity CTB ETF	1.2% / 5.0%
Amundi MSCI World Climate Transition CTB	1.0% / 4.1%

Conclusion

By using the concept of "Do No Harm" (DNH) we conducted a holdings-based sustainability review of a large universe of approximately 580 broad-based large cap mutual funds and ETFs invested in developed markets. First, we identified the Sustainable Development Goals (SDGs) most frequently "harmed" by the holdings of the funds, namely SDG 3 (Good Health and Well Being), SDG 16 (Peace, Justice and Strong Institutions), SDG 14 (Life Below Water), and SDG 8 (Decent Work and Economic Growth), but noted that the latter two appear to be overlooked by the negative screens commonly implemented in the institutional equity investment space. Next, we focused on and ranked a subset of approximately 150 "ESG-labelled" funds using the same DNH approach, observing that they were on average more sustainable than their corresponding market cap-weighted (CW) benchmarks. However, our analysis also uncovered a very large dispersion across the pool of funds, with some ESG funds showing no significant improvement in terms of DNH-sustainability compared to the CW benchmark, prompting us to recommend sustainable investors examine the holdings of a portfolio and go beyond simple ESG labels. Finally, we examined the extent to which ESG-labelled funds had efficiently managed the financial risk and return consequences of pursuing a sustainable strategy. We identified, using a simple portfolio optimisation technique, potentially significant efficiency gains that can be interpreted as "sustainability-low-hanging-fruits" that some ESG funds have not picked.

Users of the Scientific Portfolio platform may access our analytics to conduct their own review of funds selected from our broad universe of financial instruments. They may also upload their own customised equity portfolio for a more personalised analysis.

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