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ESG: Performing under pressure

Applying our ESG asset allocation framework during times of market stress

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This paper is the first of a series of short studies focusing on practical aspects of asset allocation and ESG, which follows our major study "Asset Allocation for an ESG World" published in December 2021.

Highlights

- A question facing investors who align their investments to ESG benchmarks is how their portfolios will perform in times of market stress. Recent events, including the war in Ukraine have stressed markets and driven up energy prices, putting ESG factors under pressure.
- Investors are accustomed to considering risk and return as the two dimensions that guide asset allocation. As a result of our study, we find that two additional elements – time and preference – are needed to augment this process in an ESG world.
- The time element refers to the duration of the ESG transition underway as governments and companies enact regulations, new technologies, and investments to reduce pollution in line with the principles of the Paris Agreement and fulfill sustainable development goals relating to social responsibility and governance.
- The preference element refers to the weight an investor places on prioritizing sustainability in an investment portfolio, either due to regulatory requirements or the objectives of the investor or organization and its board.
- Our findings suggest that if investor preferences for sustainability are in line with the prevailing constraints for the investable universe, the tracking error and any trade-off in returns will be minimal; if the investor has very strong preferences and constrains the investable universe materially, there will be higher portfolio risk due to lower diversification. This results into higher required alpha to keep risk-adjusted returns the same.
- During recent periods of market stress, ESG indexes performed in line with traditional market benchmarks, despite great volatility in the energy sector.

Here we will summarize our four-dimensional approach to strategic allocation with ESG and will introduce timely comparisons of recent performance of traditional and ESG portfolios during the recent market stress caused by the invasion of Ukraine. To the surprise of many, ESG benchmarks performed in line with their traditional index cousins even during the market turmoil, which was characterized by a boom in commodity prices.

The dimensions of strategic asset allocation

Asset allocators are increasingly facing a novel challenge when constructing portfolios: Striking a balance between environmental, social, and governance factors and traditional performance objectives to achieve success on both fronts. This paper provides an asset-allocation framework for investors incorporating these factors into their investment process.

Having performed an exhaustive academic literature review and our original data analysis, we find no material negative trade-off in terms of risk and return for investors who utilize less restrictive ESG approaches. In fact, those investors may enjoy alpha opportunities in addition to producing positive externalities.

Over a very long-term horizon, as companies become aligned with the 'net-zero' goal and other sustainable initiatives, we expect risk and returns of conventional ESG strategies to gradually parallel non-ESG strategies due to market efficiency as we expect ESG to become the norm and investors to properly discount the risks of non-compliance.

Investors are accustomed to considering risk and return as the two dimensions that guide asset allocation. As a result of our study, we find that two additional elements – time and preference – are needed to augment this process in an ESG world. These fresh considerations are poised to have a transformative impact on the traditional pillars of asset allocation.

Time

The time element refers to the duration of the ESG transition underway as governments and companies enact regulations, new technologies, and investments to reduce pollution in line with the principles of the Paris Agreement and fulfill sustainable development goals relating to social responsibility and governance.

During this transition period, we believe that ESG-oriented strategies are likely to be well-positioned to capture potential gains from new technologies compared to traditional benchmarks. Active investors that incorporate ESG analysis into their approach may disproportionately benefit, as we discuss next.

Preference

The preference element refers to the weight an investor places on prioritizing sustainability in an investment portfolio, either due to regulatory requirements or the objectives of the investor or organization and its board. For these investors, the issue is how to optimize portfolios to address risk and return in concert with ESG. The impact depends heavily on the magnitude of ESG constraints.

In short, if the constraints are very restrictive, shrinking the investable universe materially, then investors must accept portfolios that are less diversified and hence may have less favorable risk-adjusted returns. If the constraints are less binding and allow factor exposure in line with the main ESG benchmarks, we believe the long-term impact on investment performance is minimal.

Specifically, the main ESG benchmarks are designed to match factor exposures with traditional benchmarks, so that the tracking error between ESG and traditional benchmarks is very small.

In addition to positive and negative screening based on ESG characteristics, investors can express preferences through engagement and impact investing, as we will discuss later in the paper. Regulation, which we treat as a subset of preferences, also reshapes the investable universe.

Active investors that incorporate ESG analysis into their approach may disproportionately benefit.

Thus, the modified framework for incorporating ESG consists of the following:
– Return
– Risk
– Time
– Preferences

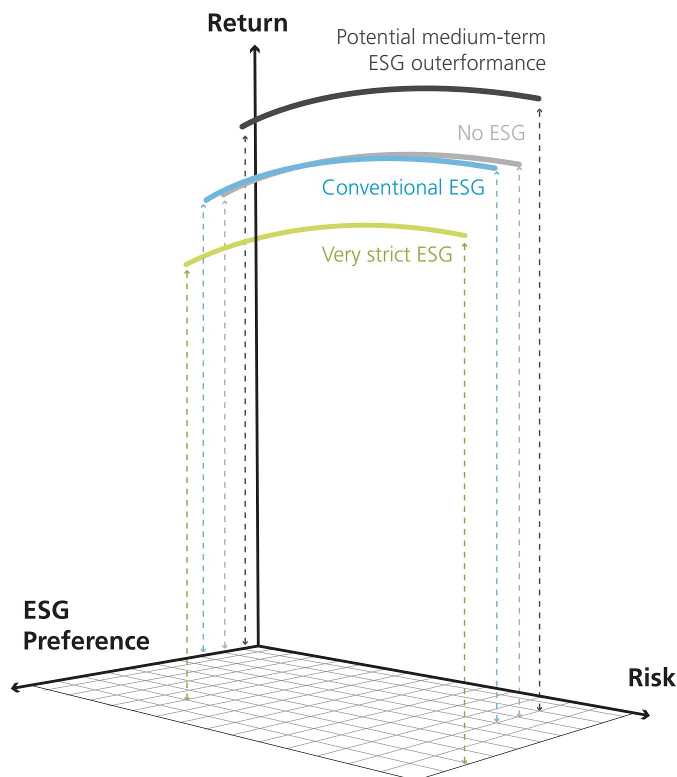
Little work has been done on the integration of asset allocation and ESG. Our contribution, informed by a review of the available literature and original empirical analysis, will hopefully help our clients clarify if and when a trade-off exists in including sustainability into their asset allocation. We aim to establish a framework that is sufficiently general in design that allows the inclusion of most key issues while also being parsimonious.

The four dimensions of asset allocation with ESG
When optimizing an asset allocation, one can take ESG scores from a vendor to each asset class and then optimize across return, risk, time and ESG score. The weight in the optimization given to ESG proxies for the preference: if an investor is not interested in ESG, the weight will be zero and the optimization will be the traditional mean-variance; if the investor has great interest in ESG, the weight parameter in the objective function will be large and skew the allocation towards highly rated assets. Time relates to the focus the investor places on earning alpha from the ESG Transition period.

Relatively light constraints (blue) under this approach leave this new frontier close to the unconstrained efficient frontier (light grey). Very strict ESG constraints (green) will reduce the investable universe, leading to less efficient portfolios and a lower efficient frontier. It is however possible that a conventional ESG investor, over the next few years, may enjoy early-adopter gains from owning assets that everyone wants, leading to a higher (black) efficient frontier for a limited time.

The use of ESG scores to redefine the investment universe results in a four-dimensional problem with return, risk, time and ESG score as variables, rather than the classic two-dimensional risk/return frontier.

Exhibit 1: The four dimensions of asset allocation with ESG



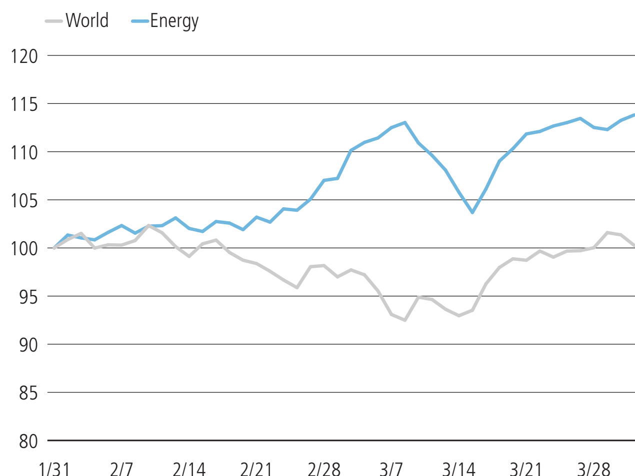
Source: UBS Asset Management. As of June 30, 2022.

A current example

As we discussed in our framework above, an investor's risk to their benchmark is a function of the ESG preferences and how they may exclude securities to implement their ESG preferences.

In February-March 2022, when Russia invaded Ukraine, energy prices had a very large jump as markets expected Russia's output to become unavailable due to economic sanctions. As a result, many investors expected ESG portfolios to lag. Indeed, since energy prices increased substantially, also the price of energy stocks increased:

Exhibit 2: World equity and energy sector equity



Source: Refinitiv, UBS Asset Management. These are the total returns of the Refinitiv DataStream World Index in local currency and of its Energy sector carve-out. For illustration purposes only. It is not possible to invest in indexes directly. Past performance is no guarantee of future results. As of March 31, 2022.

In the two months considered, the Energy sector outperformed the market as a whole by 15%.

Given the massive gap between the two indexes, one could expect that ESG indexes, which tend to either underweight or outright exclude traditional energy stocks, may have lagged the traditional index. It is worth mentioning that, according to Refinitiv, energy represented 6-7% of the global index's market value in the first quarter of 2022.

In our longer paper "Asset Allocation for an ESG World," we look at relative performance of the entire market and individual sectors and sub-sectors over decades, and find that there can be material discrepancies, so that a pure exclusion approach may cause substantial performance gaps.

For example, in the following table we see that the Oil, Gas & Coal sub-sector of the DataStream World index vastly outperformed the index in the 1970s, with about the same variance but over twice the return:

Exhibit 3: Fossil fuel equity performance — 1970s

1973–1980	World	Oil, Gas & Coal
Arithmetic Mean	9.3%	19.7%
Geometric Mean	7.5%	17.9%
Standard Deviation	19.6%	21.4%
Skewness	-0.28	-0.36
Kurtosis	2.23	0.05
Min	-24.3%	-18.4%
Quartile 1	-2.0%	-1.8%
Median	1.9%	4.2%
Quartile 3	7.9%	13.2%
Max	25.9%	22.8%
Observations Count	32	32
Sharpe Ratio	0.09	0.57

Source: Refinitiv; UBS Asset Management. As of March 31, 2022.

Clearly, excluding all the sub-sectors would have caused underperformance as well as massive tracking error. Let us now look at another decade:

Exhibit 4: Fossil fuel equity performance — 2010s

1973–1980	World	Oil, Gas & Coal
Arithmetic Mean	10.1%	1.6%
Geometric Mean	8.8%	-1.7%
Standard Deviation	16.9%	24.7%
Skewness	-1.04	-1.46
Kurtosis	2.54	3.46
Min	-22.3%	-43.8%
Quartile 1	-0.4%	-4.8%
Median	3.6%	1.3%
Quartile 3	6.5%	8.5%
Max	19.1%	21.6%
Observations Count	40	40
Sharpe Ratio	0.56	0.04

Source: Refinitiv; UBS Asset Management. As of March 31, 2022.

In this example, we see that the Oil, Gas & Coal subsector was more volatile and had lower return than the market over the sample period of the 2010s.

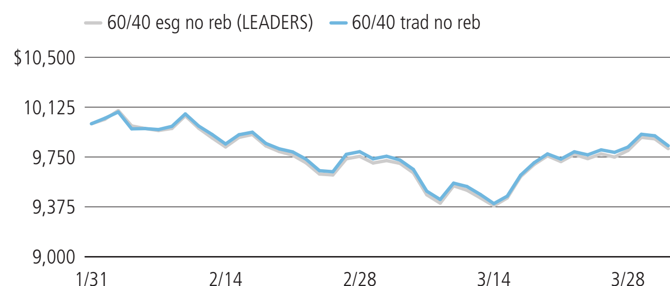
So, do ESG indexes experience underperformance when hydrocarbons outpace the market? The issue is often explained by how much exclusion there is.

Modern ESG benchmarks make limited use of negative screening (i.e., exclusion) and focus on positive screening (overweighting ESG highly-rated assets). These benchmarks are engineered to have largely the same exposures to sectors, regions, valuation, dividend, and other such characteristics. Therefore, it is often found that ESG indexes have limited differences in performance from traditional, non-ESG indexes.

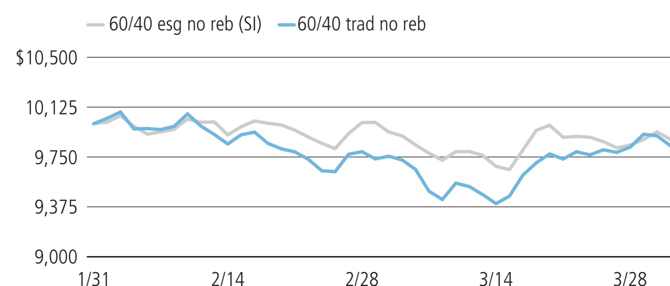
We present a simple example of a theoretical 60% stocks-40% bonds portfolio only based on indexes; for the traditional portfolio version we use the MSCI All-country World Index (ACWI) Gross total return in local currency, and the Bloomberg U.S. Universal Total Return Index in USD for bonds. For the "conventional" ESG portfolio we used MSCI ACWI ESG Leaders Gross Total Return Index in local currency and Bloomberg U.S. Universal ESG Custom Total Return Index, while for the "constrained" ESG portfolio we replaced the ESG Leaders with the MSCI ACWI Sustainable Impact Gross Total Return Index in local currency, which only includes ESG highly-rated stocks. The results in the February-March 2022 period are summarized in the following charts:

Exhibit 5: Performance of conventional vs. ESG theoretical 60% stocks-40% bonds portfolio during February–March 2022

Traditional vs. Conventional ESG



Traditional vs. Constrained ESG



Source: MSCI, Bloomberg, UBS Asset Management. For illustration purposes only. It is not possible to invest in indexes directly. Past performance is no guarantee of future results. As of March 31, 2022.

The left-hand chart shows that conventional ESG indexes tracked traditional indexes very closely even in a moment of turmoil. This happens because conventional ESG indexes are calibrated to deliver the highest ESG rating with the lowest discrepancy in performance from the traditional index.

The right-hand chart shows that at the beginning of the crisis, the Sustainable Impact index outperformed. The index excludes a number of ACWI components as it only includes companies whose core business addresses at least one of the seventeen United Nations PRI challenges.[1] Given the material number of excluded stocks, a substantial tracking error against the traditional index can be expected; however, the surprising fact is that the more constrained Sustainable Impact index outperformed both the traditional and the conventional ESG Leaders indexes. Given the boom in energy, one would have expected the traditional index to outperform, while instead the constrained ESG index outperformed, possibly due to a boom in the stocks issued by clean energy companies.[2]

Interestingly, the energy weight of the Sustainable Impact index was not necessarily lower than that in the traditional index, but clean energy companies were overweighted, while hydrocarbon producers either underweighted or excluded.

[1] The UN Sustainable Development Goals (SDGs) consist of 17 sustainable development goals that are part of its 2030 Agenda for Sustainable Development. https://sdgs.un.org/goals

[2] See the MSCI report "Climate Indexes May Have Benefited from Clean Tech Since the Start of the War," written by Peter Zangari on 5 April 2022 https://www.msci.com/research-and-insights/russia-ukraine-war/climate-indexes-underperformed-benchmarks.

Conclusion

When it comes to expected portfolio performance, investors should not make assumptions but rather dig deep into the data when predicting what performance effects ESG can cause during periods of market stress, as well as in the long run.

This paper reinforces the importance of our four-dimensional approach to asset allocation. Specifically, investors need to perform due diligence on the benchmarks used and ascertain whether the level of ESG compliance matches their ESG preference level. Additionally, the time horizon also matters, particularly in case of strict preferences, as the temporary tracking error (which can demonstrate either under- or out-performance) may cause differences between portfolio and market performance.

The next paper in this series will explore ESG indexes, providing a practical framework to investors who need to select products and therefore need to be better informed about their benchmarks.

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