WHITE PAPER

Technology's Role in ESG Integration in the Buy-side

How firms can leverage technology to overcome ESG data challenges and keep pace with growing demands

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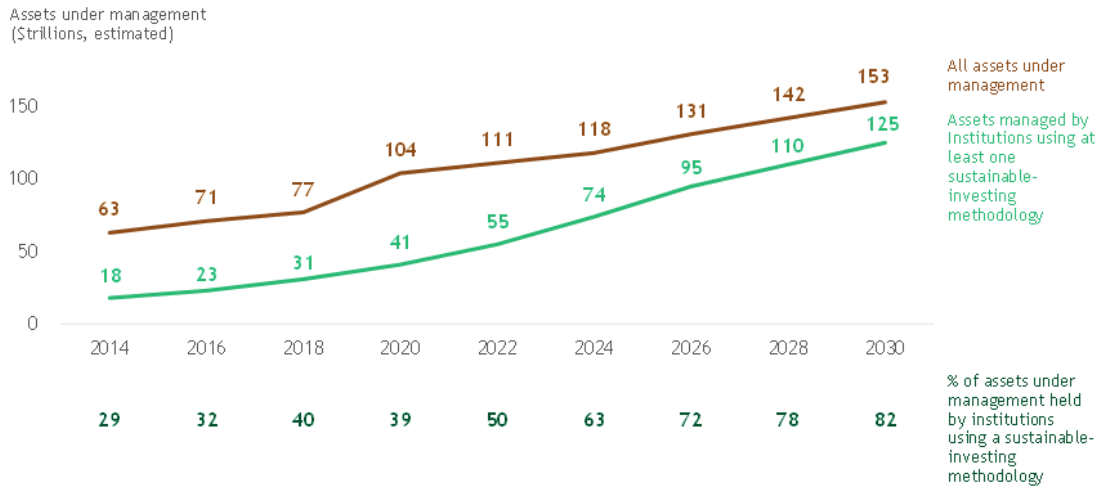
Introduction

Buy-side firms are grappling with a lack of uniformity around how to manage ESG in their investment strategies. The environmental, social, and governance (ESG) landscape is rapidly evolving across the world due to a range of factors including investor activism, client demands, commercial opportunities, and evolving regulatory expectations. ESG-focused investment strategies are on the rise and have been on a growth trend over the last ~10 years according to the recent BCG publication, *Fixing the Great Disconnect in Sustainable Investing* (see Exhibit 1)[1]. In the 20th annual *Global Asset Management* report, BCG estimated that the "public and private sectors will need approximately $100 to $150 trillion in capital deployment to reach net zero by 2050."[2] Investors are increasingly relying on ESG ratings and data to understand ESG performance.

Exhibit 1: BCG forecasts that adoption of sustainable-investing practices will accelerate over the next 10 years.



Source: BCG analysis

Investor demand and regulatory pressures are driving asset managers in particular to adopt ESG considerations into their investment strategies. According to a recent BCG white paper on asset management, "Since 2018, global ESG assets under management (AuM) have expanded from about $5 trillion to nearly $10 trillion, an annual growth rate of about 20%,".[3] While European asset managers lead the way on responsible investing compared to their North American and Asia Pacific peers, only a small number of asset managers across the world perform consistently well across ESG themes. This is striking given the large volume of assets that are managed.[4]

[1] Foldesy, Jody, et al. "Fixing the Great Disconnect in Sustainable Investing." BCG Global, 24 Jan. 2023, www.bcg.com/publications/2022/bridging-sustainability-commitments-investing-practice-gap
[2] Global Asset Management 2022: From tailwinds to Turbulence. (n.d.-c). https://web-assets.bcg.com/ba/c8/5b65e9d643abac4fa8e6820e86f4/bcg-global-asset-management-2022-from-tailwinds-to-turbulence-may-2022-r.pdf
[3] Beal, D., Chau, V., Sen, R., & Shandal, V. (2021, December 16). How asset managers can seize the lead in sustainable investing. BCG Global. https://www.bcg.com/publications/2019/asset-managers-seize-lead-sustainable-investing
[4] Global ESG standards in Asset Management "remain low." Environment Analyst Global. (n.d.). https://environment-analyst.com/global/109197/global-esg-standards-in-asset-management-remain-low

While the sentiment around responsible investing is shifting across the asset management industry – there are challenges that are slowing ESG integration. Expand Research and 2RSquared worked together to explore the challenges and opportunities associated with embedding ESG across investment portfolios. The following reviews the rapidly evolving ESG landscape, core challenges, and technology solutions that enable asset managers to embed ESG into their strategies and stay at the forefront of their industry.

The shifting regulatory landscape

The regulatory landscape is a key driver of ESG integration, in some cases creating mandatory disclosure requirements. While disclosures aren't consistently required, they can act as a guide for firms to anticipate upcoming ESG considerations. European regulation requirements are aimed at increasing transparency and shifting the flow of capital towards more sustainable activities. The European Commission's Sustainable Finance Disclosures Regulation (SFDR) requires asset managers to provide standardized disclosures on how ESG factors are integrated at both an entity and product level.[5] US firms are also seeing increased regulatory and compliance demands and are diligently working to catch up to their European counterparts. The US Securities and Exchange Commission (SEC) has proposed new rules that will require asset managers to publish climate disclosures, with a strong focus on climate risks and greenhouse gas emissions.[6]

These regulatory activities are helping clients make more sustainable investing choices while simultaneously providing greater transparency for their investors. It is important for asset managers to anticipate upcoming ESG regulations and disclosures and proactively adapt strategies to implement them. Many firms are restructuring their organizations with specialist ESG teams to prepare for upcoming requirements.

[5] Frank Gannon, C. H. (n.d.). What is the SFDR?. KPMG. https://kpmg.com/ie/en/home/insights/2021/03/what-is-the-sfdr-sustainable-futures.html#:~:text=The%20SFDR%20requires%20asset%20managers,express%20ESG%20or%20sustainability%20focus

[6] Rawson, Z. (n.d.). Implications of ESG regulations on asset managers and their financial lines insurances. https://www.marsh.com/es/en/services/financial-professional-liability/insights/implications-of-esg-regulations-asset-managers-financial-lines-insurances.html#_ftn10

Industry response with ESG specialist teams

ESG plays a pivotal role in the investment decision-making process and the asset management industry is responding by reshaping their organizations structurally. Because the ESG analysis process needs to be more rigorous, there has been an operational reorganization across the buy-side industry to integrate dedicated ESG roles and responsibilities. In a 2019 study conducted by IHS Markit it was found that "48% of investors polled mentioned a specific in-house ESG research team".[7] This trend has continued to gain traction over the last few years, where ESG specialist teams often define policy, ESG selection criteria, and liaise with portfolio management teams. Asset management companies often structure their ESG teams either as a centralized ESG model or as an asset class integrated ESG model.

Within the centralized or cross-portfolio ESG model, there are specialized ESG analysts who research ESG risks and opportunities. In the integrated or asset-class-focused model the analysts are often assigned to an asset-class-specific team.[8] Within both models, there are investment analysts who are responsible for researching investment options, including due diligence, and monitoring ESG aspects of investment opportunities. There are also portfolio managers who are responsible for creating and managing investment allocation. They are under increased pressure to be compliant with ESG and often struggle with finding reliable sources of performance numbers. Technology plays an important role in addressing the challenge of finding reliable sources of data.

The critical role of technology

Technology is a key enabler and buy-side firms need to keep up with the ever-growing pressures of real-time, on-demand data. According to Expand's *2022 AWM Year in Review*, ~65% of firms say ESG is having a significant impact on IT & operations. Technology can also drive transparency which is increasingly being demanded by clients, regulators, and investors. The asset management industry continues to increase annual technology spend, however, that does not always translate to investments in innovation and technology advancements – "An estimated 80% of technology budgets are devoted to simply 'keeping the lights on' and maintaining, repairing, and updating old, legacy technology systems."[9]

In order to support portfolio managers with their ESG tasks, many asset management firms have so far focused on two aspects regarding technology solutions: making ESG data available in a coherent form, typically addressed through sophisticated dashboard solutions, and being able to provide investors with end-of-day ESG reports.

[7] ESG buy-side integration: Then & now - IHS markit. (n.d.-a). https://cdn.ihsmarkit.com/www/pdf/0720/Buy-Side-esg-integration.pdf
[8] ESG analysts in Asset Management. Financial Edge. (2023, January 20). https://www.fe.training/free-resources/asset-management/esg-analysts-in-asset-management/
[9] Aima. (2023, June 28). Tech debt: The vicious cycle of legacy tech in asset management. Home. https://www.aima.org/article/tech-debt-the-vicious-cycle-of-legacy-tech-in-asset-management.html

The Challenge of Connecting ESG data with Portfolio Management Strategy

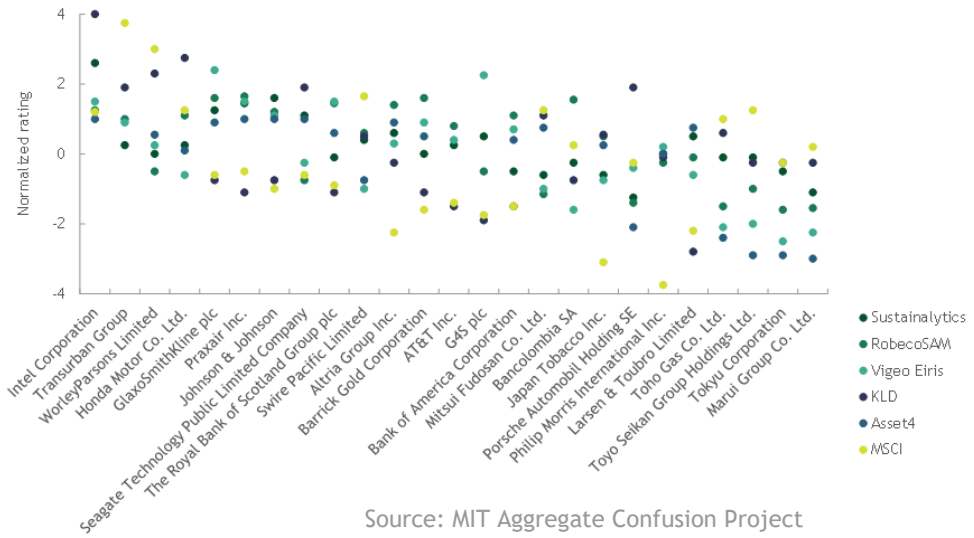
ESG data quality and availability

ESG data quality and availability are some of the largest hurdles to a successful investment management strategy. Investors struggle to identify what to track with the often unreliable, unstandardized, and complex ESG information that is available.[10] There is no single accepted framework or rating system for evaluating ESG factors.

There has been some consolidation of ESG data sources, ratings, and rankings however, there remain many inconsistencies around the data provided and it can be difficult to understand which sources to trust. The MIT Aggregate Confusion Project is aimed at improving the quality of ESG measurement and decision-making in the financial sector.[11] Recent research under the Aggregate Confusion Project found that correlations between ESG ratings range from 0.38 to 0.71 based off six different raters: KLD, Sustainalytics, Moody's ESG, S&P Global, Refinitiv, and MSCI. Some of the key findings include that ESG rating divergence is a combination of varying definitions as well as disagreement about the underlying data when evaluating ESG. These differences not only make it difficult for investors to evaluate ESG performance of companies but creates uncertainty in the market.[12] Even though the quality of ESG data is not as optimal as the buy-side industry would like, it is an essential part of the investment process.

Exhibit 2: The MIT Aggregate Confusion Project reveals a dispersion of ESG ratings across providers.

The following chart from the Aggregate Confusion Project[13] illustrates the wide dispersion of ratings across different providers for the same companies very well:



Source: MIT Aggregate Confusion Project

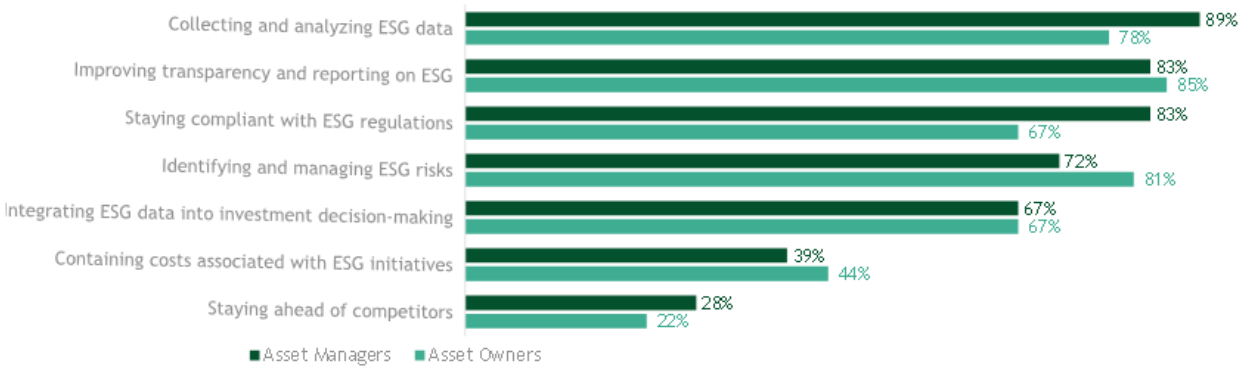
[10] Beal, D., Chau, V., Sen, R., & Shandal, V. (2021a, December 16). How asset managers can seize the lead in sustainable investing. BCG Global. https://www.bcg.com/publications/2019/asset-managers-seize-lead-sustainable-investing
[11] The Aggregate Confusion Project: MIT Sloan sustainability initiative. MIT Sloan. (n.d.). https://mitsloan.mit.edu/sustainability-initiative/aggregate-confusion-project
[12] Berg, Florian and Kölbel, Julian and Rigobon, Roberto, Aggregate Confusion: The Divergence of ESG Ratings (August 15, 2019). Forthcoming Review of Finance, Available at SSRN: https://ssrn.com/abstract=3438533 or http://dx.doi.org/10.2139/ssrn.3438533
[13] Aggregate confusion: The divergence of ESG Ratings. (n.d.-a). https://www.aeaweb.org/conference/2021/preliminary/paper/a78Brai7

Incorporating ESG data into the investment process

An even greater challenge remains the coherent and systematic application of ESG data into the investment process, i.e. how to connect ESG data with an underlying portfolio strategy efficiently and understand the implications of doing so.

In a recent global investor survey by Northern Trust (Exhibit 3)[14], asset managers reported that a number of tasks around the application of ESG data into the investment process remain key challenges, such as analyzing ESG data, improving transparency, staying compliant with regulation, identifying ESG risks and incorporating ESG data into the investment process.

Exhibit 3: Global investor survey shows % of firms citing top challenges with ESG investing.



Source: Northern Trust Survey

As many of these aspects remain unresolved, further work and technology investment will be required by asset managers.

[14] ESG's Imprint on Institutional Investing. Northern Trust. (2022). https://www.northerntrust.com/content/dam/northerntrust/pws/nt/documents/about-us/northern-trust-10-k-2021.pdf

New Cloud Technology Can Help to Overcome ESG Challenges and Drive Sophisticated Offerings

Today, investing is more than ever data driven and the emergence of ESG data and integration into investment strategies is critical to future offerings. To address the data gaps, there is a growing number of software solutions addressing the ecosystem of data management and informing investment strategies.

Recently, new SaaS technology platforms have emerged in the marketplace which assist portfolio managers in converting data to performance. These platforms use the possibilities of cloud computing to the maximum extent to manage, analyze and process large amounts of data and can scale to high amounts of compute power on demand. These applications make ESG data integration easier, more transparent, and more accessible to a broad set of users than in the past and here we refer to them as "investment decision platforms".

Investment decision platforms provide the portfolio manager with maximum flexibility in terms of being able to apply different ESG implementation choices and analytical functions to help understand various types of ESG data. State-of-the-art platforms avoid templates, pre-set choices, and black-box approaches.

In collaboration with 2RSquared, Expand sought to identify key tasks in the context of integrating ESG factors into portfolio strategies – all of which can be supported by investment decision platforms:

1. Create usable ESG data sets
    a. Understand gaps and dispersion
    b. Leverage different ESG data providers
2. Use ESG data in the investment process
    a. Understand the relationship between ESG factors and the risk/return profile of a given investment instrument, universe, or portfolio
    b. Understand differences between ESG factors – i.e. alpha signal or just a catalyst to tilt a portfolio towards "doing good"
    c. Understand impact of different implementation methods on risk/return profile
    d. Understand differences between different data providers for same implementation method
3. Empower the portfolio manager to offer customized ESG portfolios
    a. Facilitate individual investor preferences for certain ESG tilts, in a scalable way
    b. Involve the investor in the product creation journey

Below, we illustrate some of these points in the context of a hypothetical equity portfolio.[15]

The following examples are based on a portfolio of the largest 500 US stocks weighted by market cap (essentially a simplified proxy to the S&P 500). We note that the base strategy could also be any actively managed equity portfolio. To illustrate the impact of integrating ESG factors into the base portfolio, we have used the ESG ratings of OWL ESG, a market specialist ESG rating provider.

[15] These analyses were run and performed by 2RSQUARED on their investment decision platform, LAB.

Select examples

Example 1: Understanding the relationship between ESG factors and portfolio risk/return

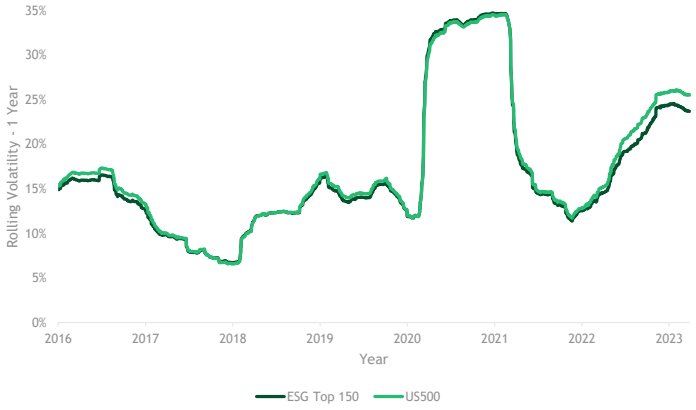
To understand the ESG impact on a portfolio's risk/return profile, it is important to differentiate between the impact of the choices of a portfolio manager regarding selecting stocks from a fundamental/financial performance point of view (to which certain aspects of ESG may contribute, e.g. as risk factors in the cost of capital determination) and the impact of a broader chosen ESG overlay which will have its own effects on portfolio performance. Combining fundamental and broader ESG choices in one step is not satisfactory from an analytical point of view and leaves the investor in the dark regarding the impact of the chosen ESG integration approach.

ESG integration example: What happens when we concentrate the portfolio by choosing the top 150 US stocks based on their overall ESG rating, i.e. a simple ESG quality concentration scheme?

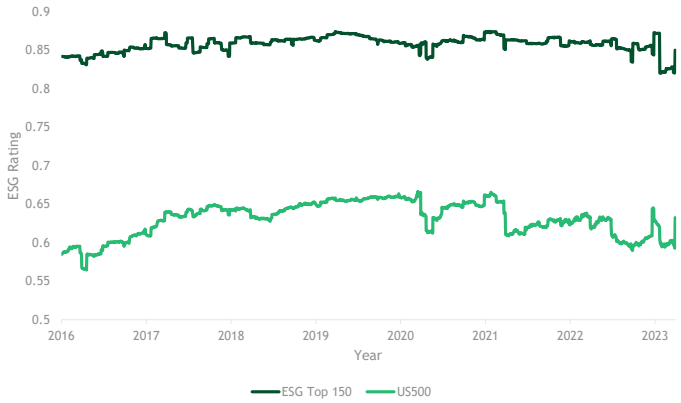
The chosen reduction of the portfolio from 500 stocks to the top 150 ESG rated stocks is accretive in terms of performance and more or less neutral in terms of risk. This analysis shows the actionable conclusions drawn via the use of investment decision platforms in the ESG integration process to provide views on a number of measures.

Exhibit 4: Analyzing change in performance due to ESG integration.

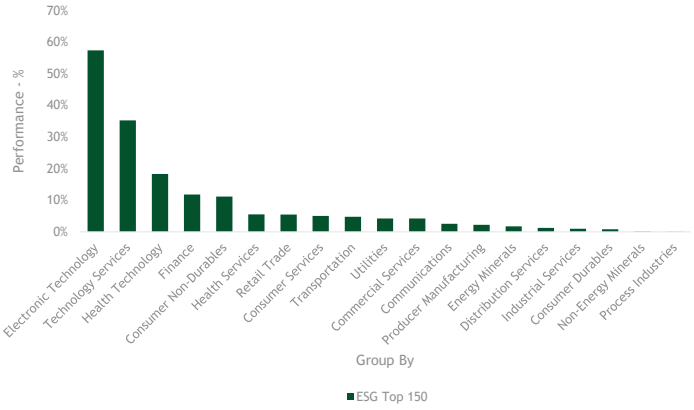
Source: ESG ratings in the following charts are provided by OWL ESG, 2RSQUARED analysis

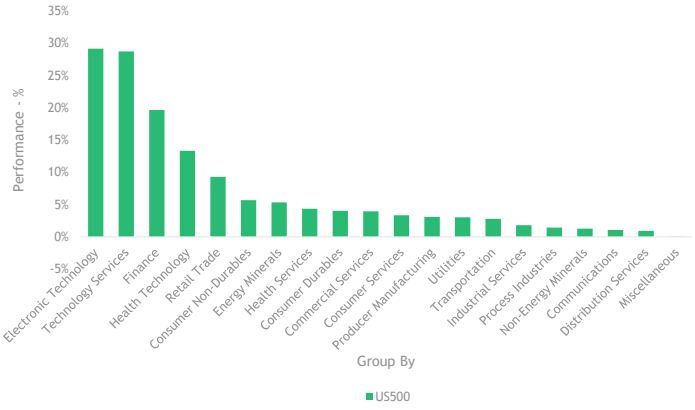


The ESG rating of the top 150 portfolio, shown in the chart below as a dynamic time series of the portfolio's implied ESG rating over time, is, as one would expect, consistently significantly higher than the US 500 base portfolio (ESG rating scores are normalized and range from 0-1, 1=best).



Investors will want to understand what drives the difference in return performance between the two portfolios. In this example it can be largely explained by the ESG Top 150 portfolio shifting the sector distribution towards the technology sector which has performed well over the last decade and tends to have higher ESG ratings than many other industries.





Example 2: Customization of portfolio choices

Investors have long desired to see their own preferences being executed in portfolio strategies. This is particularly true in the context of ESG where investors have different fundamental or ethical beliefs and want to see those being expressed in their investments. Up until now, this has been a prerogative of only a few large institutional investors with very large unit size investments (typically, > US$100m) as individual investment strategies were otherwise too time-consuming and expensive to create. Modern investment decision systems make customization now accessible in a scalable way - even for mass affluent customers for the first time.

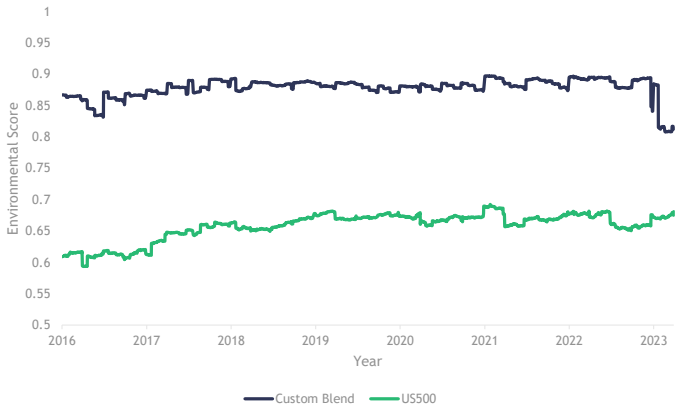
ESG optimization example: Unlike the very simplistic ESG implementation of the previous example, we are now using a more sophisticated ESG optimization approach. The objective is to create a portfolio which tracks the performance of the base strategy closely, but improves its ESG characteristics based on the preferences of the investor markedly. This is achieved by concentrating the portfolio in a sector neutral way to the best ESG performers within each sector whilst observing constrains in terms of active weight deviation both on an individual stock as well as sector breakdown level. This optimization is performed individually for the Environmental, the Social and the Governance score, creating portfolios optimized for the individual ESG categories. The final portfolio is a blend of these three factors with the individual weightings determined by the investor. In this example, we have assumed that the investor was most interested in achieving a high Environmental rating (60% weighting), followed by the portfolios Governance (20% weighting) and Social score (20% weighting).

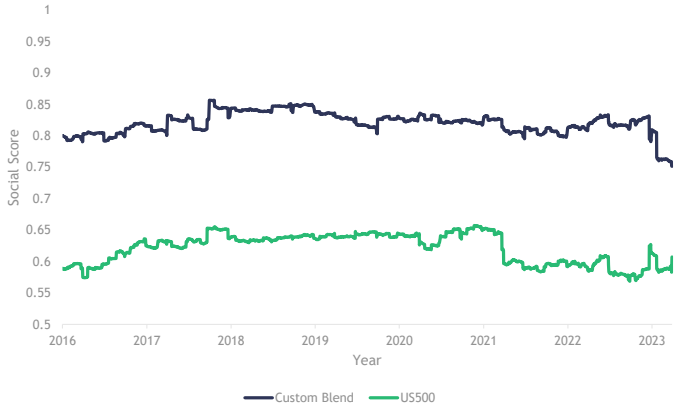
Exhibit 5: Ability to customize investment decisions by weighting environmental, social, and governance factors.

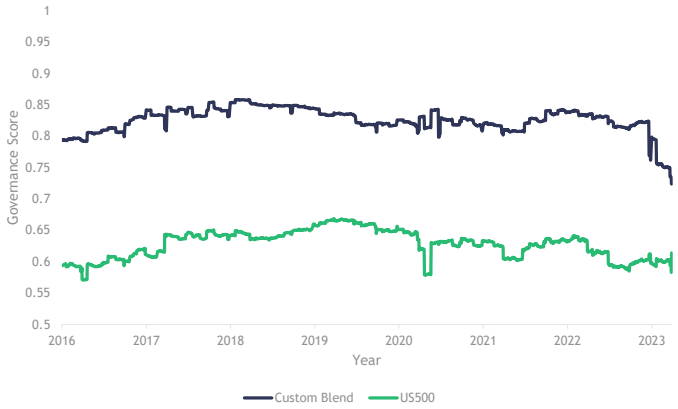
Source: 2RSQUARED ANALYSIS

The performance of the resulting portfolio is, as was intended, very close to the US 500 base index:

When comparing the individual ESG scores of the optimized portfolio with the base portfolio, one can see that the Environmental score improvement is slightly higher due to its higher weighting.







As shown in this simple example, it now has become trivial to create individual strategies based on customized parameters. In a commercial context it is not difficult to imagine exposing such choices via an application which a client adviser could use in a client meeting or via a website of a digital wealth platform. As a matter of fact, thousands of different permutations of the same base strategy with different ESG tilts could be run on a SaaS technology platform, i.e. the ability of scalable customization of investment strategies has now become a reality.

Technology solutions can be essential to adapting investment strategies both for general investment and specific for ESG.

Practical Management Problems

Portfolio performance vs ESG

Portfolio managers of active funds may feel ESG is a double-edged sword for them: positive if it drives AuM increase, but potentially negative due to concern that their performance (and compensation package) is impacted by ESG beyond their control.

Given this double-edged sword, one of the sought-out solutions is to take a bifurcated approach. This would include a base-fund run by the portfolio manager solely on financial performance considerations as well as a systematic ESG overlay driven by the ESG team and assisted by the type of sophisticated technology described earlier.

Some firms are progressing towards including ESG targets in their variable remuneration schemes and incentive structures, some investors have even threatened to use their voting power if they do not see progress.[16] A technology driven systematic approach as mentioned above can solve some of the internal management and incentivization challenges regarding measuring ESG progress.

New technology can also be used to optimize data collection and reporting for investors, ultimately, providing faster insights that will support targets and progress toward ESG goals.

Compliance with ESG factors as described in fund prospectus – Auditability

Recently, several asset managers have run into trouble with their respective regulators regarding potentially over-selling the ESG credentials of some of their investment products. Some managers have already paid fines, other investigations are ongoing. There have even been mass downgrades from article 9 funds, whom under SFDR can only invest in activities deemed to promote sustainability, to article 8 funds, largely driven by SFDR Level 2 regulation.[17]

Using investment decision platforms to apply ESG factors in a systematic way can be a valuable tool to help alleviate such regulatory concerns. As previously mentioned, this involves bifurcating between the base strategy of a portfolio and the subsequent ESG overlay – which could follow an established regulatory ESG framework such as Paris-aligned Benchmarks (PAB) or Climate Transition Benchmarks (CTB) or could be driven by a customized approach.

If the underlying strategy is an actively managed portfolio, one proposed approach includes the individual stock selection choices of a portfolio manager, which would be translated into an "alpha score" for individual stocks on a historic and walk-forward basis. Once the selection has been established, all ESG integration described above can be applied to such a portfolio.

[16] Wass, S. (2022, July 25). Investor scrutiny intensifies as more banks link executive pay to climate goals. S&P Global Homepage. https://www.spglobal.com/marketintelligence/en/news-insights/latest-news-headlines/investor-scrutiny-intensifies-as-more-banks-link-executive-pay-to-climate-goals-71162095

[17] Hoekstra, T. (2023, March 6). Wave of sustainability downgrades affects pension funds too. IPE. https://www.ipe.com/news/wave-of-sustainability-downgrades-affects-pension-funds-too/10065454.article#:~:text=In%20total%2C%20more%20than%20300,the%20SFDR's%20Level%202%20regulation

In addition to the inherent advantages already described, the systematic application of ESG factors has the added advantage that every trade in the portfolio can be explained and traced back to its underlying ESG implementation rule, i.e., the portfolio becomes totally auditable regarding its ESG approach, and the investment decision system can be used as an audit tool for any kind of regulatory inquiry.

Provided that ESG implementation rules as disclosed in the respective prospectus have been replicated correctly on the investment decision system, such an implementation should uphold any regulatory compliance requirements and remove a major regulatory concern for the firm using the technology.

Conclusion

There is a global push across the asset management industry to integrate ESG considerations into investment strategies. Regulatory reporting and disclosures in addition to increased investor demands are pushing asset managers to adapt their strategies at a fast rate. However, there are several challenges slowing progress including ESG data quality and availability.

The key enabler to addressing these challenges is technology. Investing in technology solutions that help navigate the dynamic ESG landscape helps firms not only keep pace with the quickly developing industry but also to differentiate themselves in the market. Technology advancements that support the evolving ESG landscape can be used to streamline the reporting process, provide clarity around ESG data sources, and ultimately drive progress.

There are two overarching phases of maturity in ESG data usage for embedding ESG in investment strategies. The majority of asset managers are in phase 1 which includes understanding what data is needed, what systems are required, and which data sets are reliable. Phase 1 is a foundational, dashboard view of what ESG data is needed to integrate ESG into an organization and being able to provide end-of-day reports regarding a portfolio's ESG profile.

The goal is to shift toward phase 2 where firms are mobilizing ESG data to generate value. This phase moves from the foundational dashboard view to integration and there are not many firms that are currently able to do this at scale.

Key Takeaways

- As the asset management industry looks to strengthen overall AuM growth, global ESG AuM also continues an upward trend with firms fully embracing sustainable investing. Firms that are not starting to strategically integrate ESG into their strategies are already lagging the rest of the buy-side industry.
- There are increased expectations and mandates from a variety of stakeholders pressuring firms to develop ESG-focused investment strategies. This comes with a host of challenges around navigating ESG data and an urgency to develop a clear understanding of how respective firms are utilizing ESG data.
- Shifting regulatory expectations and mandates are affecting how asset managers are tackling challenges – ultimately driving a structural shift across organizations to support the increasingly rigorous ESG analysis. ESG-specific teams are being stood up to support and manage the growing ESG demands.
- Technology is a key enabler to embedding ESG in an organization. However, there is a call to action to shift away from legacy infrastructure which accounts for a substantial part of a company's emissions footprint in addition to limiting progress toward ESG integration. There is a growing impendent for technology leaders to embed ESG, and one of the biggest levers is to shift toward new technology like the cloud to effectively use ESG data.
- Data quality and availability remain key challenges that asset managers face along their integration journey. While there is a spectrum of available and reliable ESG data sources, evaluating their distinctions are key to the selection of the most relevant data source to utilize for ESG data in their portfolio integration.
- SaaS technology platforms can be used to convert ESG data to performance. To summarize, the key advantages of such a technology solution include:
    - Creating usable ESG data sets efficiently
    - Solving the challenge of integrating ESG factors into new or existing portfolios efficiently
    - Ability to offer customized ESG solutions to investor clients in a scalable way
    - Creating an audit trail of a fund's ESG process to stay compliant with stated ESG objectives as per the fund's prospectus and avoid concerns around "greenwashing."

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About 2RSQUARED

2RSquared is a technology company that offers LAB - a no-code SaaS platform making personalised investments, whether as investment strategies or indices, a scalable solution for the first time. In a world where investing is increasingly driven by data and computational power, LAB solves the problem of how to empower front office asset management stakeholders such as ESG teams, analysts, portfolio managers and client coverage people to use data as effectively as data scientists and quants, with the objective of improving performance of the asset manager, enhancing collaboration across teams and serving clients better. A key outcome is that LAB enables asset managers to transform their clients' individual goals, whether for risk/return or ESG preferences into customised investment solutions, where pre-trade, the client can be brought digitally into the investment design journey and post-trade, the client can analyse their investments interactively and on-demand.

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