Reviewing FinScience ESG Alternative Score.

Results of first internal analysis on the S&P500

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REVIEWING FINSCIENCE ESG ALTERNATIVE SCORE: RESULTS OF FIRST INTERNAL ANALYSIS ON THE S&P500

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Introduction

In previous years, investors' interest in company performance around **ESG** (Environment Social Governance) factors has grown exponentially. Driven by an increased attention to **customer expectations** around the environmental and social impacts generated by corporations and by the realization that robust ESG strategies can support the **long-term viability** of organisations, **sustainable investing assets across** the world have exceeded **USD30 trillions** in 2018 (**Global Sustainable Investment Alliance, 2019**).

While a number of **rating systems** are available to score large companies' ESG performances, sometimes they fail to provide a holistic picture of their true **intent and contribution** to solving some of the **most pressing global sustainability** issues. The recent Covid-19 has even further exacerbated the urgency of these issues.

Therefore, after almost a year since the first launch of **FinScience's ESG Alternative Score**, the company, in partnership with **ADAM AI Solutions**, is **revising the scoring methodology** in order to enrich the number of data sources used to track corporate

sustainability performance and provide a more balanced sector-specific evaluation.

FinScience's ESG Alternative score aims to **integrate** traditional, **CSR report-based**, self-disclosed and yearly updated data (the so-called 'internal data') with '**alternative**' or **external data** coming from NGOs, social media, specialized blogs and news and reviews websites, global CSR rankings and other stakeholder-generated data sources in order to offer a complete and updated assessment of corporate ESG performance.

The main novelty of the new scoring methodology is the shift from a system based on the 7 main issues under the **ISO 26000 framework** (Environment, Human rights, Consumer issues, Organizational governance, Labour practices, Fair operating practices, Community involvement and development), to a scoring system structured around the 17 main ESG issues addressed by the **UN Sustainable Development Goals (SDGs)**.

The importance of SDGs in driving sustainability strategies

The **17 Sustainable Development Goals** of the UN 2030 Agenda, together with 169 specific targets, provide a **framework** for governments to address their actions and investments in tackling current and future global **challenges for society and the environment**.

There is widespread consensus that **corporations** have a pivotal **role to play** in contributing to the achievement of these goals.

Hence, **stakeholders' (including investors) expectations** of a strong **alignment** between sustainability strategies in the business world and SDGs are encouraging companies to review and communicate their approaches and provide an active **contribution** to the goals.

For corporations, this entails **demonstrating their commitment** to goals which, first and foremost, are more aligned to their **business processes**, **operations**, **products** and **services** generated, in a genuine and measurable way.

As confirmed by this brief, the largest global corporations are already using the SDG framework to communicate their **sustainability efforts** mainly through ad hoc reporting. **Best practice** is to show how the goals link to the company's growth targets and how strongly SDGs inform its business strategy.

Through the "**financial risk" lens**, a strong alignment could attract investors' attention, as a number of surveys demonstrate that a "strong ESG proposition correlates with higher equity returns" (McKinsey, Five ways that ESG creates value, 2019).

Company reporting and SDGs

Among the data sources observed for the construction of the ESG internal score, the presence and the content of sustainability (and integrated) reports were by no means the most fruitful to investigate for the purpose of understanding a company's level of (self-disclosed) engagement towards the achievement of SDGs.

We focused on the 500 companies of the **Standard&Poor 500 index (S&P500)**, which measures the stock performance of large companies listed in the US stock exchanges.
Based on our research, **447** companies out of 500 published **at least one CSR/sustainability report in the last 20 years**, out of which **353** have published at least **one report in the last 3 years** (between 2016 and 2019).

However, the results of tracking the reporting history of **405** companies revealed that only **26** have been **consecutively** publishing a sustainability report **in the last 3 years**.

By analysing the most recent reports available online for **430** companies and extracting information through Natural Language Processing techniques, we found that only **203 CSR/sustainability reports** were also **assured by an external auditor**. This does not come as a surprise, since an external assurance on sustainability reports is not a mandatory requirement.

However, there is an increasing expectation for a third-party review of data and information provided in order to ensure the **robustness** and quality of the reported content.

As to the nature of the CSR/sustainability reports, we also found that only **21** companies out of 500 have published the report as an **integrated report**, which refers to the reporting process based on the well-known **International <IR> Framework**. This depends partially on the jurisdiction present wherever the companies are located, as often, a non-financial disclosure of information within financial annual reports is not required.

In order to investigate the **SDG engagement and contribution** of each company based on its CSR/sustainability reports, we developed a **SDG Classifier Algorithm** that assigns a specific SDG topic to each selected piece of text, by employing a **supervised machine learning model**.
More specifically, we applied our algorithm to each paragraph of the sustainability reports analyzed, to automatically detect the SDG-related topics that are discussed in the report.

Then, we computed the percentage of paragraphs that focuses on a specific SDG in each report. Figure 1 shows the frequency of appearance of each SDG across the 430 reports that were examined, obtained by averaging these percentages.

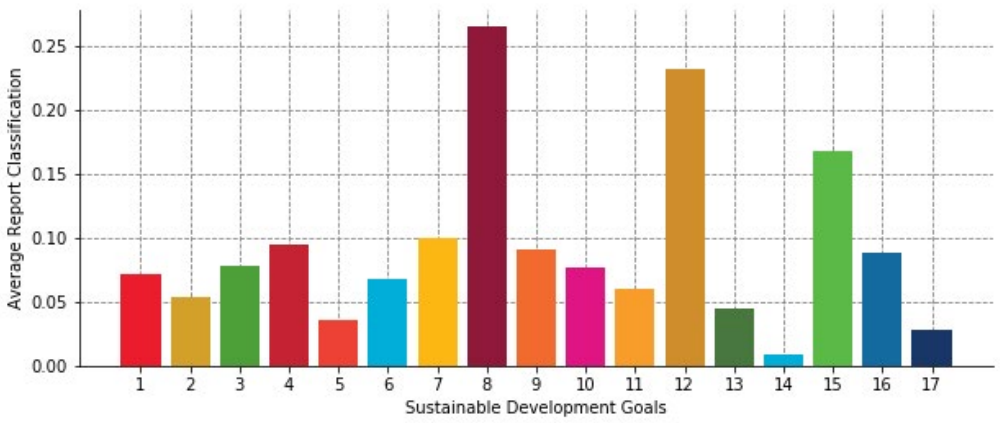

FIGURE 1 • Addressing the SDGs in S&P500 sustainability reporting [Source: FinScience].

As seen above, we detected that **SDG 8** (decent working conditions and economic growth), **SDG 12** (sustainable consumption and production), and **SDG 15** (life on land) are most frequently addressed by companies, while **SDG 5** (gender equality), SDG 14 (life below water) and **SDG 17** (partnerships for the Goals) were less likely to be mentioned and addressed.

From a **preliminary analysis**, it appears that large US corporations tend to concentrate their sustainability communication effort on the economic and production outcomes of their activity rather than on specific issues like the **reduction of inequalities**, despite recent global attention towards these topics. These issues, however, warrant a deeper analysis in the next stages of this work.

Initial results of the internal score analysis of S&P500

Using the **new scoring methodology**, FinScience and Adam conducted a preliminary analysis of the internal ESG performance of all companies included in the **S&P500**.

ESG data was collected from **corporate websites**, **CSR/ESG/sustainability reports**, and **websites of sustainability-oriented associations**, **coalitions** and **initiatives** in which companies participated by being a **supporter/member/associate/signatory**.

The content of corporate websites as well as the reports were processed using **Natural Language Processing** tools that aided us in identifying the **specific SDGs** addressed in the text. In particular, we developed a text classification algorithm that is able to detect the presence of the topics related to the 17 SDGs in a paragraph.

This allowed us to include, alongside the other variables, those related to the number of pages or sections mentioning one or more SDGs.

Each of the over **200 identified variables** was linked to **one or more SDG and weighted** according to the **relevance** and **reliability** of the information, to obtain **17 meta-scores for each SDG**.
Each of the 17 SDG scores was then **weighted based on the industry** in which each company operates, to **reduce the presence of biases** as a result of a sector's inherent alignment with specific goals (e.g. power utility and SDG 7 - affordable and clean energy).

The final ESG internal score was a weighted average of the aforementioned scores.

The internal score, as calculated for the companies included in S&P500, **ranges from 0.29 to 0.86**, with an **average** of **0.68**.

Figure 2 shows the **distribution of FinScience internal score by sector.**

The numbers on the boxplots indicate the **total number of companies belonging to each sector**, with **Communication Services** (which includes companies like Verizon Communications Inc, AT&T Inc, Facebook Inc, Alphabet Inc and Fox Corp) being the **least represented** sector and **IT** (which includes companies like Microsoft Corp, Accenture PLC, Visa Inc, IBM Corp, Mastercard Inc) **and Industrials** (which includes companies like 3M, General Electric, FedEx Corp and American Airlines Group Inc) being the **most represented**.

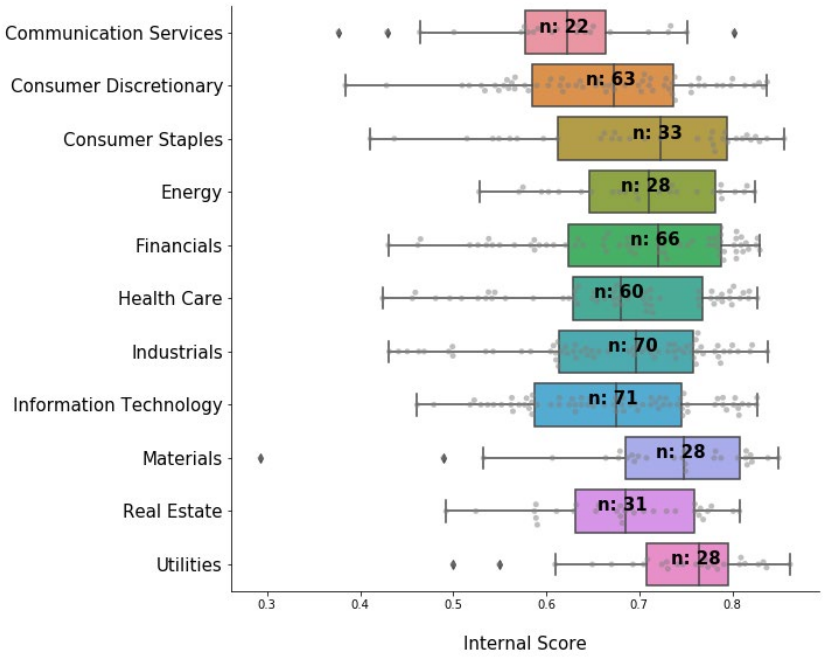

FIGURE 2 • S&P500 -Distribution of Finscience internal score by sector [Source: FinScience].

Overall, the **distribution of the internal scores** does not change dramatically across sectors, as the position of the boxplots denotes. Nonetheless, it is still possible to find remarkable exceptions to this trend: the **Communication Services** companies are the **worst-performing** (average internal score: **0.61**), while the **Utilities** (which includes companies like NextEra Energy Inc, American Electric Power, Ameren Corp and Duke Energy Corp) sector **outperforms** the others (average internal score: **0.74**). This confirms a trend in the last years which has seen utilities, partly as a consequence of **consumer pressure**, adopting improved sustainability practices.

The long horizontal lines indicate a **wide scoring range** within sectors. For instance, the score for the **Consumer Staples** (which includes companies like PepsiCo, Colgate-Palmolive, Procter & Gamble, Walmart Inc andEstée Lauder Companies) sector ranges from **0.41 to 0.85**, which suggests that companies in this same industry have considerably different approaches to SDGs.

As for the **distribution of the SDG scores**, after determining a ranking of each SDG score, we investigated which SDGs are the most frequently addressed and which are the least covered by companies.

Figure 3 below shows the best and the worst performance, in terms of **SDG rankings**, by sector. To give an example, **healthcare-related companies** contribute considerably to **SDG 3** (Good Health and Well-Being), as expected, but they perform weakly **on SDG 9** (Industry, Innovation and Infrastructure).

This outcome can be used at the broader sector level to address existing gaps in understanding potential company contribution across a wider range of goals.

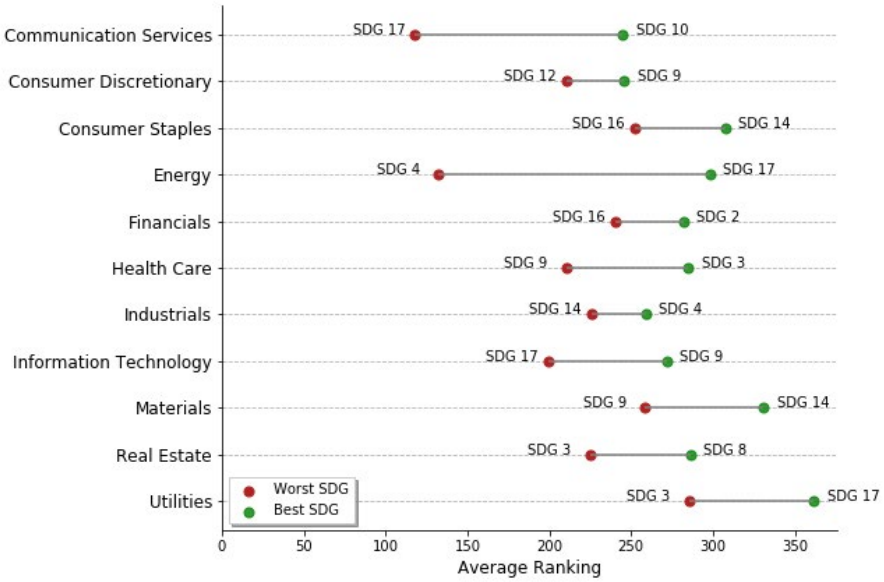

FIGURE 3 • S&P500 - Best and Worst SDG reporting performances by sector [Source: FinScience]

Additionally, our analysis allowed us to understand whether companies tend to **specialize in a specific SDG** or, on the contrary, to equally address a **wide range of SDGs**. In this regard, we found a **negative relationship between the overall sustainability performance** (internal score) **and the variability of SDGs scores** (standard deviation).

More specifically, Figure 4 shows that the **best-performing companies** tend to **equally address all the SDGs**, as indicated by the **low variability** between the 17 scores.

This suggests that a **well-balanced and widespread view** on how to contribute to the more pressing global issues benefits an organisation across the board.

On the other hand, as the graph suggests, **companies with lower internal scores** display **different**

behaviours; with some of them performing homogeneously across all SDGs (red dots on the left), and others performing considerably worse on certain SDGs (red dots on the right).

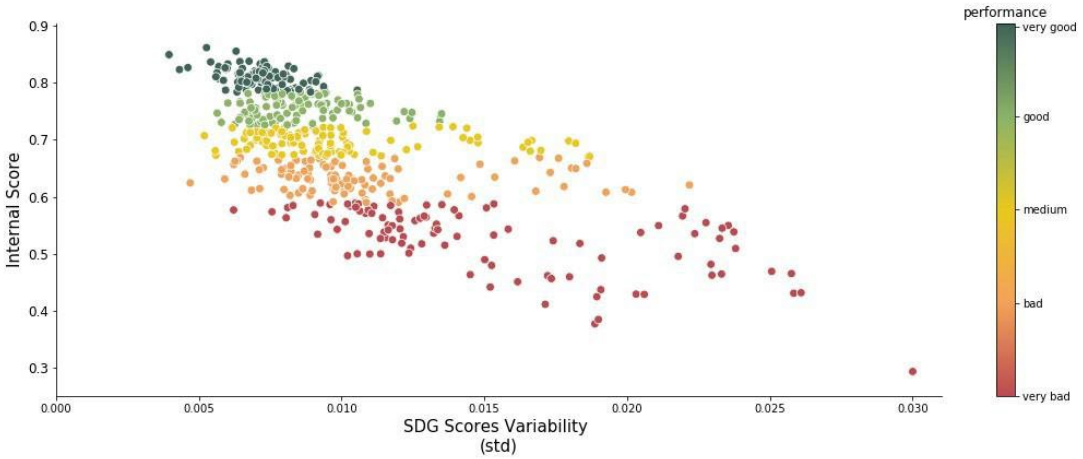

FIGURE 4 • S&P500 - Sustainability overall performance and variability across the SDG Scores [Source: FinScience].

Conclusions and next steps

The manner in which companies communicate their commitment to sustainability targets is a useful indicator for **assessing their ESG performance**.

However, the recent diffusion of **greenwashing practices** suggests that a company's sustainability evaluation should consider other data sources that exist outside of the company's direct control.
This cancapture the perspectives and concerns of a variety of **stakeholders**, including the wider community, investors, governments, industry, employees etc., therefore providing a more rigorous framework to assess how organisations perform against sustainability **expectations**.

For this reason, **FinScience ESG Alternative Score** is integrating the above mentioned **FinScience Internal Score** with the **FinScience External Score**, which will be based on data retrieved from NGOs, news media, specialized blogs, reviews websites,

global CSR rankings and other stakeholder-generated data sources.

The integration of 'alternative' sources of data will undoubtedly allow both companies and investors to assess a **company's ESG reputation** and its capacity to **manage and mitigate sustainability risks** to support future **growth**. The **unique approach** based on the globally recognized UN SDG framework provides a **robust system** for comparing and benchmarking performance and assessing the contribution of private sectors, alongside government efforts, to the achievement of goals.

Moreover, corporates and investors will be able to monitor corporate sustainability performance on news media daily through the FinScience platform by adding specific sustainability-related signals based on FinScience ESG Score results.

The combined outcome of the **internal and external components of Finscience ESG Score** for S&P500 will be presented in the following weeks.

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