

ESG Investing: A Constraint or An Opportunity?

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Summary

ESG (Environmental, Social and Governance) investing brings with it the hope of doing well while also doing good. An important debate among investors is whether data and evidence kindle this hope or dash it. High Pointe is in a unique position to contribute to this debate because its Franchise Quality Score methodology has put it at the forefront for observing the impact of ESG and other intangible factors on stock valuations over a long period of time. In this paper we test whether companies with high ESG scores outperform those with low scores. Using data from the time period 2008 to 2018, we find that companies with high ESG scores slightly outperform companies that have low ESG scores; however, the performance difference is not statistically significant. Further, we find that high ESG companies are less volatile and possibly higher quality. This finding might provide clues to active investors as to how to use ESG information in a holistic manner to make stock selection decisions.

About the Authors



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Introduction

The term ESG investing refers to assessing individual companies' Environmental, Social and Governance practices and incorporating that information to make buy and sell decisions. In its simplistic form it can mean buying only those companies whose practices exceed a certain threshold level. In a more holistic format, it means combining ESG factors into an investment process that also incorporates other relevant factors such as a company's valuation, growth and quality characteristics.

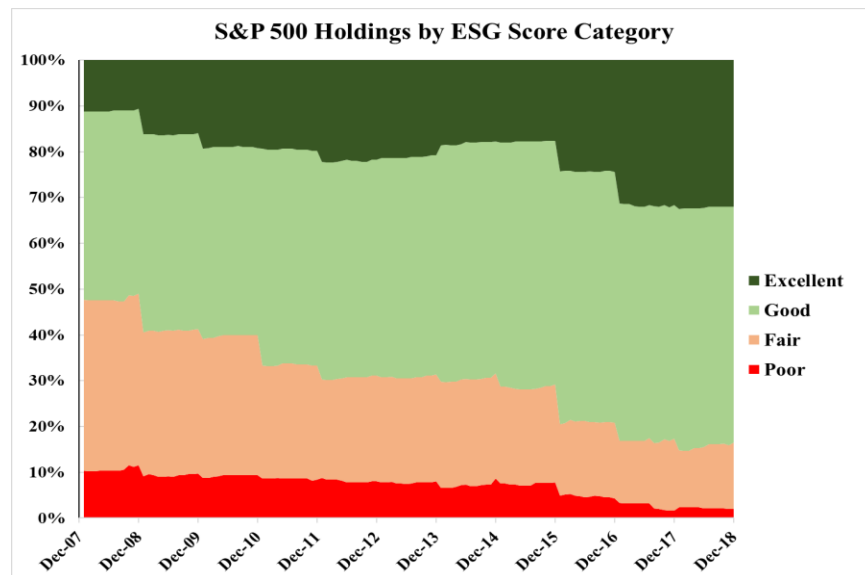
ESG Data

Over the last few years the availability of data regarding companies' ESG practices has exploded. As a result, it is now feasible to study whether ESG factors can be used to create better-performing portfolios.

One of the most comprehensive ESG databases is the one compiled by Refinitiv (previously known as Thomson Reuters Financial and Risk). It covers 7,000 public companies globally and measures ESG scores using 178 data points.¹ The data are constantly updated by more than 150 content research analysts who are trained to collect ESG data.

Refinitiv aggregates the 178 ESG data points into a single composite ESG score, as well as into separate category scores for Environment, Social, and Governance. An interesting and relevant feature of the dataset is that environmental and social scores for each company are assigned relative to their industry peers, but governance scores are assigned relative to all companies, regardless of their industry.

The ESG scores for each company can be between 1 (worst) and 100 (best). Below, we summarize the historical ESG scores of all companies in the S&P 500 Index. In this chart, we show what percent of companies in the Index fall into each of the four categories based on the ESG score. Companies that score 75 or higher are labeled "Excellent," those scoring between 50 and 75 are labeled "Good," those scoring between 25 and 50 are labeled "Fair," and the rest are labeled "Poor."



¹ Source: [Thomson Reuters ESG Scores, February 2019](#)

This chart shows that over time, the ESG scores of companies in the S&P 500 index have improved. This is likely a result of conscious efforts by these large companies to acknowledge the increasing importance of ESG factors and taking steps to improve their practices and rankings.

Testing the Efficacy of the Composite ESG Scores

We first test whether companies rated highly, from an ESG perspective by Refinitiv, outperform or underperform those that are rated lower. To do this test, we create two portfolios. One portfolio consists of S&P 500 companies that score above the median within the S&P 500 index universe (“High ESG Portfolio”) and the second portfolio consists of companies that score below the median (“Low ESG Portfolio”).

We create these portfolios on a monthly basis, from January 2008 to December 2018, using the ESG score of the companies. We then measure the performance of each portfolio over the next month. This process is repeated for each of the 132 months. The cumulative performance of the two portfolios is shown below. It shows that the High ESG Portfolio outperformed the Low ESG Portfolio by 16 basis points per year.

Table 1
Performance of S&P 500 High and Low ESG Portfolios

	Annualized Return (Geometric Mean)
High ESG Portfolio	7.34%
Low ESG Portfolio	7.18%

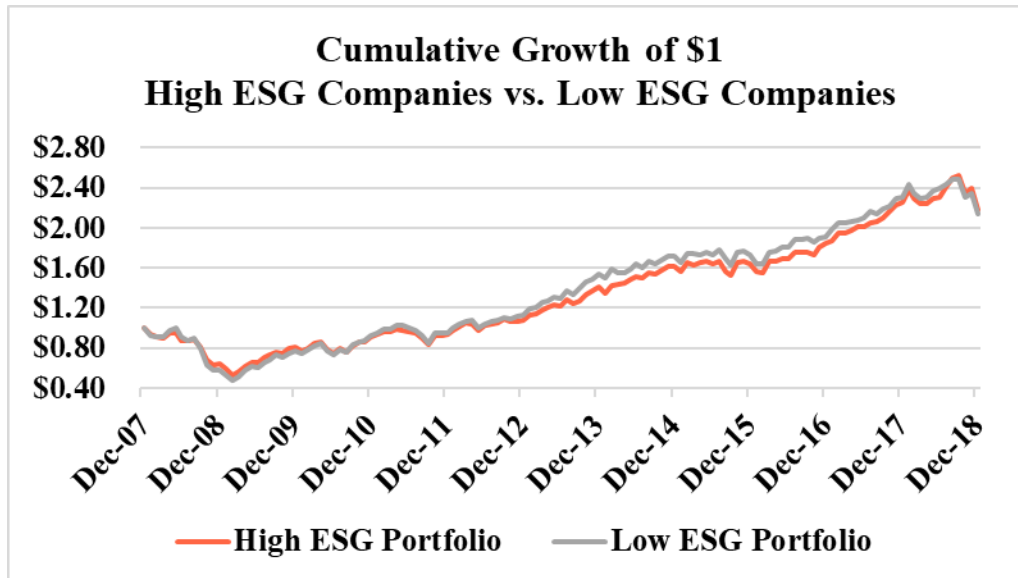
Interestingly, the geometric mean return of the High ESG Portfolio exceeds that of the Low ESG Portfolio despite the fact that the former’s arithmetic average return is lower, as shown in Table 2 below.

Table 2
Performance and Volatility of S&P 500 High and Low ESG Portfolios

	Arithmetic Mean Return	Volatility (Annualized Standard Deviation)	Geometric Mean Return
High ESG Portfolio	8.23%	14.91%	7.34%
Low ESG Portfolio	8.32%	16.38%	7.18%

This counterintuitive result occurs because the volatility of the High ESG Portfolio is considerably lower and that allows its returns to compound better than the returns of the Low ESG Portfolio.

A graphic depiction of the cumulative performance of the High and Low ESG portfolios is shown below.



A casual look at the data above seems to suggest that the differences between High ESG and Low ESG portfolios are probably insignificant. We test this conjecture via statistical analysis as described below.

We are cognizant of the possibility that our High ESG and Low ESG portfolio could have inherited some unintended biases in terms of investment style (value vs. growth) or size (small cap vs. large cap) compared to the broad market. To adjust for such biases, we perform our statistical testing using the Fama-French three factor regression model which adjusts for the impact of any style bias or capitalization bias. This model attempts to explain the performance of the High and Low ESG portfolios by regressing the portfolios’ returns against exposure to the following three factors.²

- Broad stock market
- Small cap exposure
- Value style exposure

The component of the portfolio return that is not explained by these three factors (the intercept term) is the risk-adjusted value added of the portfolio. In the table below, we label this value added as “alpha” and show the t-statistics associated with it. For the alpha to be considered statistically significant, the minimum absolute value of the t-statistics needs to be about 2.

Table 3
S&P 500 Companies Risk-Adjusted Value Added

High ESG Portfolio	Monthly Alpha	0.02%
	<i>t-Statistic</i>	0.50
Low ESG Portfolio	Monthly Alpha	-0.06%
	<i>t-Statistic</i>	-0.81

² Factor data for this statistical test are obtained from Professor Ken French’s site http://mba.tuck.dartmouth.edu/pages/faculty/ken.french/data_library.html#Research

These results show that the High ESG portfolio generated a small positive risk-adjusted alpha and the Low ESG portfolio generated a small, negative risk-adjusted alpha; however, neither one is statistically significant.

In the table below, we show a few more statistics from the same regression, namely, the regression coefficient of each factor and t-statistics associated with each.

Table 4
Efficacy of ESG Composite Score

		Monthly Alpha	Market Exposure	Small Cap Exposure	Value Style Exposure
High ESG Portfolio	Coefficient	0.02%	0.98	-0.18	0.03
	<i>t-Statistic</i>	<i>0.50</i>	<i>131.23</i>	<i>-13.12</i>	<i>2.50</i>
Low ESG Portfolio	Coefficient	-0.06%	1.05	0.01	-0.09
	<i>t-Statistic</i>	<i>-0.81</i>	<i>57.17</i>	<i>0.36</i>	<i>-3.11</i>

One noteworthy feature of these results is that the market exposure of the High ESG portfolio is lower than 1 and that of the Low ESG portfolio is above 1. In simplistic terms, one might say that the risk of the High ESG portfolio, as measured by its “beta”, is less than that of the market. By contrast, the risk of the Low ESG portfolio, as measured by beta, is more than that of the market. These characteristics lower the “hurdle rate” for the High ESG portfolio to generate risk-adjusted alpha and raise it for the Low ESG portfolio. And, by extension, this phenomenon partially explains the slightly positive risk-adjusted alpha of the High ESG portfolio and the slightly negative risk-adjusted alpha of the Low ESG portfolio.

Efficacy of the Environment, Social and Governance Scores Individually

The Refinitiv data are available not just at the aggregate ESG composite score level, but also at the individual category level for the Environment, Social and Governance categories. We test the efficacy of these individual category scores, in a manner similar to our analysis of the composite ESG score shown above. The results of this exercise are summarized below.

Table 5
Efficacy of the Environment Score

		Monthly Alpha	Market Exposure	Small Cap Exposure	Value Style Exposure
High ESG Portfolio	Coefficient	-0.01%	0.99	-0.17	0.02
	<i>t-Statistic</i>	<i>-0.39</i>	<i>129.41</i>	<i>-12.15</i>	<i>1.89</i>
Low ESG Portfolio	Coefficient	0.00%	1.03	-0.02	-0.07
	<i>t-Statistic</i>	<i>0.00</i>	<i>56.93</i>	<i>-0.54</i>	<i>-2.41</i>

Table 6
Efficacy of the Social Score

		Monthly Alpha	Market Exposure	Small Cap Exposure	Value Style Exposure
High ESG Portfolio	Coefficient	0.01%	0.99	-0.18	0.04
	<i>t-Statistic</i>	<i>0.24</i>	<i>129.34</i>	<i>-12.70</i>	<i>3.60</i>
Low ESG Portfolio	Coefficient	-0.03%	1.02	0.00	-0.13
	<i>t-Statistic</i>	<i>-0.41</i>	<i>56.06</i>	<i>0.14</i>	<i>-4.70</i>

Table 7
Efficacy of the Governance Score

		Monthly Alpha	Market Exposure	Small Cap Exposure	Value Style Exposure
High ESG Portfolio	Coefficient	0.05%	0.97	-0.18	0.04
	<i>t-Statistic</i>	<i>1.30</i>	<i>95.19</i>	<i>-9.53</i>	<i>2.50</i>
Low ESG Portfolio	Coefficient	-0.10%	1.06	-0.05	-0.08
	<i>t-Statistic</i>	<i>-1.45</i>	<i>65.11</i>	<i>-1.60</i>	<i>-3.34</i>

The t-statistics for alpha in each of the three tables above are less than 2, thus indicating that individual category scores based on Environment, Social and Governance factors do not find any statistically significant difference between High and Low ESG portfolios' return relative to their benchmark.

Are High ESG Scores Indicative of Higher Quality?

As we noted earlier, the High ESG Portfolio had a lower volatility of returns than the Low ESG Portfolio. This observation leads us to ask - is the lower volatility of the High ESG portfolio is possibly an indicator of higher quality?

To answer this question, we download the monthly payoffs of the Quality factor from AQR Capital Management³ and analyze them vis-à-vis the returns of the High and Low ESG portfolios. We observe that there is indeed a positive correlation of 0.41 between the Quality factor and the value added by the High ESG Portfolio compared to the Low ESG Portfolio. Moreover, the correlation is statistically significant as indicated by its t-statistic of 5.18.

Next, we include the quality factor as the fourth independent variable to the Fama-French three factor model and re-run the regression. The results of the revised regression analysis are shown below.

Table 8
Efficacy of the Quality Factor in Addition to
the Traditional Fama-French Three Factors

		Alpha	Market Exposure	Small Cap Exposure	Value Style Exposure	Quality Exposure
High ESG Portfolio	Coefficient	-0.03%	1.00	-0.15	0.05	0.04
	<i>t-Statistic</i>	<i>-1.00</i>	<i>131.94</i>	<i>-10.98</i>	<i>4.25</i>	<i>5.22</i>
Low ESG Portfolio	Coefficient	0.00	1.03	-0.03	-0.11	-0.06
	<i>t-Statistic</i>	<i>0.01</i>	<i>51.57</i>	<i>-0.80</i>	<i>-3.90</i>	<i>-2.75</i>

These results show that the Quality factor is indeed statistically significant in explaining the results of the High and Low ESG portfolios. Including the quality factor makes the alpha of the High ESG portfolio slightly negative, although still statistically insignificant. On the other hand, the Low ESG portfolio no longer has a negative alpha. This hints at the possibility that the value added of the High ESG portfolios might indeed be driven by its high quality.

Further, we observe that the value added of the High ESG Portfolio occurs more frequently during periods of stock market declines. The correlation between the stock market's returns and that value added by High ESG Portfolio over the Low ESG Portfolio is -0.27 and it is statistically

³ Source: <https://www.aqr.com/Insights/Datasets/Quality-Minus-Junk-10-QualitySorted-Portfolios-Monthly>

significant with a t-statistic of 3.16. This characteristic was most vividly evident during the Great Financial Crisis of 2008 and the sharp recovery of 2009. The performance of the two portfolios during this tumultuous down and up period is summarized below.

Table 9
Performance of S&P 500 Companies During the Great Financial Crisis

	2008 Return	2009 Return	Cumulative Return
High ESG Portfolio	-35.63%	24.78%	-19.68%
Low ESG Portfolio	-42.15%	34.18%	-22.37%

Addressing Some Common Concerns about ESG Investing

One potential concern some investors raise regarding ESG investing is that limiting the investable universe to high ESG companies means that the investment opportunity set is reduced and that is likely to impact performance negatively.

In the analysis we presented in the preceding pages, the High ESG Portfolio's investable universe was 26% smaller, as measured by market capitalization, due to the above-the-median ESG score requirement. Despite this significant reduction, the High ESG Portfolio still performed well. So, at a practical level, this concern regarding ESG investing seems to have been a moot point historically.

Moreover, active investors have the option to incorporate ESG information in a holistic manner rather than mechanically eliminating a portion of the universe and that should reduce this concern even more for such investors.

Another concern expressed about ESG investing is that it might lead to higher tracking error relative to the broad market benchmark by introducing significant sector bets in the portfolio. An investor concerned with this issue can choose to implement ESG by investing in all sectors and within each sector favor companies with higher ESG scoring, all other things being equal. The evidence presented in this paper supports the efficacy of such an approach. By supporting companies that are progressive within their industries, investors might be able to accomplish their ESG goals without incurring significant tracking error.

Limitations of This Analysis

The analysis presented in this paper has some limitations that are worth acknowledging.

- The preceding analysis is based on one provider's dataset. Since there is no standardization regarding ESG data across dataset providers, it is possible that another dataset could have somewhat different results.
- The methodology used by Refinitiv to rank companies relative to their industry peers for Environmental and Social scoring means that it is not feasible to test the data for an absolute ESG scoring system.
- The time period analyzed here is fairly limited.
- We have analyzed ESG variables only in their summary scoring form. A more granular analysis on the 178 variables collected by Refinitiv might produce more discriminating results.

Conclusions

As ESG investing soars in popularity, it brings urgency to the need to know whether it is an opportunity to enhance investment returns or a constraint on maximizing returns. Our analysis shows that:

- ESG investing, even in a rudimentary, mechanical form as tested in this research, does not seem to constrain one's investment return potential, and
- High ESG companies seem to have lower volatility and possibly higher quality.

Further, our own experience managing stock portfolios for more than 20 years makes us believe that active investors can use ESG data to improve their assessment of the quality of companies, and use that information holistically along with other relevant information to make good investment decisions.