Is ESG Profitable? A Quantitative Study of ESG Impact on Corporate Financial Performance

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Executive Summary

This study contributes to the existing body of literature and studies the relationship between ESG aspects of corporate operations and corporate financial performance. Moreover, this study attempts to answer the question whether ESG represents a further style factor, in addition to well-known factors such as market risk, size (SMB), book-to-market (HML), and momentum (MOM).

This research shall contribute to an existing body of literature in two ways. First, the analysis is based upon equity return history over the period of 1976 – 2016, spanning the last 41 consecutive years. The continuous assessment over time is of key importance for an accurate evaluation of the link between profitability and degree of ESG engagement. Second, the methodology employed in this study accounts for mergers and acquisitions (M&A) activities. The data analysis includes not only corporations that were listed throughout the period of study, but also the successors' data for firms that merged or were acquired at some point in time between 1976 and 2016.

The aim of the sample selection procedure was to obtain pioneering ESG ratings for as many corporations as possible. As a result, four different studies were combined to derive a final sample of 93 American corporations. These pioneering works represent early attempts in the 1970s to assess ESG levels for a number of corporations based in the US. Corporate ESG performance is represented by a binary variable with two possible outcomes: zero ("good ESG") or one ("poor" ESG). As of 1 January 1976, the final sample was comprised of 44 corporations ranked high on ESG and 47 low-rated firms.

The initial ESG scores for corporations in the sample were reassessed on a yearly basis over the period 1982[1] to 2016 to account for changes in ESG performance. The ESG data for yearly reranking were obtained from different sources. From 1982 to 2006, Fortune magazine's annual surveys of corporate reputations were used for the assessment. From 2007 onwards, the RepRisk Rating (RRR)

[1] Due to lack of data, the ESG scores for corporations included in the sample could not be reassessed over the years 1976 to 1981. Thus, the initial ESG ratings were assumed to remain unchanged in the first six years of observation window.

provides a consistent measure of ESG levels for examined enterprises. RepRisk is the most comprehensive ESG risk database worldwide providing ESG scores based upon independent external sources such as media, stakeholder, NGOs, and other third-party information. RRR were available for all examined corporations throughout the years 2007 to 2016. For matching purposes, both Fortune and Rep Risk scores were converted into a binary ESG dummy variable with values zero or one with median as determining metrics in assigning the values.

Monthly total return data for listed corporations in the sample were used as metric for corporate financial performance. The securities in the portfolios were weighted equally. Portfolio rebalancing was performed at the end of each month. The monthly total return data provided by CRSP were constructed assuming a continuous reinvestment of dividends. All returns are annualized figures based upon monthly data. The data set was divided into four sub-samples. First sub-sample period covers the years 1976 – 1986, while subsequent time periods span a decade each. All calculations in this study are performed for each sub-sample, as well as for the entire period.

In addition to descriptive statistics, the differences of the time series characteristics between the securities in the sample ranked high on ESG, their low-ranked counterparts, and long-short strategy are examined using the CAPM as well as the Carhart four-factor model. In a further step, the impact of transaction cost on financial performance of portfolios with distinctive ESG characteristics and the long-short strategy is examined. Moreover, the interdependencies between the ESG, SMB, HML and MOM factor portfolios are investigated in detail.

The results indicate that ESG screens entail higher financial benefits for an investor. The securities ranked high on ESG outperformed their low-ranked counterparts in each sub-sample period as well as over the entire period examined in this study. However, this outperformance is statistically not significant. Moreover, the high-ranked portfolio was found to be less volatile, and thus, a more favorable investment choice in terms of risk-return trade-off.

The companies with better ESG records were also found to have systematically outperformed the S&P 500 by on average 3% per annum over the years 1976 – 2016 after controlling for market risk, size, book-to-market, and momentum. The outperformance is statistically significant at the confidence level of 95%. Further, the ESG "good" portfolio remains profitable even after introduction of transaction costs. However, the four-factor alpha for the long-short strategy was not statistically significant. Thus, the presented results do not provide evidence for the existence of an independent ESG style factor within the framework employed in this study.