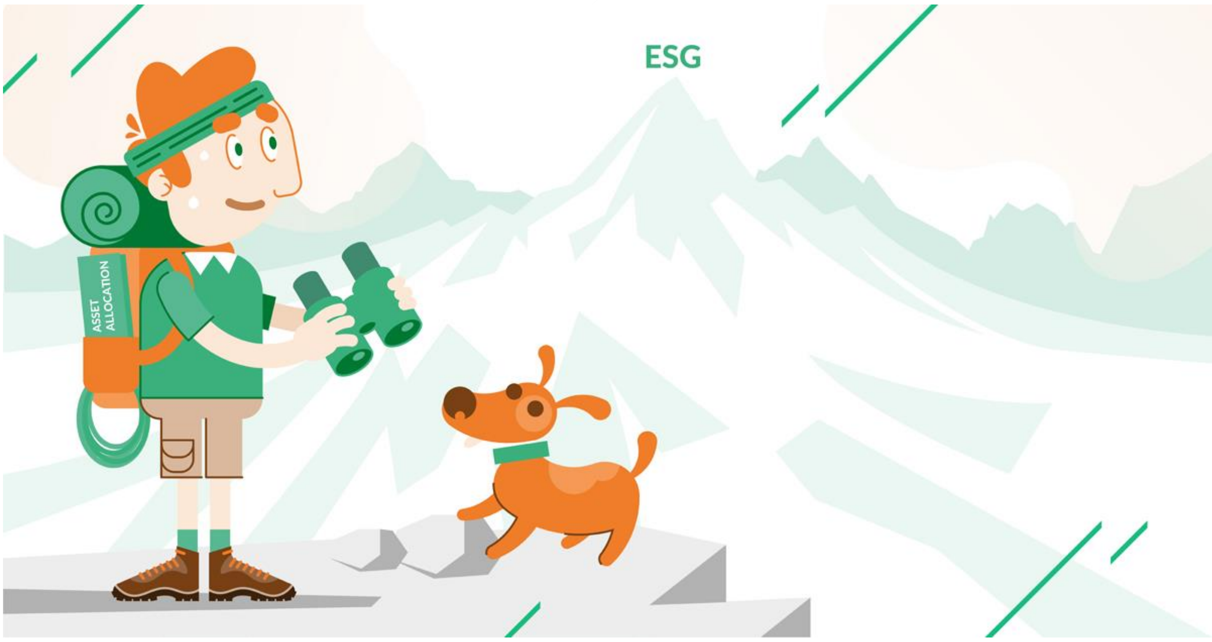

ESG Part 2: Knocking on Heaven's Door

Can sustainability drive financial and stock market outperformance?

In our first ESG article, we got into detail about why it is still unclear how to effectively measure sustainability and why this leads to varying ratings from different agencies. We argued how confusing investor perception could cause them to drop sustainability altogether in their decision making. Still, sustainability is a reality and not a marketing myth. Today, we get ourselves to the pearly gates to investigate the hypothesis that sustainability has a positive financial impact on the bottom line of companies and ultimately their stock price performance.

Socially responsible investment (SRI) introduces criteria related to sustainability into investment decisions, in contrast to classic stock selection that focuses solely on financial criteria. Sustainability criteria are nowadays commonly organized around three major themes: environmental, social and corporate governance (ESG).

SRI in all its forms has experienced growing popularity in the last decade. This interest

comes mainly from institutional investors, as public funds undergo further moral pressure toward sustainability from communities and legislators. The popularity of responsible investment has grown even more following the 2007 financial crisis that shattered the confidence of investors in financial markets and traditional investments, while triggering many new policies and rules. SRI proved to be a safer investment during dropping markets, while rewarding investors with a certain moral satisfaction, thus emerging as a seductive alternative investment portfolio approach. It is still unclear, however, how ESG criteria are linked to a firm's market performance.

In recent years, many researchers from both academia and the asset management industry have analysed the relationship between the ESG profile of companies and their financial risk and performance characteristics. In fact, research has been so plentiful that several meta studies have summarized the results of over 1,000 research reports and found that the correlation between ESG characteristics and financial performance was at first sight inconclusive: The existing literature found positive, negative, and non-existent correlations between ESG and financial performance, although the majority of researchers found a positive correlation.

The reasons for these inconclusive results likely stem from the different underlying ESG data used and the varying methodologies applied (have a look at our first ESG post "Welcome to the jungle" to understand why this is the case).

Another criticism is that many empirical studies analysing the link between ESG and financial performance do not strictly differentiate between correlation and causality. Often, a correlation between ESG and financial variables is implicitly interpreted to mean that ESG is the cause and financial value the effect, although the transmission could just as well be reversed. For instance, one can argue that companies with high ESG scores are better at managing their risks, leading to higher valuations. Alternatively, companies with higher valuations might be in better financial shape and therefore able to invest more in measures that improve their ESG profile; such investments might lead to higher ESG scores.

1. Understanding the transmission channels from ESG to financial performance

Analysing the transmission channels from ESG to financial performance is crucial in order to develop a fundamental understanding of how ESG characteristics affect corporations' valuations and risk profiles.

Profitability and cash-flow transmission channel

Let's analyse the company-specific impact of ESG on risk and performance. The firm-specific risk profile of companies is transmitted through the numerator (future cash flows) in the DCF (Discounted Cash Flow) model framework and can be broken into two separate channels: the transmission of ESG into future opportunities and therefore into profitability on the one hand, and the transmission to firm-specific downside risk protection on the other.

FORRS

Strong ESG Profile → 1. More Competitive → 2. Higher Profitability → 3. Higher Dividends

1. Companies with a strong ESG profile are more competitive than their peers. For instance, this competitive advantage can be due to the more efficient use of resources, better human capital development, or better innovation management. In addition to this, high ESG-rated companies are typically better at developing long-term business plans and long-term incentive plans for senior management.

2. High ESG-rated companies use their competitive advantage to generate abnormal returns, which ultimately leads to higher profitability.

3. Higher profitability results in higher dividends. Companies rated in the top ESG quintile were more profitable and paid higher dividends, especially when compared to bottom quintile companies. High-dividend yields play an essential role in the analysis because sustainability investors typically have a long-time investment horizon.

Risk transmission channel

The second company-specific transmission channel relates to how well high ESG-rated companies manage their business and operational risks.

The hypothesis is that companies with high ESG scores have a lower residual risk and therefore show a higher performance. Their stock prices typically show lower idiosyncratic tail risk, as outlined below:

Strong ESG Profile → 1. Better Risk Management → 2. Lower Risk of Severe Incidents → 3. Lower Tail Risk

The economic rationale for this transmission channel is explained in research by Godfrey, Merrill, and Hansen (2009); Jo and Na (2012); and Oikonomou, Brooks, and Pavelin (2012). It is summarized as follows:

1. Companies with strong ESG characteristics typically have above-average risk control and compliance standards across the company and within their supply chain management.

2. Because of better risk control standards, high ESG-rated companies suffer less frequently from severe incidents such as fraud, embezzlement, corruption, or litigation cases that can seriously impact the value of the company and therefore the company's stock price. You can call this an "insurance-like protection of firm value against negative events."

3. Less frequent risk incidents ultimately lead to lower stock-specific downside or tail risk in the company's stock price. Findings of an empirical study by Hoepner, Rezec, and Siegl (2017) also support this transmission channel. For instance, they observe that high ESG-rated companies showed statistically significant lower downside risk measures such as volatility, lower partial moments, and worst-case loss.

Valuation Channel

Studies by Eccles, Ioannou, and Serafeim (2014); El Ghoul et al. (2011); and Gregory, Tharyan, and Whittaker (2014) argue that a strong ESG profile leads to higher valuations through the following transmission process:

Strong ESG Profile	1. Lower Systematic Risk	2. Lower Cost of Capital	3. Higher Valuation

Their economic rationale is as follows:

1. Companies with a strong ESG profile are less vulnerable to systematic market shocks and therefore show lower systematic risk. For instance, energy- or commodity-efficient companies are less vulnerable to changes in energy or commodity prices than less efficient companies and therefore their share price tends to show lower systematic market risk with respect to these risk factors. Good corporate governance pays off in terms of reduced borrowing costs (i.e., credit spreads). It has been documented that certain governance measures have a significant impact on a firm's cost of debt, for example, the degree of institutional investor ownership, the proportion of outside directors on the board, the disclosure quality, and the existence of anti-takeover measures. The research almost unanimously demonstrates that good corporate governance with respect to the aforementioned measures significantly decreases a firm's cost of debt.

Studies have aslo shown that firms with superior environmental management systems have significantly lower credit spreads, implying that these companies exhibit a lower cost of debt than firms who have significant environmental concerns and therefore have to pay significantly higher credit spreads on their loans. To illustrate how an environmental disaster can affect a corporation's cost of debt, consider BP's credit spread development since the Deepwater Horizon catastrophe in April 2010. After the incident, the 10-year credit spread of BP increased eightfold!

Similar studies have shown that good corporate governance influences the cost of equity by reducing the firm's cost of equity. This is not surprising, as good corporate governance translates into lower risk for corporations, reduces information asymmetries through better disclosure, and limits the likelihood of managerial entrenchment.

2. In a capital asset pricing model (CAPM) model framework, the beta of a company has two important functions: First, beta measures the systematic risk exposure of companies (i.e., lower beta means lower systematic risk), and second, it translates the equity risk premium into the required rate of return for the individual company. Therefore, lower systematic risk means a company's equity has a lower value for beta, and therefore investors require a lower rate of return. Ultimately, this translates into a lower cost of capital for a company.

3. Finally, a lower cost of capital leads directly to the last step of the transmission mechanism: In a DCF model framework, a company with lower cost of capital would have a higher valuation.

By creating various transmission channels, ESG affects the valuation and performance of companies; the transmission from ESG characteristics to financial value is a multi-channel process from profitability to valuation and finally results in a lower overall risk profile.

2. ESG and stock market performance

Now the 100-million-dollar question remains: is this information beneficial for equity investors and is good (or bad) ESG performance reflected in a company's stock price? To answer that question let's have a look at the myriad studies which have been done on the subject. In doing so, we examine the effects of environmental, social, and governance (ESG) parameters on stock prices.

The effects of corporate governance on stock prices

The way in which the quality of corporate governance influences stock price performance has been the subject of in-depth analyses in financial economics and corporate finance literature. The research has focused on particular features of governance structures in order to review effects on profitability and financial performance. The focus has been on both external governance mechanisms such as the market for corporate control or the level of industry competition, and internal mechanisms such as the board of directors and executive compensation practices.

Probably the most prominent study on corporate governance and its relationship to stock market performance was published in the Quarterly Journal of Economics in 2003. Researchers from Harvard and Wharton showed, for the first time, that the stocks of well-governed firms significantly outperform those of poorly-governed firms. Their empirical analysis revealed that a long-short portfolio of both well- and poorly-governed firms (i.e., going long in firms with more adequate shareholder rights and short in firms with less adequate shareholder rights) leads to a risk-adjusted annual abnormal return (henceforth, alpha) of 8.5% over the period 1990 to 1999[1].

Further research supports their finding that superior governance quality is valued positively by the financial market[2]. For example, a portfolio that goes long in well-governed firms and short in poorly governed

[1] Gompers, Ishii, and Metrick (2003)

[2] Bebchuk, Cohen, and Ferrell (2010)

firms creates an alpha of 10% to 15% annually over the time period 1990 to 2001[3].

The effects of environmental performance on stock prices

Research has also documented a direct relationship between the environmental performance of firms and stock price performance. In particular, it has been demonstrated that positive environmental news triggers positive stock price movements[4]. Similarly, firms behaving environmentally irresponsibly demonstrate significant stock price decreases[5].

It has been further shown that firms with higher pollution figures have lower stock market valuations[6]. Studies have revealed that firms which are more 'eco-efficient' significantly outperform firms that are less 'eco-efficient'. In a study Derwall, Guenster, Bauer, and Koedijk investigate the stock market performance of firms that are more vs. less 'eco-efficient'. They focus on the concept of 'eco-efficiency' as a measure of corporate environmental performance. They define it as the economic value that the company generates relative to the waste it produces in the process of generating this value. In the period 1995-2003, they found that the most 'eco-efficient' firms deliver significantly higher returns than less 'eco-efficient' firms. This result holds even after accounting for transaction costs, market risk, investment style, and industries. These key findings point to a positive relationship between corporate environmental performance and financial performance. The converse relationship also holds: firms that violate environmental regulations experience a significant drop in share price, a study by Karpoff, Lott, and Wehrly (2005) provides evidence of this relationship.

The effects of social performance on stock prices

Besides the environmental and governance dimensions of sustainability, researchers have also investigated the effect of particular social issues on corporate financial performance. Perhaps the most prominent study on the social dimension of ESG and its effect on corporate financial performance is by Professor Alex Edmans, who was then at the Wharton School at the University of Pennsylvania. He investigated the '100 Best Companies to Work For' in order to check for a relationship between employee wellbeing and stock returns. His findings indicate that a portfolio of the '100 Best Companies to Work For' earned an annual alpha of 3.5% in excess of the risk-free rate from 1984 to 2009 and 2.1% above industry benchmarks[7]. The results are robust to controls for firm characteristics, different weighting methodologies, and the removal of outliers. The Best Companies also exhibited significantly more positive earnings surprises and announcement returns.

Empirical results also show international evidence on the positive relationship between employee satisfaction and stock returns. Edmans, Li, and Zhang in a study from 2014 investigate the relationship of employee

[3] Cremers and Nair (2005)

[4] Klassen and McLaughlin (1996)

[5] Flammer (2013)

[6] Cormier and Magnan (1997)

[7] Edmans, Li, and Zhang (2014)

satisfaction and stock returns in 14 countries over several different time

periods. They find that for 11 out of the 14 countries, the alphas of a portfolio of the companies with the highest employee satisfaction scores are positive. This is a highly significant finding because it indicates that alphas seem to survive over the longer term and that the market has still not yet priced in all the information regarding employee satisfaction.

Stock market performance and aggregate sustainability scores

A number of studies look at aggregated sustainability indices. For example, the addition to, or exclusion from, the Dow Jones Sustainability World Index has been found to have some effect on stock prices: index inclusions have a positive effect, while index exclusions have a negative effect on respective stock prices[8]. There is also wider evidence that exclusion from sustainability stock indices causes significant negative stock price reactions [9]. Other evidence shows that stocks of firms with a superior sustainability profile deliver higher returns than those of their conventional peers[10] and that sustainability quality provides insurance-like effects when negative events occur, helping to support the stock price upon the announcement of the negative event. It has also been demonstrated that firms experience significant positive stock price reactions when shareholder-sponsored Corporate Social Responsibility proposals (CSR) are adopted by corporations, a study by Flammer in 2014 shows for a sample of 2,729 shareholder-sponsored CSR proposals that implementing them leads to an alpha of 1.77%.

The effects of an aggregated sustainability measure have also been investigated in the context of corporate mergers and acquisitions. For example, findings of a study by Deng, Kang, and Low (2013) analysing 1,556 completed US mergers between 1992 and 2007 show that by following a trading strategy which goes long in acquirers with a better sustainability profile and going short in acquirers with a worse sustainability profile, investors are able to realize an annual risk-adjusted alpha of 4.8%, 3.6%, and 3.6% over one-, two-, and three-year holding periods respectively.

Another[11] study that relates an aggregate sustainability score to stock market performance finds that a 'high-sustainability' portfolio outperforms a 'low-sustainability' portfolio by 4.8% on an annual basis (when using a value-weighted portfolio, the results indicate an annual outperformance of 2.3%). Overall, these findings point to the possibility of earning an alpha by investing in firms with a superior sustainability profile.

Even if most studies find a positive correlation between sustainability and stock market performance, there is some evidence, albeit scarce, indicating a negative or weak relationship. A study by Brammer, Brooks and Pavelin[12], on the UK market concluded that abnormal returns were available from holding a portfolio of the socially least desirable stocks and that firms with higher social

[8] Cheung (2011)

[9] Becchetti, Ciciretti, and Hasan (2009) and Doh, Howton, Howton, and Siegel (2010)

[10] Statman and Glushkov (2009).

[11] Eccles, Ioannou, and Serafeim (2013)

[12] Brammer, Brooks, and Pavelin (2006).

performance scores tend to achieve lower returns, while firms with the lowest possible Corporate Social Performance scores considerably outperformed the market.

In essence however the following can be concluded empirically with respect to the relationship between sustainability and financial market performance:

- Superior sustainability quality (as measured by aggregate sustainability scores) is valued by the stock market: more sustainable firms generally outperform less sustainable firms.
- Stocks of well-governed firms perform better than stocks of poorly governed firms.
- On the environmental dimension of sustainability, corporate eco-efficiency and environmentally responsible behaviour are viewed as the most important factors leading to superior stock market performance.
- On the social dimension, the literature shows that good employee relations and employee satisfaction correlate to better stock market performance.

In conclusion, we can make a positive case for financial materiality by integrating sustainability into the investment process. It is not an exact science, and it does face difficulties with data availability and interpretation (as outlined in our previous ESG post). In addition, high ESG ratings translated into positive stock performance with a lower intensity than traditional factors such as momentum or low volatility (i.e., the financial impact per unit of time for ESG ratings is relatively low), but typically lasted for several years. ESG data, similar to other corporate financial information takes some time before it is fully reflected in a stock’s share price, reaffirming the hypothesis that the best time to invest for those seeking to benefit from improvements in firms’ ESG standards is before the improvement is widely recognized – and rewarded – by the market.

Finally, we should not forget what it's all about. We aim for a world operated by organizations who take into consideration their impact on humans and the environment. When these considerations also show the promise of being more profitable, then paradise awaits.

Location

FORRS Partners GmbH
Happelstraße 11
69120 Heidelberg

Contact

Luc Olinger
luc.olinger@forrs.de
+49 151 744 617 04

Digital Locations

linkedin.com/company/forrs-partners

www.xing.com/pages/forrspartnersgmbh

www.forrs.de