

## **Environmental, Social, and Governance: Risk, Return, and Cost of Constraints**

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### **Introduction**

Environmental, Social, and Governance (ESG) criteria are employed by many institutional investors as part of socially responsible investing programs. The approaches used by investors vary, both with regard to the types of criteria considered, and with regard to approach. In some instances, responsible investing objectives are implemented using screening criteria on allowable holdings. In other cases, investors may modify the benchmark used to measure a manager's performance, in order to reflect large target exposures to socially responsible firms. With either approach, it is in our interest as managers to understand both the return and risk implications of applying the ESG quality criteria.

We examine the impacts of ESG quality criteria by looking at the empirical relationship between ESG quality and various measures of corporate performance. We also investigate the relationship between ESG quality measures and stock level measures of risk. The data we use are contained in a 7 year data set on ESG ratings for a sample of over 5000 globally traded companies, produced by a commercial vendor of ESG rankings. This information is then related to firm level data on profitability (Cash Flow Return on Capital, or CROC), valuation ratios (Book-to-Price), and total returns.

### **ESG and Profitability**

Table 1 below relates the one year ahead cash return on capital to company level ESG quality scores, where the scores represent rankings from 1 (low quality) to 10 (high quality). As shown in the first regression of Table 1, there is a strong correlation between the two, with a quality differential of 9 (highest score – lowest score) being associated with a differential rate of profit of over 8% per year.

The second and third rows suggest that part of this correlation is simply proxying for high ESG quality firms displaying above average historical profitability and below average book-to-price ratios (expensive growth stocks). Even after controlling for these effects, however, there is a strong association between ESG quality and future profitability.

**Table 1: Forecast variable: one year ahead % cash return on capital CROC(t+1)**

	<b>Constant</b>	Prior Year End ESG Quality Score: <b>ESG(t)</b>	Prior Year Cash Return on Capital: <b>CROC(t)</b>	Prior Year End Book-to-Price "Cheapness" Ratio: <b>B/P(t)</b>
Factor Weight	11.34	0.96		
[T-Statistic]	[16.99]	[9.09]		
<b> </b>				
Factor Weight	2.61	0.38	0.70	
[T-Statistic]	[6.55]	[6.17]	[18.12]	
<b> </b>				
Factor Weight	4.05	0.35	0.69	-1.58
[T-Statistic]	[8.87]	[5.05]	[17.26]	[-5.36]

### **ESG and Returns**

Does the higher rate of profit on ESG quality firms translate to higher expected returns? Even if they are more profitable, there is no reason why the market should not adequately price these profits into current prices. The empirical evidence below finds little evidence of a return premium associated with ESG scores. The first regression in Table 2 shows a negative relationship between ESG scores and subsequent 1 year returns. To some extent, this finding simply reflects the fact that high ESG quality firms also tend to have higher valuation multiples. After controlling for both ESG scores and valuation multiples (B/P), the relationship between ESG quality and subsequent returns is positive but still statistically insignificant.

**Table 2: Forecasting variable: one year ahead % total return: RET(t+1)**

	<b>Constant</b>	Prior Year End ESG Quality Score: <b>ESG(t)</b>	Prior Year End Book-to-Market "Cheapness" Ratio: <b>B/P(t)</b>	Prior Year Cash Return on Capital: <b>CROC(t)</b>
Factor Weight	14.09	-0.47		
[T-Statistic]	[1.63]	[-0.93]		
<b> </b>				
Factor Weight	-15.52	0.74	37.57	
[T-Statistic]	[-1.76]	[1.16]	[4.51]	
<b> </b>				
Factor Weight	-24.10	0.42	40.63	0.49
[T-Statistic]	[-2.51]	[0.75]	[4.91]	[4.83]

### **ESG and Risk**

Because high ESG quality firms tend to be more profitable and trade at higher valuation multiples than low ESG firms, one might expect these firms could also display lower risk characteristics and possibly face a lower cost of capital. To investigate this possibility, Table 3 looks at the relationship between ESG quality scores and various measures of systematic risk. The first four measures are beta coefficients with respect to 3 common sources of volatility, the return differentials between global equities-cash, value stocks-growth stock, small cap stocks-large cap stocks, and emerging market stocks-developed market stocks. Although there is some evidence that high ESG quality firms have lower exposure to the risks of volatility in the return differential between emerging and developed stocks, the effect is small. The other sources of beta risk are no lower for high ESG quality firms than for low ESG quality firms.

Table 3: Explaining Risks with ESG

Dependent Variable		Constant	Year End ESG Quality Score: <b>ESG(t)</b>
<b>Market Beta (t)</b>	Factor Weight	0.84	0.024
	[T-Statistic]	[21.75]	[4.26]
<b>Value Beta (t)</b>	Factor Weight	-0.17	0.034
	[T-Statistic]	[-3.27]	[4.04]
<b>Small-cap Beta (t)</b>	Factor Weight	0.62	0.011
	[T-Statistic]	[9.48]	[1.20]
<b>Emerging Beta (t)</b>	Factor Weight	0.76	-0.120
	[T-Statistic]	[16.63]	[-20.15]
<b>Absolute One Quarter Ahead % Return:  RET(t+1) </b>	Factor Weight	12.95	-0.11
	[T-Statistic]	[13.34]	[-1.43]

### Alternative Approaches to Responsible Investing

Two common approaches that institutional investors employ as a way of pursuing socially responsible investment objectives include:

- 1) selecting a performance benchmark for the manager which is based on a portfolio of companies that meet some ESG quality screen, and
- 2) imposing holdings based restrictions that limit a manager's investment universe to companies that pass an ESG quality screen.

Broadly speaking, we believe that the approach of applying an ESG based benchmark with a core (unscreened) investible universe is preferable to the alternative approach of imposing a restricted (ESG screened) investment universe to an otherwise core mandate. If a manager knows what he's doing, the first approach allows a manager to achieve a desired level of ESG quality at the portfolio level, while also allowing the manager to make some marginal tradeoffs to exploit extreme return or risk improvements in exchange for some sacrifice in ESG quality. The second approach implicitly assumes that the marginal intolerance of any reduction in ESG quality is infinitely large.

## Conclusions

ESG quality is:

- Correlated with high future profitability
- Correlated with high current valuation
- Uncorrelated with risk
- With no clear evidence on return predictability

If the investment manager understands the return and risk implications of ESG quality:

- Responsible investment constraints never help
- Current costs of the constraint can be evaluated
- Alternative benchmarks can be evaluated