

Senior Thesis Description

A Preliminary Study of European ETFs and Mutual Funds

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Acronyms

ESG Environmental, Social, Governance

SRI Socially Responsible Investing

CSR Corporate Social Responsibility

ETF Exchange Traded Fund

ROE Return on Equity

Introduction

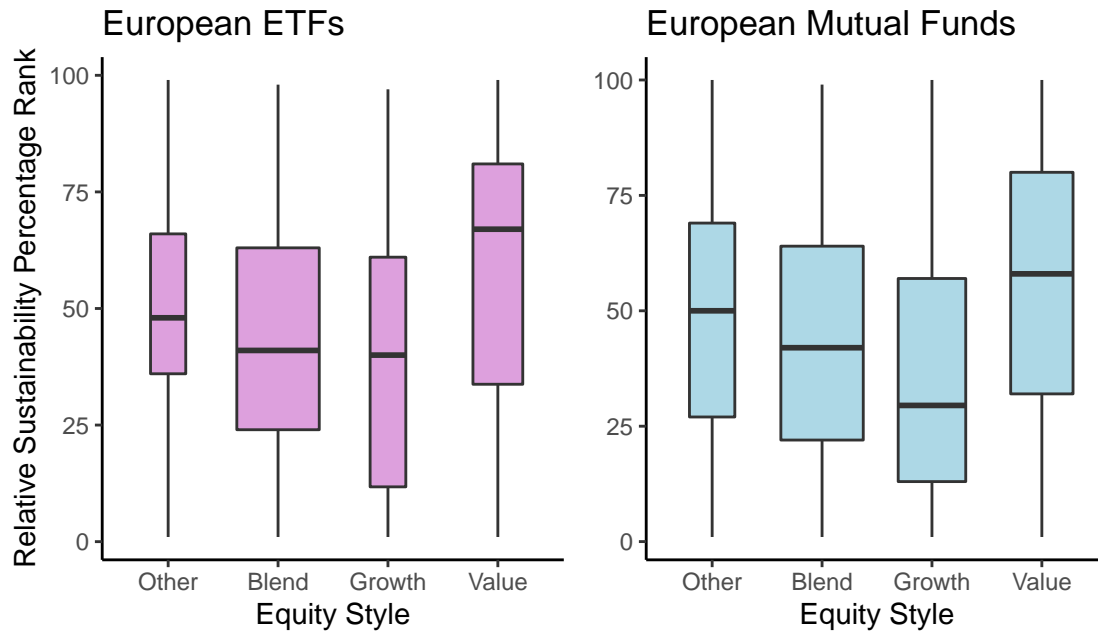
Investors who seek funds with high ESG/SRI ratings can consider sustainability and CSR in many different ways. One of the most common frameworks is profit-driven, and is predicated on the notion that investments with high ESG and SRI ratings will outperform the market as a result of their commitment to ESG values. Another approach factors in ESG performance as a side-effect of the investment, and these investors are willing to yield lower returns as a consequence of their holdings' higher ethical standards and reduced impact on the environment. Recent influxes of millennial and first-time investors signal a shift in traditional market dynamics, and it is important to understand how these trends may impact market sentiment towards ESG/SRI themed investments.

For my thesis, I hope to look at whether or not there is

Load Packages & Data

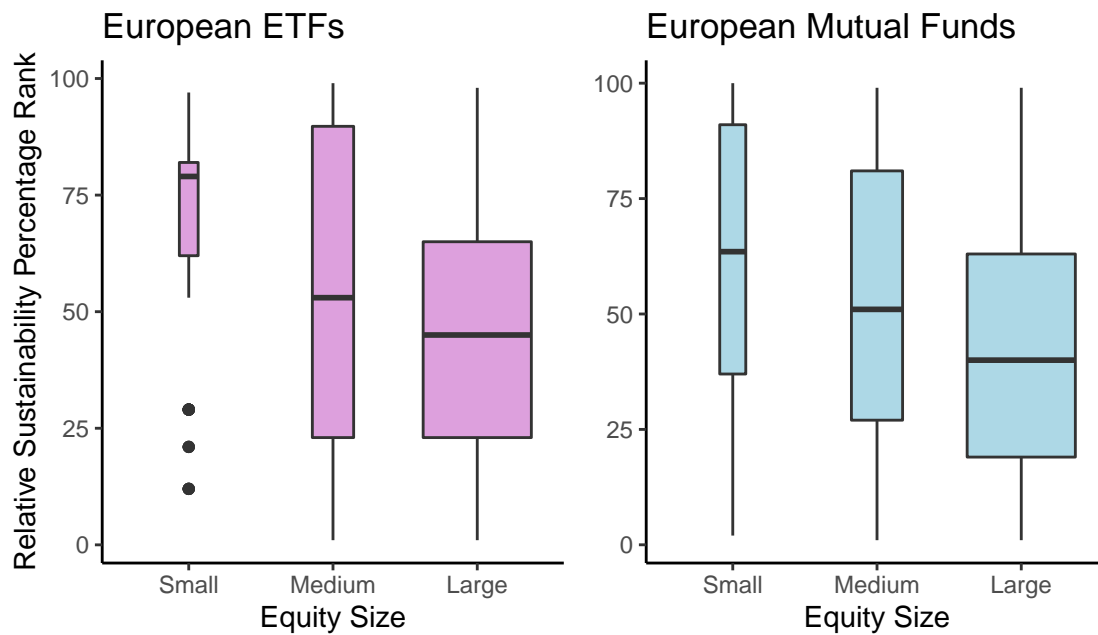
Equity Style vs. Sustainability Percentile

Data From Morningstar Analytics



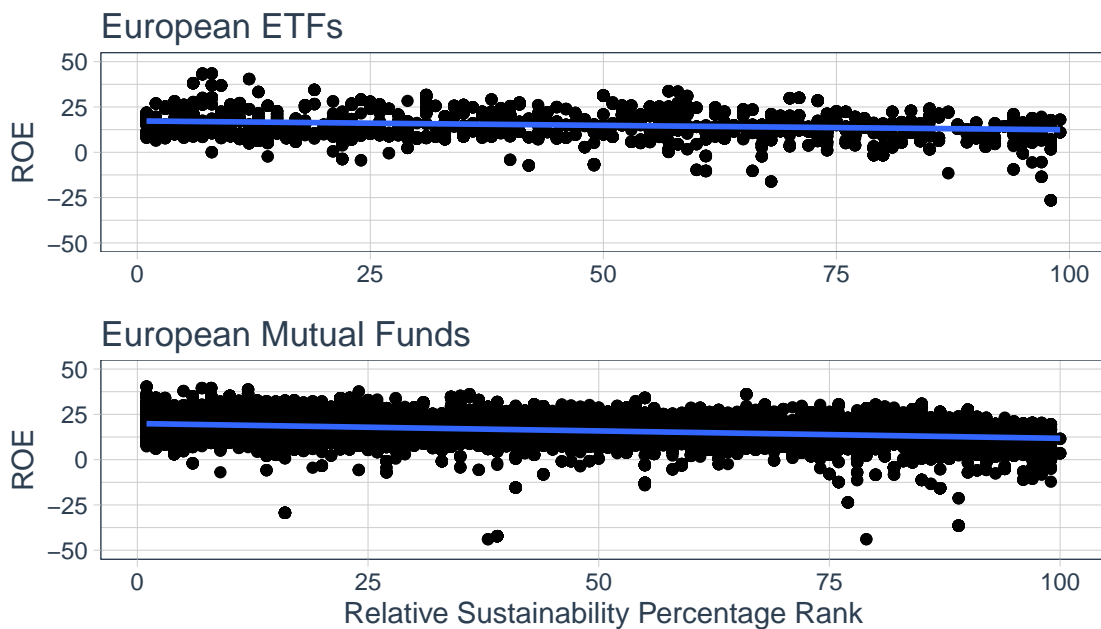
Equity Size vs. Sustainability Percentile

Data From Morningstar Analytics



Sustainability Percentile vs. Return on Equity (ROE)

Data From Morningstar Analytics



$$ROE = \beta_0 + \beta_1 \text{ SustainabilityScore} + \epsilon$$

We want to evaluate β_1 in the above statistical model. Our null hypothesis will be that a fund's sustainability rating does not correlate with the fund's ROE.

$$H_o : \beta_1 = 0$$

Our alternative hypothesis will then be that a fund's sustainability rating does correlate with the fund's ROE.

$$H_a : \beta_1 \neq 0$$

This hypothesis test does not seek to establish a causal relationship between a fund's sustainability score and its ROE. Rather, the results should indicate whether or not there is a positive, nonexistent, or negative relationship. This will provide support for a later discussion of the possible mechanisms which correlate an investment's sustainability rating and its financial performance.

Table 1: Prediction of ROE given Sustainability Rating for ETFs

term	estimate	std.error	statistic	p.value	conf.low	conf.high
(Intercept)	31.106	0.602	51.658	0	29.926	32.287
sustainability_score	-0.682	0.025	-27.330	0	-0.731	-0.633

Table 2: Prediction of ROE given Sustainability Rating for Mutual Funds

term	estimate	std.error	statistic	p.value	conf.low	conf.high
(Intercept)	33.620	0.306	109.831	0	33.020	34.220
sustainability_score	-0.736	0.013	-57.877	0	-0.761	-0.712

References Cited:

Data Source: <https://www.kaggle.com/stefanoleone992/european-funds-dataset-from-morningstar>