NORTHERN TRUST

UNDERSTANDING ESG RISK EXPOSURES

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Investment products attempting to match investors' views on environmental, social, and governance issues ("ESG") with corporate behavior have been gaining in popularity. Historically a concern for religious and non-profit organizations, recent retail interest has driven asset flows into the category.

There are three main types of ESG investments. Preferential investments rely on ESG ratings systems that score companies or funds, and attempt to build diversified portfolios with a higher positive exposure to selected issues. Exclusionary funds avoid exposure in certain areas, for example tobacco or fossil fuels. Impact funds invest in sectors or firms that have direct exposure to specific ESG mandates. Because impact investments are frequently less liquid and can have idiosyncratic return characteristics they are not included in this discussion.

Portfolios that exclude sectors are making active portfolio allocation decisions. As active investment strategies it is likely that these exclusions change the risk profile of the portfolio. It is less clear how portfolios that rely on ESG ratings are affected, but it is logical that certain sectors will score better based on business fundamentals. Companies with more free capital and internal resources have a better opportunity to address social and governance issues that impact the generalized systematic ESG scores. There is anecdotal evidence that this is true, suggesting that portfolios relying on rating systems may skew away from companies with exposure to manufacturing, commodities, or transportation, and toward companies in areas like technology or healthcare. These tend to be larger and growth companies.

DATA AND METHOD

We can test this hypothesis using the Fama-French five factor model, which attributes equity return behaviors to five common risk factors including market, size, value, profitability and investment. Profitability and (low) investment factors are proxies for quality, as quality firms are highly profitable and need relatively low investment to maintain their profitability. For consistency and brevity we will limit our analysis to U.S. equity mutual funds. We look at the five-year period ending June 2020 because this gives us the largest possible pool while also making sure there are enough data points to make the analysis statistically meaningful.

Using data from Morningstar we divided a universe of 934 U.S. equity mutual funds into three categories: funds that have an ESG mandate but do not use exclusions, funds that have an ESG mandate and employ exclusions, and funds that do not have an explicit ESG mandate as a benchmark. Each of these groups was further separated into active and passive categories to examine whether an active focus on ESG presents different results than the rote imposition of predefined standards or scores.

PASSIVE STRATEGIES

First we look at passive equity ESG investments. These funds typically start with a traditional index, then overlay some ESG scoring system. They rely on systems that score companies based on predefined methodologies, then sum the individual company scores to the portfolio level, finding a maximum ESG score while limiting tracking error. These strategies may also include broad, formulaic exclusionary screens.

To determine whether these scoring systems impact portfolio exposures we compare them to non-ESG passive funds. Exhibit 1 shows that, on average, the passive implementation of ESG considerations decreases exposures to size, value, profitability, and investment factors relative to non-ESG passive funds. The r-squared across all three categories is very high indicating that these factor betas explain nearly all of the return variation of these funds.

EXHIBIT 1: FACTOR EXPOSURES OF PASSIVE ESG STRATEGIES

Passive Funds

Sources: Northern Trust Research, Kenneth French Data Library, Morningstar

The smaller exposure to size is evidence of increased exposure to large cap companies for the two ESG categories. Similarly the lower value betas are evidence of increased exposure to growth companies. The lower profitability beta is an indication that the companies in passive ESG funds have lower operating profitability.

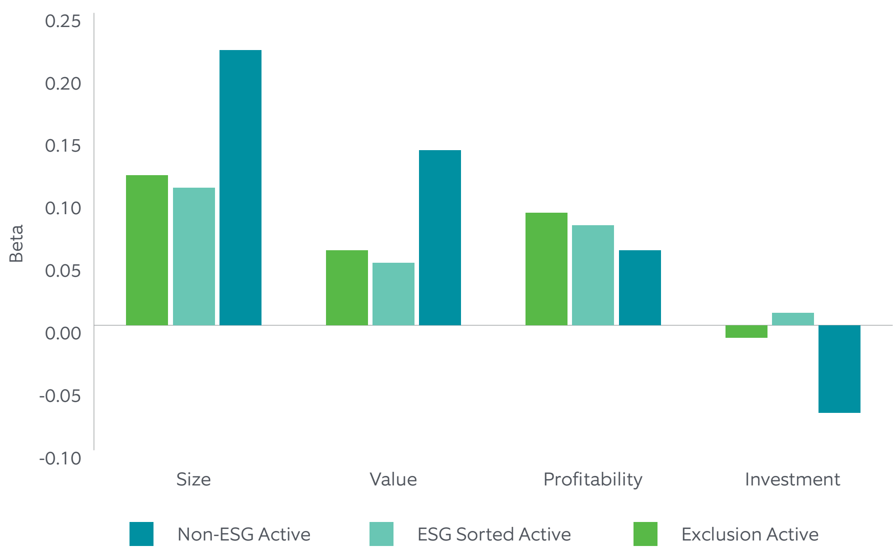
ACTIVE STRATEGIES

ESG implemented in an active strategy typically goes beyond using third-party ratings. Managers look into company charters and operations, environmental impact, and other issues that may be specific to the fund. This allows them to undergo a more nuanced and thorough analysis of fund holdings.

To examine whether these methods impact portfolio exposures we compare them to non-ESG actively managed funds. Exhibit 2 shows that, on average, the implementation of ESG considerations in active portfolios decreases exposure to size and value, and increases exposure to profitability and investment factors (i.e. to quality). The r-squared is also very high for actively managed funds.

EXHIBIT 2: FACTOR EXPOSURES OF ACTIVE ESG STRATEGIES

Active Funds



Sources: Northern Trust Research, Kenneth French Data Library, Morningstar

There is slightly more of a large-growth orientation in active ESG funds than passive ESG funds, and the active funds show more exposure to profitability. This is possibly the result of active managers relying on their own research and instead of standardized ratings, selecting companies based on what they see as proactive company level investment in ESG initiatives.

How do these differences affect returns? Exhibit 3 shows that based on beta exposures ESG strategies should have outperformed over our 5-year ESG fund evaluation period. The factor exposures in ESG funds have provided a recent performance advantage, however, over a longer time horizon the performance advantage disappears.

EXHIBIT 3: FIVE AND TWENTY YEAR FACTOR RETURNS

Strategy	5 Year	20 Year
Exclusion Passive	8.5%	4.7%
Sustainable Passive	8.6%	4.7%
Non-ESG Passive	7.4%	5.7%
Exclusion Active	7.9%	5.4%
Sustainable Active	8.1%	5.4%
Non-ESG Active	6.6%	5.3%

Sources: Northern Trust Research, Kenneth French Data Library

None of the funds in the ESG peer group presented statistically significant alpha, and the average r-squared was very high for all categories. Therefore, any observed difference in performance compared to non-ESG funds is fully explained by the difference in the mix of factor exposures.

The decision to invest in ESG qualified funds is driven by many considerations, some of them quite personal. The imposition of a broad screen or rating scheme based on non-traditional investment considerations is likely to have unintended effects on underlying exposures. Knowing what exposures you are getting is critical in evaluating performance. We have shown that on a factor weighted basis ESG funds do not perform better or worse than non-ESG funds, but they do have inherent factor concentrations that are important to understand.

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