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ESG and alpha: A look inside the numbers

Investment strategies with an environmental, social, and governance (ESG) dimension are growing in popularity. According to the Global Sustainable Investment Alliance, the global assets held in ESG-screened investments more than doubled between 2012 and 2018, to $26.3 trillion from $12.3 trillion.

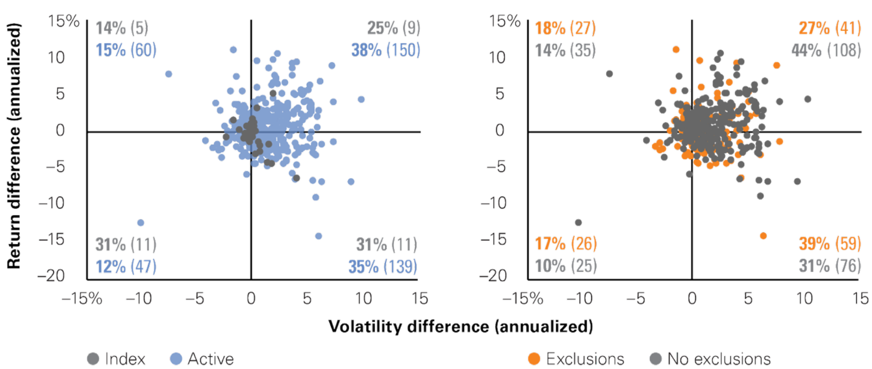
As interest in ESG investing increases, both individual and institutional investors may wonder about the impact a shift to such investments would have on their return expectations. Have Investors Paid a Performance Price? Examining the Behavior of ESG Equity Funds, a research paper published by Vanguard Investment Strategy Group's Jan-Carl Plagge and Doug Grim in *The Journal of Portfolio Management* examines whether ESG equity fund strategies come with a cost in the form of lower expected returns, higher volatility, or both.

ESG fund performance varies

Mr. Plagge and Mr. Grim looked at ESG mutual funds and ETFs focused on U.S.-listed stocks and investigated differences in their gross returns and volatility (standard deviation of returns) over a 15-year period compared with the FTSE USA All Cap Index. They distinguished between index and active funds and between funds that apply explicit exclusions and those that do not. Dividing the sample period into three five-year periods, they found a high level of dispersion for both risk and return among ESG strategies. (See chart below).

"We found funds with higher returns and higher risk, lower returns and lower risk, higher returns and lower risk, and lower returns and higher risk than their investment universe," Mr. Grim said. "Overall, our findings suggest that ESG funds have neither systematically higher nor systematically lower raw returns or risk than the broader market."

ESG funds produce mixed risk and return results versus the broad market



Notes: The data points reflect the annualized five-year standard deviation and gross return of each fund minus the broad U.S. equity market as proxied by the FTSE USA All Cap Index. ESG fund categories include index funds, active funds, exclusion based, and nonexclusion based. The figures include data of three five-year periods: January 2004 to December 2008, January 2009 to December 2013, and January 2014 to December 2018. The numerical values in each quadrant represent the share (%) and number (x) of ESG funds—time period combinations in each category that fall into the respective quadrant. Figures may not sum to %100 due to rounding. Past performance is no guarantee of future returns. ***The performance of an index is not an exact representation of any particular investment because one cannot invest directly in an index.***

Source: Authors' calculation based on data from Morningstar, Inc.

Do ESG funds deliver alpha?

The authors then tried to identify potential alpha across these strategies. To control for factor tilts, they evaluated the performance of ESG strategies against that of each of the factors in the Fama-French five factor model: market, size, valuation (value/growth), profitability (quality), and capital investment.

The market factor proved, as one would expect, highly significant across the entire fund universe. The influence of style factors, on the other hand, was much less consistent. Some ESG funds had statistically significant and positive exposures to a given factor, while others had a significant but negative exposure to the same factor—and some had no noteworthy exposure to that factor at all.

Many of the funds performed quite differently compared with the market-capitalization-weighted U.S. equity market. "However, after controlling for the impact of known sources of risk—that is, market- and style-factor exposures—the majority of ESG funds did not produce statistically significant positive or negative gross alpha," Mr. Plagge said. "Return and risk differences of ESG funds can be significant, but they appear to be mainly driven by fund-specific criteria rather than a homogeneous ESG factor."

Because ESG funds often favor new technologies and avoid certain sectors, such as those relating to fossil fuels, the researchers were interested in the effects of such systematic deviations in industry exposures. Funds in the sample tended to be slightly underweighted in finance, energy, minerals, and consumer services and slightly overweighted in health and technology. However, the authors found the effects of these deviations on relative fund performance to be very small in median terms when sampled on a quarterly basis across the 15-year period with all funds observed.

Mr. Grim and Mr. Plagge then calculated net (after cost) alphas and analyzed their relationship to expense ratios. There was again a significant dispersion in the results (See chart below). Consistent with other research, higher expenses generally were associated with lower (or negative) net alphas.

Higher ESG fund management expenses tend to be associated with lower net alpha

Notes: Relationship between net alpha and average over monthly expense ratios. Mostly expense ratios are calculated as the difference between gross and net returns. The exhibit includes data from the five-year periods: 2004 to 2008, 2009 to 2013, and from 2014 to 2018. Funds are those focused on U.S. equities using ESG as a factor in their investment process, as identified by Morningstar. Benchmark is FTSE USA Equity All Cap.

Sources: Vanguard calculations based on data from Morningstar, Inc.

Key takeaway

There is a lot of variability in the way ESG strategies perform. "Given these differences in risk-return outcomes and the high degree of heterogeneity in the construction and management of ESG funds," Mr. Grim said, "investors should assess potential investment implications on a strategy-by-strategy basis."

Notes:

- All investing is subject to risk, including the possible loss of the money you invest.
- ESG funds are subject to ESG investment risk, which is the chance that the stocks or bonds screened by the index sponsor for ESG criteria generally will underperform the market as a whole or that the particular stocks or bonds selected will, in the aggregate, trail returns of other funds screened for ESG criteria.
- Figures are as they appear in *The Journal of Portfolio Management.*