CAPTURING THE RISK PREMIA OF ESG

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It’s one thing to have a hunch that companies that score well on environmental, social, and governance criteria generally perform better over time. It’s another to prove it and build it into your active models.

The last decade has seen a major evolution in the concept of what was once termed socially responsible investing. That can be ascribed partly to rising global awareness of the severe challenges that the world faces as a whole and partly to a fundamental shift in market perception as more and more investors have begun to contemplate the implications of those challenges for risk and return.

The preferred term for this type of investing now goes by ESG, for environmental, social and governance investing. And investment strategies that leverage ESG data have grown increasingly sophisticated. At first, investors who wanted to invest ethically simply screened out bad actors, excluding from their portfolios the shares of companies that they believed were harming the planet, treating their employees poorly or operating opaquey. The motivation was clear: Avoid or minimize exposure to objectionable companies and controversial products. But over the years, a different, more analytical...
approach has come to the fore, one that examines companies more closely for their ESG performance and seeks to invest in those that are most proficient in their ESG-related practices.

The sheer growth in assets under management bears out how popular ESG investing is becoming among the world’s institutional investors. This suggests two interconnected phenomena. First, the very companies that do ESG well are seeing their shares in greater demand. And second, consequently, any investor who does not take into account ESG factors may be missing a piece of the mosaic that makes up shareholder returns.

Recently, State Street Global Advisors (SSgA) undertook a project that was vital to bringing ESG up to the best-practice standards of modern asset management. It’s true that one could simply pick the stocks of companies that are strong in ESG areas and, if done in a sector-neutral way, as shown in Figure 1, deliver equivalent market beta. But when you’re managing billions of dollars for sophisticated institutions and seeking to add value over the benchmark, you need quantitatively rigorous methods that are scalable, systematic and, above all, measurable. We had our hunches about the ways ESG performance was influencing returns. We then set out to incorporate them into the quantitative models we already use to build equity portfolios that can deliver excess returns to clients.

It has proven to be easier said than done. The headline results have been inconclusive. But when you’re managing billions of dollars for sophisticated institutions and seeking to add value over the benchmark, you need quantitatively rigorous methods that are scalable, systematic and, above all, measurable. We had our hunches about the ways ESG performance was influencing returns. We then set out to incorporate them into the quantitative models we already use to build equity portfolios that can deliver excess returns to clients.

The Hard Part

Our project began with a set of questions: Are ESG rankings representative of the quality of a company? Does good ESG performance contribute to superior investment returns? How does ESG correlate with other sources of alpha? How are these relationships likely to evolve over time? How beneficial is ESG in terms of minimizing the downside risk of active strategies?

Good in Theory

A compelling logic informs the ESG investment thesis, one grounded in the firm belief that value creation is influenced by more than financial capital alone. Outperformance can arise from value-creating ESG activities (e.g., developing and successfully marketing a more cost-effective wind turbine or more drought-resistant, higher-yielding crop strain), but it should also be traceable to a type of stock-specific risk across a broad spectrum of the market. On the broadest level, when a company does well in ESG areas, it should be an indication that the company is well managed, and the shares of well-managed companies tend to outperform over time. At a more granular, operational level, ESG may act as a kind of proxy for efficiency and stability. A manufacturer that conserves energy will reduce materials expenses, decrease emissions (and related regulatory costs) and boost its operating margin. A mining company is less likely to suffer from regulatory and legal liabilities and higher costs of capital if it minimizes its hazardous releases and reduces injury rates. Both the manufacturer and the mining company would bolster their reputations and protect their franchises.

The burgeoning awareness of ESG’s links to economic performance has made ESG one of the fastest-growing trends in the asset-management industry. When the United Nations created the Principles for Responsible Investment in 2006, about two dozen institutions representing $4 trillion in managed assets signed on to commit to integrating ESG issues into their investment process. Since then, the numbers have exploded to more than 1,200 institutions representing some $45 trillion, or 15 percent of the world’s investable assets.1 Year over year, growth for ESG assets has consistently outpaced growth in total assets under management. A recent report estimated the market in the United States to be $3.7 trillion at the end of 2012, 22 percent more than in 2010.2

Figure 2: Information Coefficient1 for Developed Markets ESG Factor

Source: FactSet, MSCI and SSgA as of June 30, 2014.

1 The Information Coefficient (IC) measures the predictive power of a quantitative stock selection model. An information coefficient (IC) of 1.0 indicates a perfect linear relationship between predicted and actual returns, while an IC of 0.0 indicates no linear relationship.

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THE ESG FACTORS OF THE FUTURE

In our work to date, we’ve been testing whether companies with high ESG scores, as produced by the data provider MSCI, offer a signal of outperformance. But as much as investors have advanced their approaches to using ESG information, the field is still young, and more uniformity on the ESG elements most economically meaningful to a given industry is needed to reduce friction and improve the state of the art. For example, in an industry like information technology, where human capital is so essential to R&D, is it possible to correlate existing measures of employee retention and engagement with productivity and growth? Or in consumer-products industries, is it possible to correlate supply-chain ESG risks—outsourced manufacturing that occurs in countries with poor child-labor records, for example—to lower long-run costs of capital and regulatory costs?

Project Delphi is a collaborative venture sponsored and managed by SSgA, drawing on a wide range of asset managers, asset owners, brokers and specialist research houses, with the goal of establishing the next generation of relevant ESG factors. In effect, the project attempts to create an open-source platform (the MSCI data is proprietary, after all) that will enable users to discern and continuously evolve the ESG factors most fit for purpose.

Of course, to develop any open source, a certain amount of consensus must first be reached. Walk on to any asset management floor today and you will hear multiple theories on how beneficial ESG analysis really can be when it comes to determining value. Project Delphi’s goal is try to bridge those differences and develop a common industry-specific framework that allows the investment community to move beyond if and focus more on how.

The Project Delphi output has far-reaching potential as an investment tool. Ultimately, it should provide a series of arguments that we can populate with data and quantitatively analyze, validating and extending our work on our quant models. Fundamental analysts may use the output from Project Delphi to refine their valuation models. Others may leverage it in company engagement around disclosure on these key factors. A beta draft will be released in late 2014, and upon completion, the Project Delphi framework will be made fully available to the public domain.

In our search for answers, we endeavored to enhance our quantitative-equity model so that it would provide a meaningful weight to high ESG stocks and deliver a better risk-adjusted investment outcome.

The first step was to test the ESG thesis using advanced statistical methods. A good data set is the cornerstone of any such effort, and for that we turned to MSCI.

The financial data provider has scored thousands of companies around the world based on a bottom-up assessment of their ESG performance. The scores are industry-specific. Hence, a pharmaceutical is compared only to other pharmaceuticals and a bank only to other banks. Most important, the ratings are based on the handful of currently accepted financially material ESG issues in that industry, a critical departure from a binary perspective of company behavior or its products. The scores are graded on a scale akin to those used by credit-rating services: triple-A for the strongest ESG performers, all the way down to triple-C for the laggards. SSgA has amassed 10 years of ratings history.

These scores were the starting point for the back testing necessary to gain a sense of whether ESG is predictive in forecasting future returns. In one of our methods, we compared ESG rankings to future returns at a stock level, hunting for correlations between the rank and the returns. Additionally, we created a series of hypothetical portfolios, one containing only triple-A companies, another only double-A, and so on, down through MSCI’s grading scale. Then we compared the performances of those portfolios through time.

Of course, when building quantitative models in any context, back testing is never enough. We have to understand why a variable looks to have been predictive in the past to determine whether there has actually been cause and effect. And we have to gauge whether it’s likely to keep working in the future. Intuition plays an important role in structuring the analysis and interpreting the results.

The results of the back testing were encouraging. Something about ESG seemed to have an effect on risk-adjusted returns. There was one major caveat, though: limited history. The assumption has always been that ESG factors offer a long-term signal of unpriced externalities. But because the MSCI ESG ratings only go back to 2004, the amount of historical information is low. This time-series problem is compounded by the fact that MSCI updates its ratings annually. Other model factors, drawn from company reports or sell-side analyst forecasts, change much more frequently, sometimes daily. Hence, with stock prices also moving continuously, correlations are clearer. With a static variable like the ESG scores, it’s more difficult to determine whether a cause-effect
relationship really exists. There’s too much noise for the signal to overcome. (See “The ESG Factors of the Future,” page 36.)

There are ways, though, to bring the signal forward. For one thing, we found that ESG provides a relatively strong signal in certain geographic markets—in Scandinavian countries, such as Denmark and Sweden, in particular (Figure 2). This stands to reason. In those markets, social responsibility and environmentalism are a deeper part of the fabric of society, and the regulatory environment is more pro-ESG.

But, of course, we wanted our model to work across many geographic markets. So we began examining the weighting assigned to ESG in the model. We had to be careful here. While dialing up the weighting can certainly make the signal stronger, it’s important for the integrity of the model that any such adjustments be proportional to ESG’s effectiveness relative to existing variables that are long proven to be predictive, such as valuation, price momentum and balance-sheet health.

Ultimately, we settled on a weighting of 10 percent, as anything less muted ESG’s effect and anything more seemed to distort its place relative to the other more established factors. We also removed all triple-C-rated stocks from the portfolio, a common practice in ESG-screened portfolios that effectively removes a lot of ESG tail risk without overly restricting the opportunity set. Together, these two approaches gave us the discernible signal we were looking for. As it happens, it also produced a portfolio with a meaningful enough tilt relative to comparison benchmarks to satisfy those clients looking for an ESG slant to their portfolios. As an example, the MSCI Emerging Markets Index (MSCI EM) is one of the benchmarks we use as a comparison for our quant-model portfolios. The standard MSCI EM has an ESG rating of 53 using our methodology. With the 10 percent ESG weight and removing all triple-C-rated stocks, the ESG exposure pushes above 58.
A Different Kind of Quality

Having established the right weighting, the signal was now coming in clear. On a time-varying basis, we could see that ESG portfolios were predictive of above-benchmark risk-adjusted returns. Still, we had a problem: The effect produced by ESG correlated positively with some traditional measures of corporate quality that have also been shown to signal future outperformance—namely, those metrics related to a company’s operating efficiencies (e.g., return on equity, or ROE) and solvency (e.g., debt to equity), as well as its propensity to manipulate its reported quarterly earnings numbers (sometimes referred to as the accrual concept variable). Figure 3 shows the relationship between high- and low-ESG-rated stocks and the MSCI All-Country World Index (MSCI ACWI) Index of Return on Equity. As can be seen, triple-A-rated ESG stocks tend to have a higher ROE, while triple-C stocks have more variable and cyclical ROE. This suggests that ESG and ROE are working at roughly the same time, which naturally raised the question of whether ESG really provides independent predictive power on its own or is it simply another way of capturing the more established factors.

But, again, this is where intuition comes into play. In one sense, the overlap was to be expected. The ESG investment thesis, after all, is based on the belief that a strong ESG score should be a quasi-quality measure, and quality companies tend to do well when investors flock to safe havens. The charts show that highly rated ESG stocks weathered the 2008–2009 financial crisis more effectively, seeing their ROE fall by less than that of the triple-C’s. Likewise, ESG also correlates to capitalization, as larger companies tend to have higher ratings due to more robust ESG management systems and disclosure. However, as we looked more closely at the data, we determined that ESG doesn’t perfectly correlate with the efficiency and solvency metrics, suggesting that it must be operating independently. The results tell us that ESG is a quantitative measure of quality, but it’s a different flavor of quality: It captures a set of hard-to-measure corporate characteristics that are reflective of a management quality not reflected in traditional quality measures. Our research showed that capturing these characteristics, in turn, reduces a portfolio’s risk relative to one produced by a model without ESG. And this effect is particularly pronounced in “risk-off” markets, further buttressing the quality and counter-cyclical argument for ESG.

Moving Forward

By the end of this process, we were ready to take ESG out of the lab and into the real world of our client portfolios, where it is operating today. Every time we run the models now, they yield rankings of stocks based in part on their ESG scoring. As with all of our models, we then cross-reference that list with the portfolio’s strategy document, which sets limits on the amount of exposure a fund can have to an individual company, country or sector. And throughout, ESG’s predictive power remains discernible and discreet. It’s embedded in there.

But in many ways, the live portfolio is the final and most rigorous test stage. Just because the weighting of ESG is at 10 percent today, and its effect on the overall risk-adjusted returns on the portfolio is relatively small, that doesn’t mean that’s where it will always be. One of the jobs of the quants is to constantly scour for fresh types of predictive information, for new ways to fine-tune the signals that can help our models evolve and maintain their edges. And that’s another reason why ESG factors are so exciting. They represent new variables that have, as our work has shown, burgeoning predictive potential.

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