

Saturday, April 27, 2024

INSIGHTS FROM
CFA SOCIETY SINGAPORE

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How should investors assess climate transition risk in their portfolios?

Firms with strong environmental practices are better positioned to navigate changing regulations, consumer preferences, and market dynamics

FINANCIAL markets are among the most effective tools we have to fight climate change, and the net-zero transition will require trillions of dollars in annual investment between now and 2050, according to analysts.

While that's certainly an impressive number, given specific climate exposure-related mandates, investors at this stage want to understand the risk and return dynamics reflected in a company's environmental score. So, how can investors assess climate transition risk in their portfolios?

Both to answer this question and to better understand the relationship between stock returns and a company's carbon emissions, I conducted a comprehensive analysis of MSCI Europe returns from 2007 to 2022 that incorporates supply-chain related Scope 3 emissions. The study had two intriguing findings.

Timeframes matter

First, simply adding one or two years to a sample period can dramatically change the results.

Many previous climate finance studies only covered bullish market cycles. Sustainable investments in Europe performed well between 2010 and 2021, for example. But if we extend the time frame to year-end 2022, thus incorporating the energy crisis that followed Russia's invasion of Ukraine, that "green" alpha evaporates.

Even before the pandemic, amid disappointing energy sector returns, investors had redirected their capital from old economy stocks to their new economy counterparts.

Then, several years of insufficient capital expenditure investment contributed to an energy supply deficit that only manifested when the global economy transitioned into the post-pandemic recovery phase. The war in Ukraine further exacerbated this, causing a huge spike in energy prices.

Following the global financial crisis, monetary policy dominated the financial landscape. Low or negative interest rates and quantitative easing helped create bubbles in certain assets. The lower-for-longer interest rate environment pushed growth stocks – with their longer-term cash flow horizons relative to value stocks – to overshoot.

Glamour stocks – think Tesla – soared as old economy stalwarts, with their tendency to generate higher emissions, sputtered. To put this in perspective, long-term cash flows are now discounted at over 5 per cent. Before 2020, the norm was below 1 per cent.

One possible explanation is that other variables



There is evidence of a positive relationship between a company's greenhouse emissions and the perceived risk associated with that company. PHOTO: BT FILE

correlate with the "green minus brown" (GMB) factor – that is, the difference in performance between low-emissions and high-emissions companies.

According to my analysis, the "high minus low" (HML) factor – the spread in returns between companies with a high book-to-market value ratio and those with a low one – has a moderately negative correlation to the GMB factor.

Since the HML factor's style is more value than growth, the GMB factor may have more of a correlation with growth stocks.

This makes intuitive sense: after all, green portfolios tend to be a combination of technology and healthcare stocks. Such stocks will often outperform when interest rates are low, as they were from 2010 to 2021, for example, when growth outpaced value.

Emissions correlate to perceived risks

Second, there is evidence of a positive relationship between a company's greenhouse emissions and the perceived risk associated with that company.

Brown portfolios are always more volatile than their green peers, and their level of absolute risk grows when Scope 3 emissions are included. Indeed, the Scope 1, 2, 3 intensity-ranked portfolios demonstrate the largest volatility spread.

This means that the higher returns generated by brown companies reflect their higher risk. In Europe, green portfolios have been slightly less volatile on average than brown over the past 15 years. This is in line with capital asset pricing model predictions, as well as with research exploring how green investments can help hedge client portfolios. In theory, if green assets provide a hedge against

climate risk, among other benefits, and are perceived as less risky because of their climate-resilient nature and other positive social impacts, investors may be willing to accept lower expected returns to hold them.

The Scope 3 emissions effect is essential to understanding green exposure. Regression analysis exhibits the greatest explanatory power – and thus better captures the full extent of a company's sustainability performance – when it incorporates Scope 3 emissions.

Scope 3 emissions will only become more relevant: new regulatory developments and reporting standards in Europe require companies to disclose these emissions beginning in 2024.

The risk management theme is at the core of climate finance and anticipates a positive correlation between greenhouse gas emissions and stock returns, or a negative correlation between emissions and company valuations.

Investors recognise that firms with strong environmental practices are more likely to be sustainable in the long term and are better positioned to navigate changing regulations, consumer preferences, and market dynamics, and are thus attractive investments.

The bottom line

The distinction between "brown" and "green" performance may not be so clear cut. Why? Because interest rates, investment trends, and other phenomena can influence sector performance.

Moreover, many factor models assume that governments around the world will implement policy changes in the future.

Carbon taxes, among other measures, have been discussed as potential tools for solving climate issues, and many models anticipate they will be implemented sometime in the months and years ahead. But the impact of such changes in climate change policy has yet to appear in financial returns.

These points aside, the need to reduce climate risk exposure has several implications.

Conservative investors will try to reduce their transition risk by hedging their exposure to it, and investors with exposure to transition risk will expect higher returns as compensation. If they don't think they are earning enough return on that risk, they will engage with their companies and try to persuade them to hedge that risk.

For corporates, on the other hand, transition risk management has one principal consequence: the more exposure to climate change risk, the higher the cost of capital. That implies both lower price multiples on future earnings and higher break-even rates on new investments.

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