Manulife Investment Management

Preparing for the low-carbon transition

Eric Nietsch, CFA

Head of ESG, Asia

Manulife Investment Management

Frederick W. Isleib III, CFA

USA ESG Specialist

Manulife Investment Management

While it's clear that climate change affects virtually all segments of the economy, the level of exposure and the financial effects differ by sector, geography, and the level of readiness of individual companies and countries to mitigate risk or adapt. For investors, it's critical to discern these varying levels of risk and include them as key inputs in portfolio construction and ongoing risk monitoring.

The transition to a low-carbon global economy will come with costs as well as opportunities. Understanding the implied financial risks of the transition is a core feature of sustainable investing—and a goal supported by the United Nations' Task Force on Climate-related Financial Disclosures (TCFD).

According to the TCFD, the shift to a low-carbon economy will require trillions in invested capital, and may entail extensive policy, legal, technological, and market changes to address mitigation and adaptation requirements related to climate change.[1] Depending on the nature, speed, and focus of these changes, transition risks may pose varying levels of financial and reputational risk to companies.

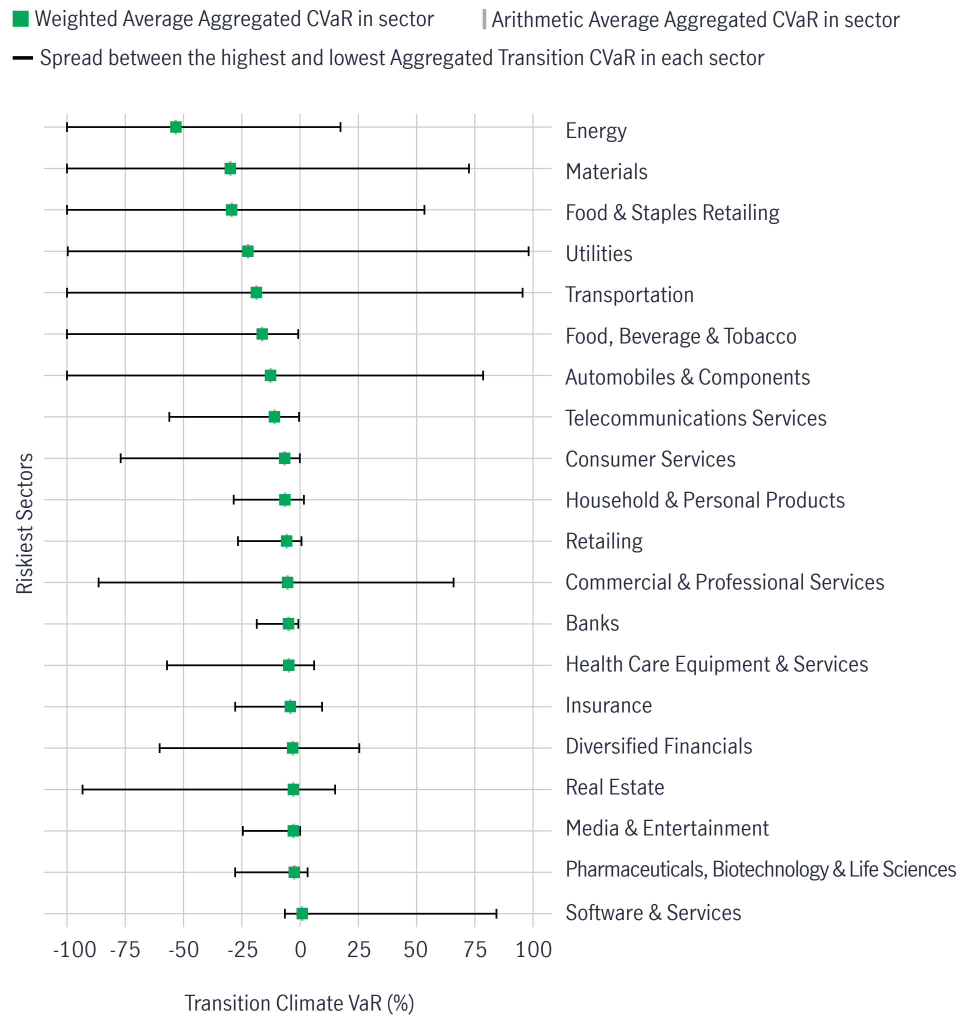
Measuring transition risk

Measuring climate-related risks for the economy and markets has been an intensive field of research in recent years. One tool that has emerged from this work is a metric known as Climate Value-at-Risk (Climate VaR). Allied with the more standard statistical notion of VaR, Climate VaR is designed to provide a forward-looking and return-based valuation assessment to measure climate-related risks and opportunities in an investment portfolio.[2]

Climate VaR helps investors estimate how much a set of investments might lose (or gain), given normal market conditions, and based on a terminal period of approximately 30 years with a declining carbon avoidance cost that eventually reaches zero. Of course, the more restrictive the temperature rise, the greater the Climate VaR, as tighter emission limits imply greater costs to companies through stricter regulation and emissions policy implementation.

To better understand the financial impact of the low-carbon transition to investors, we analyzed the Climate VaR for the MSCI World Index, which includes more than 1,500 constituents in 23 developed market countries. A common transition risk scenario is the so-called 2°C scenario, which lays out a pathway and an emissions trajectory consistent with holding the increase in the global average temperature to 2°C above preindustrial levels. Using the 2°C scenario, we assessed the challenges and opportunities across sectors.

The spectrum of climate-related transition risk for global equities



Source: MSCI Climate Value-at-Risk Portfolio Report using MSCI World Index holdings, as of April 30, 2021. For illustrative purposes only.

The results of this analysis suggest that energy constituents of the MSCI World Index, on average, may face more than 50% of downside risk as we transition to a 2°C world. On the other hand, industries like semiconductors and software and services may have some upside in the same scenario, given the ramp-up in the need for products supporting the buildout of a “smart” electric grid infrastructure, the growth of electric vehicle markets, and the proliferation of other technologies that will come with the low-carbon transition.

In general, transition risks are particularly relevant for resource-intensive industries with high GHG emissions within their value chains, where policy actions, technology, or market changes aimed at emissions reductions, energy efficiency, subsidies or taxes, or other constraints or incentives may have a particularly direct effect.

Insight from transition risk analysis

This sector-based analysis must be interpreted carefully. But the insight it makes available can be material for investors. First, it gives investors a high-level summary of the sector-level transition risk under different climate scenarios, which could be useful for sector allocation across investment strategies.

Second, the basic model doesn't reflect company-specific mitigation and adaptation methods, such as the ability to pass on climate costs to customers, the competitive landscape, or participation in clean energy development projects. Such limitations highlight the importance of corporate engagement with companies on climate disclosure, as well as how crucial it is for investors to understand what companies are doing to manage climate risks.

Examples of powerful corporate action related to climate change

A number of companies have taken more advanced approaches to mitigate carbon emissions and address investors' concerns. While traditional practices such as improving energy efficiency and raising employees' awareness are still very effective, other examples of progressive action are worth noting:

- **Installing climate-competent boards:** Climate change, as a material business risk, should be discussed in the same way as other material risks in the boardroom. Some companies have dedicated ESG committee to discuss material ESG risks, including climate change in details.
- **Adopting science-based targets:** While it's common for businesses to set carbon reduction targets, a target that's in line with what the latest climate science says is necessary to meet the goals of the Paris Agreement would demonstrate more commitment and could strengthen investor confidence. In 2017, for example, one of the world's largest retailers set up a science-based target for committing to reduce carbon emissions by 60% by 2025, using 2015 as the base year.
- **Establishing an internal carbon price:** In response to shifting regulatory and market dynamics, internal carbon pricing has emerged as a tool that supports companies in assessing climate-related risks and opportunities. A French utilities company has used an internal carbon price in its capital allocation process. In one of the company's projects, the carbon price helped the company navigate the impact of a carbon tax bill in England, leading the company to prioritize investments that would reduce its energy use.
- **Investing in new technology:** Some companies are investing in existing technology to improve energy efficiency, but leaders are going beyond this to develop new technologies to combat climate change. New technologies could focus on reducing emissions in a company's business or could be developing new products or services for others. For example, many scientists argue that carbon capture and storage (CCS) is crucial if the world is to limit the temperature rise to under 2°C[3], and some companies in the oil exploration and production space are already using this technology. Another company, an Indian conglomerate, is also testing hydrogen fuel cells that have zero emissions, in an effort to achieve the company's net zero goal by 2035.

- **Exploring innovative forms of finance:** Some companies are tapping into the rising demand for green finance and impact investing by issuing green bonds to finance climate-related projects. A large Chinese bank, for instance, listed two green bonds totaling US$ 1.2B to support bank's effort to mitigate the effects of climate change. The uses of proceeds for these particular bonds were to be directed to eligible projects under the Green Bonds Principles and Climate Bonds Standards.
- **Adhering to best practices in disclosure and reporting:** Investors rely on consistent, financially material information on climate-related risks and opportunities to make investment decisions. Standardizing this disclosure is a goal of the TCFD. One of the requirements set by the TCFD involves scenario analysis, encouraging companies to estimate the financial impact on their business as we transition to a lower-carbon economy. Companies that follow TCFD framework can help investors to assess this impact more accurately.

Conclusion: realize the risks and opportunities of the low-carbon transition

Wars, recessions, pandemics—all such events have dealt serious economic pain, but out of these crises can come a high degree of economic and social opportunity. Our collective response to climate change could help dictate similar results.

In this regard, it's a positive fact that climate change continues to occupy center stage for governments seeking to shore up their economic resiliency, with support for green energy and infrastructure development and net-zero commitments repeatedly making headlines in the post-COVID era.[4] In our view, efforts to make good on these commitments are likely to speed the low-carbon transition. During this period of change, there will be winners and losers. Some industries will benefit from offering solutions to combat climate change. Other industries will face more stringent regulations, stranded-asset risk, lower demand for products and services, and changing customer preferences.

As a long-term investor and asset manager, we seek to manage climate risk in our investments and capitalize on opportunities to help with the low-carbon transition. This will be an evolving journey. As such, we believe it will require collaboration with different stakeholders and innovation in ESG research and stewardship to support companies as they, too, seek to thrive in a low-carbon future.

1 "Recommendations of the Task Force on Climate related Financial Disclosure," TCFD, 2017. **2** "Changing Course," UNEP FI, 2019. **3** "Researchers Propose Ways to Meet IPCC's Climate Targets," AZoCleantech, May 2020. **4** "China's net-zero ambitions: the next Five-Year Plan will be critical for an accelerated energy transition," IEA, October 2020. "The Race to Zero Emissions, and Why the World Depends on It," UN News, December 2020. "Here's What's in President Biden's $2 Trillion Infrastructure Proposal," NPR, March 2021.

Important disclosures

A widespread health crisis such as a global pandemic could cause substantial market volatility, exchange-trading suspensions and closures, and affect portfolio performance. For example, the novel coronavirus disease (COVID-19) has resulted in significant disruptions to global business activity. The impact of a health crisis and other epidemics and pandemics that may arise in the future, could affect the global economy in ways that cannot necessarily be foreseen at the present time. A health crisis may exacerbate other pre-existing political, social and economic risks. Any such impact could adversely affect the portfolio's performance, resulting in losses to your investment.

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