

Why climate change also matters for government bond investing



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The global sovereign debt market is one of the largest asset classes in the world, and yet it has typically lagged other asset classes when it comes to integrating climate change considerations. Sovereign debt investors are exposed to a range of climate change risks that are generally not well understood or incorporated into the investment process. Part of the challenge has been the lack of sustainable investment products and viable climate data.

Climate change risk has long been a consideration for publicly traded stocks. Today, investors can choose from a broad selection of equity products designed to avoid companies with high exposure to climate change risk. However, when it comes to government bonds, market participants have largely overlooked the potential impacts of climate risk.

If European asset owner demand is any indication, government bond climate risk won't be disregarded for much longer. FTSE Russell has found that many of these clients are looking to extend environmental, governance and social (ESG)

considerations beyond equity. Fixed income allocations are frequently a large component of European asset owner portfolios and focusing solely on equity climate risk falls short of a holistic, multi-asset ESG approach.

More asset owners are also beginning to recognise the impact climate change can have on government spending, which can in turn affect government bond values. Governments are exposed to both transition risk and physical risk related to climate change, and by all metrics these risks are material and growing. Transition risk relates to the costs associated with countries transitioning to a greener economy. For example, growing concern over climate change—and the resultant increased regulation—has many countries developing plans to reduce carbon emissions. The UN estimates that such an undertaking would require investing about \$1 trillion per year over 30 years, with this expenditure largely financed by governments.

Governments are also exposed to risks related to the physical effects of climate change. Recent data demonstrates that both the frequency and cost of extreme weather events around the globe are on the rise. In fact, in 2017 three major storms in the US cost the government at least \$265 billion.

Both transition and physical risks have the potential to materially impact government debt, which is why it's important to consider climate risk alongside traditional risk measures when investing in sovereign bonds. To this end, FTSE Russell has developed a solution to serve as a sustainable alternative for passive

Transition risk	The impact on the economy from the required efforts to mitigate climate risk as measured by modelled emissions needed to meet 2 degree Celsius alignment
Physical risk	The climate related risk to the country and its economy from the physical effects of climate change
Resilience	A country's preparedness and actions to cope with climate risk

government bond investors: the FTSE Climate Risk-Adjusted World Government Bond Index (Climate WGBI).

The Climate WGBI methodology conducts quantitative climate risk assessments across transition risk, physical risk and a country's resilience. This climate risk modelling data is sourced from Beyond Ratings, which is a highly regarded provider of ESG data solutions, climate change research and modelling across asset classes. The London Stock Exchange Group acquired Beyond Ratings in June 2019, as it is highly complementary to FTSE Russell's existing ESG index and data offerings. By providing these comprehensive sovereign climate risk assessments with history available from 2002, Beyond Ratings data has enhanced the Climate WGBI Index considerably.

Once the risk assessments are complete, the index scores countries across each of the three pillars and a single combined score is derived for each country. Country scores are then used to reweight the country's exposure in the index to provide higher exposures to countries that are better prepared for climate change risks and lower exposures to countries that are more threatened by climate change risks.

The result of this methodology is an index that can mirror the characteristics of a global sovereign bond portfolio while reducing exposure to climate change risk. As such, the Climate WGBI effectively meets asset owner demand for a climate risk-adjusted global government bond index with low tracking error relative to the broad index. And for asset owners looking for even more climate risk reduction, FTSE Russell can use Beyond Ratings data to develop custom solutions.

London Stock Exchange Group acquired Beyond Ratings, a highly regarded provider of ESG data for fixed income, providing sustainability data, smart risk models and ESG research expertise.

Whether through Climate WGBI or custom-designed indices, FTSE Russell offers solutions for the growing number of investors who are recognising that climate risk considerations aren't just for equities—they also matter when investing in government bonds.



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