Education | Sustainable Investment

Why climate change also matters for government bond investing

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Executive summary

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. However, studies have highlighted the value of including government bonds in investors' climate risk analyses. Sovereign debt accounts for a significant share of global debt, and both governments and policy makers have a key role to play in driving the climate transition. In this context, investors' demand for sovereign climate analyses has been increasing.

This short paper presents the FTSE Climate Risk-Adjusted Government Bond Index Series, which supports global fixed income investors to quantitatively incorporate climate considerations into government bond portfolios.

In particular, the paper briefly discusses the following points:

- The growing financial materiality of climate risks on government debt
- The key principles of the FTSE Russell Climate Risk-Adjusted Government Bond Index Series' methodology
- The definition of the three assessed pillars: transition risk, physical risk and country's resilience

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The need for a climate risk-adjusted government bond index

If 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 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 recognize 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 government bond investors: the FTSE Climate Risk-Adjusted World Government Bond Index (Climate WGBI) and the FTSE Climate Risk-Adjusted European Monetary Union Government Bond Index (Climate EGBI).

The indexes' methodology conducts quantitative climate risk assessments across transition risk, physical risk and a country's resilience. This climate risk modeling data is sourced from Beyond Ratings, which is a highly regarded provider of ESG data solutions, climate change research and modeling 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 and Climate EGBI considerably.

Table 1

Transition risk	The level of climate related risk exposure of the country's economy, as measured by the distance to reach the modeled emissions needed to meet a two-degree alignment
Physical risk	The level of a climate-related risk exposure to the country and its economy from the physical effects of climate change
Resilience	A country's preparedness and actions to cope with its level of climate related risk exposure

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 indexes that can mirror the characteristics of a global or European sovereign bond portfolio while reducing exposure to climate change risk. As an example, 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.

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

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