27 July 2021

RESEARCH NOTE

Why Climate Change Poses Risk for Bank Bondholders

Thought it was difficult to analyze a bank before? Climate change has made it much harder.

Ashwinder Singh Bakhshi, London

Investors have traditionally focused on the risk to bank capital from their exposure to *physical risks* from climate change, given the increasing frequency and severity of "green swan" events—those unexpected, catastrophic environmental incidents directly tied to the effects of global warming. A hurricane, an earthquake, or a large flood can force banks to take write-offs (despite some offsets) on their exposures to households or businesses impacted by the weather event; however, investors must now also monitor how banks manage/monitor the ***transition risk*** **from what is now possibly irreversible climate change.** The *transition risk* to a bank's asset valuation arises from the political/regulatory push towards reducing carbon intensity of the bank's loan and investment portfolios, technological obsolescence, and changing consumer preferences. Central banks globally are now considering or already including climate risk as a component of financial stability, due to the inter-connectedness of the financial system.

Climate change creates a number of risks for the banking sector:

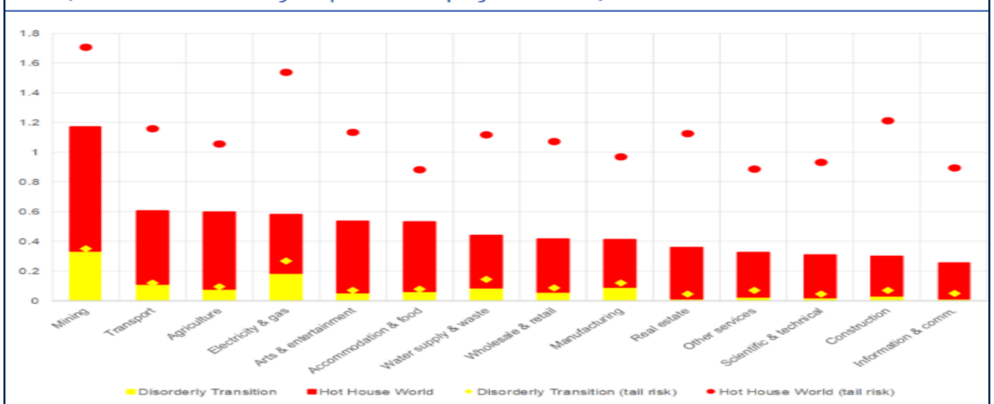
a) **Price Risk:** regulators and markets will pursue greater disclosure and penalize banks with high carbon exposure on their loan books, which could impact the bond/equity valuations;
b) **Credit Risk:** banks may be forced to take higher credit losses on exposure to polluting sectors that face regulatory action or technological risks or shifting consumer preferences;
c) **Solvency/Capital Risk**: regulators may require banks to raise additional capital for high carbon exposure, and banks with a narrow capital buffer may be forced to switch off optional coupons on certain capital instruments to comply; and
d) **Credit-Rating Risk:** rating agencies could start to assign greater weight to the carbon intensity of bank assets as a driver in bank credit ratings.

Banks admit they lack a complete understanding of their climate risk exposure, even as climate-related defaults look likely to increase. More than 90 percent of **chief risk officers (CROs) at banks** (88 banks across 33 countries) revealed in a 2021 recent survey by EY IIF that **climate change <u>is the top emerging risk</u> over the next five years,** compared to only about half (52%) of CROs in 2019. However, perhaps the most worrying finding was that ***only around a quarter of banks (28%) indicated they have a somewhat <u>complete understanding</u> of their bank's climate risk exposure***.

Developed Markets (DM) are better able to assess how climate risk presents challenges to financial stability in the banking system. Europe is more advanced in integrating climate risk as part of its banking sector supervision and its monetary and fiscal policy. In the U.S., the Biden administration's focus on climate change is expected to act as a catalyst for greater regulatory scrutiny of banks; the New York State Department of Financial Services has already asked financial institutions under its supervision to incorporate climate-related risks. The 2020 report from the climate-related Market Risk subcommittee of the Commodity Futures Trading Commission's Market Risk Advisory Committee found that **climate change could pose systemic risks to the U.S. financial system**. The report argued that financial markets do not correctly price climate risk and require a more accurate framework that would provide a better understanding.

The European Banking Association (EBA) recently published data for 29 of the largest European banks, finding that <u>58% of banks' corporate exposure is within sectors that are **sensitive to climate transition risk**</u>. This reflects the materiality of the issue and will likely pose a challenge as banks align their balance sheets to the net-zero commitments of the country of domicile. The ECB has also conducted an assessment titled "hot house world" scenario, which analyzed the impact of default probabilities from an assumed 3-degree increase in global temperature; it concluded that, in the event of "increased frequency and severity of climate events," **default probabilities for banks' various sectors will go up significantly over next 30 years.** Red dots in the chart below represent increased sectoral default probabilities.

Differences in firms' default probabilities (%) in the two adverse scenarios with respect to the orderly transition scenario, by sector and group of firms (mean firms, and firms mostly exposed to physical risk)



Source: ECB calculations

The Basel Committee, and many regional regulators, are working on initiatives that encourage banks to reduce their carbon footprint and increase exposure to green assets. The introduction of a **green asset ratio in Europe** (current exposure averages 7.9% for EU banks) and inclusion of climate risk as part of annual ECB/BOE stress tests will likely result in a greater differentiation between banks with larger carbon risk.

The DM blueprint will also likely influence the approach that Emerging Market (EM) bank regulators take, with respect to managing climate risk within the system. Most EM countries are behind developed countries in their assessment of climate risk in the banking sector—but they're catching up. The recent introduction of "green taxonomy" in some EM countries, such as China, Singapore, Russia, and India, where a rollout is planned, will help accelerate investor scrutiny of bank balance sheets and their exposures to carbon intensive sectors. Russia, which is exposed to high greenhouse gas-emitting industries, is working on a green taxonomy framework while engaging with its domestic banks on how best to measure and report climate risk.

Proposals to assign higher risk weights for carbon intensive exposures or lower risk weights for "green assets" have also been floated in some countries. Regulators may consider introducing higher capital requirements for banks that are not managing their climate change risk properly, which may result their having to raise additional capital via equity or capital instruments in order to improve capital buffers. **This should ultimately align banking sector interests with the sovereign level commitments for net-zero carbon emissions by channeling capital more efficiently toward reducing carbon intensity in the economy.**

The current push for disclosure in Europe and elsewhere is only the first step towards global regulators requiring banks to come up with a plan for reduction of carbon intensity of their assets. ***However, banks face a number of challenges in correctly calculating and reporting their climate risk:*** a) lack of reliable data on the impact climate transition can have on their assets; b) lack of agreed industry methodologies; and c) the dynamic nature of climate change. There are a number of initiatives at work on the data and methodology issue, including development of a green taxonomy and green accounting standards; however, a lack of reliable data remains a challenging issue both for banks and investors. In order to address the dynamic nature of climate change, **banks need to have a scenario-based stress testing approach towards managing climate change risk for their assets**.

Despite the hurdles, banks are signalling their commitment to manage the risks. In April 2021, 45 banks from 24 countries (with over $29 trillion in assets and including banks from emerging market countries) voluntarily launched a "Net Zero Banking Alliance" with a commitment to achieve net-zero carbon emissions in their loan and investment portfolios by 2050. An initiative like this would have been unimaginable even a few years ago but now raises the stakes for all major banks, which have not yet articulated a carbon-reduction strategy.

It is vital that investors engage with banks on how they are integrating climate change risk into their overall business strategy, and a first step is banks accurately estimating and disclosing the carbon intensity of their assets. Relying on historical data is insufficient, and banks need to present to investors the climate risks that exist in their assets under various climate change scenarios.

For financial institutions, change must start at the top, and investors should push the **bank's board to be more engaged on bank's climate risk plan** as well as senior management accountability via linking climate change targets with the bank's executive leadership and compensation.