How Smaller Bank Credit Managers Can Start to Prepare for Climate Related Credit Risk
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Background

In 2021 and 2022, the nation's bank regulatory agencies began to share their future expectations for banks relating to the growing concern of investors and activists about climate risk. Particular emphasis is focused on the impact of climate change on an institution's credit risk. While the near-term direct impact is on the country's largest institutions only, as always, there is an understanding that it's only a matter of time until smaller banks will have to address similar regulatory expectations.

There are many details to work out, and only recently have the agencies begun to outline possible thresholds, disclosures and other potential actions for the largest banks related to climate. While focusing on banks with over $100 billion of assets, in 2022 acting FDIC Chair Martin Gruenberg commented that *"all financial institutions, regardless of size, complexity, or business model, are subject to climate-related financial risks."*

To some community bankers the concept of focusing on climate risk's impact on their risk profile and portfolio credit risk appetite seems remote at best, and possibly just a new distraction. To other community bankers addressing climate risk is treated like an extension of managing similar environmental risk like today's assessment of flood and other environmental risks when making a loan.

Some, more proactive community bank risk managers, are wondering what they can do in the near term to prepare for or even get ahead of this on coming challenge. What can and should smaller bankers be doing about climate risk in their portfolios and preparing for future regulatory expectations? This paper investigates techniques and processes that smaller bankers can do now, to lay the groundwork for future regulatory and investor expectations.

Banking is an Information Business, What Climate Information Do You Need to Track?
In late 2021, acting Comptroller of the Currency Michael J. Hsu issued *"Five Climate Questions Every Bank Board Should Ask"* which listed some early considerations for the managers of banks of all sizes. The questions included:

> *"What is our overall exposure to climate change?"*
> > To answer this question bank senior managers need to develop a framework…metrics, data, scenarios, physical and transition risks may have on the bank's portfolio.
> *"Which counterparties, sectors, or locales warrant our heightened attention and focus?"*
> > Climate change is going to significantly impact the creditworthiness of some borrowers and sectors. Both physical and transition risks can ultimately affect borrowers' solvency and the value of their underlying assets."

Bank credit risk managers need to begin to understand what types and levels of climate risk they have in their portfolios now, and how to track that on-going. When looking at emerging risks, establishing a baseline is key to understanding risk appetite and thresholds.

The Agencies are now looking at rules intended to disclose how larger banks and other firms are incorporating climate risks into their risk management and overall business framework and strategies. That includes Physical Risk (the risk of financial losses from serious weather events like hurricanes and wildfires) and Transition Risk (the risk from the shift to a low-carbon economy creating so-called "Orphaned Assets".)

Understanding a Bank's credit and risk exposure to climate sensitive/carbon sensitive assets starts with identifying, flagging and reporting on loans that are either in geographical areas that are more likely to be impacted by Physical Climate risks, and those that are made to higher carbon industries representing potential transition risk.

Tools Most Community Bankers Have to Manage Climate Risk Information
The concept of credit concentration management is not a new one, but has proven to be an exceptionally valuable pro-active risk management practice in the past (think CRE exposure in the Great Recession of 2007-2010) and in more recent times (tracking COVID sensitive industries and CRE property types). Bankers addressed risk concentrations through performing portfolio stratification into segments with similar risk characteristics. After breaking the portfolio into risk concentration segments, bankers could use "sensitivity testing" to shock those concentrations – also known as portfolio stress testing. This type of stress testing has proven to be an extremely good predictor of emerging risk and vulnerabilities from concentration exposure.

Unlike in the past, banks are now much better positioned with more robust portfolio data, better technology tools and a more automated approach to concentration risk management. This newly enhanced credit management environment is an unexpected byproduct of the convergence of two unrelated developments in banking in the early 2000's. The first is improved analytic automation due to technology and data management and visualization innovations during the era, as well as more recently by pandemic – forced by PPP automation and remote work. The second, is improved credit data management techniques required to support the implementation of the new bank reserve requirements of CECL.

During the pandemic financial institutions of all sizes experienced rapid implementations of technology during the pandemic throughout much of the "back office" and some client facing applications. Better, more comprehensive credit data collection and improved management resulted from the CECL rule implementation has positioned banks of all sizes to better identify and manage credit risk concentrations. They were forced to collect and archive cleaner, more comprehensive portfolio data – a requirement for successful risk analytics.

How To Use Climate Information to Manage Climate Risk in Your Portfolio
For smaller institutions, not yet under any specific regulatory pressure to set up a "climate risk framework", climate risk can be treated as "just another emerging portfolio credit risk". If so, we can apply similar methods as were applied to previously identified emerging risks to Climate. For example, one could apply similar approaches that were used for CRE and COVID concentrations during the pandemic to identify and track climate concentrations in a loan portfolio, to help the bank get an overall view of the climate related credit risk.

One approach to address potential concentrations in climate transition risk would be to use standard NAICS Codes ("Industry Codes") to identify high carbon business/industry concentrations and exposures (Coal, oil, mining, refining and supporting industries - trucking, drilling, refining for a few examples.)

A bank could even create their own internal "code" or flag for carbon sensitive industry loans – an internal "Carbon Sensitivity Score" for tracking. This could be as simple as rating a loan 1 – 3 based on high potential transition risk to slight risk. Eventually one could even use these flagged loans to shock that concentration for drops in NOI, DSC or changes in leverage ratios. A simple "carbon flag" without levels can also work as a less complex "phase one" approach.

It is important that this new climate data code is applied to loans in some accessible data source that is either part of or linked to the bank's system of record for the portfolio. This could be a "user defined field" in the core banking system, or in a credit database used for risk reporting and analytics. If sensitivity stress testing is to be applied, then this flag or code should be applied to where that source data (financial ratios, borrower risk characteristic data) is archived.

To address acute climate physical risk a bank could look at using CRE property types - (Hotels, Offices, Multi-Family) for loans in riskier geographic areas (shore, waterways) and locations more prone to climate incidents - hurricane, wildfire, floods. There are a few different geo-location codes that can be leveraged for this type of concentration tracking – Zip Codes, Counties, Cities or MSA codes. One consideration is that this coding would be for "Collateral Location" – which is usually not the same as the borrower's address. As the bank is trying to understand its credit exposures to specific geographic locations that are more prone to acute climate events, the location of the actual asset (building, land, crop, etc.) is what needs to be tracked, not where the borrower lives.

Another consideration is the geographic coding to be used for tracking. Using City/State/Zip code creates a complex amount of data that can be difficult to manage. Multiple code combinations can easily fall victim to coding/spelling errors and even create concentration data that is too granular to be practically used. Using Zip Code alone may be the simplest way, though the MSA code is more usually more specific to a region. The key with geographic location coding is to use a coding scheme that is understandable and meaningful to the bank for reporting and analytics.

An example of trying to get ahead of coding for climate is BankUnited, N.A., a US $36 billion in asset sized regional bank headquartered in Miami Lakes, Florida. The bank's third line of defense assurance group Credit Review, wanted to begin to broadly identify climate exposure and climate related borrowers in their portfolios, to advance the consideration of climate impact from a credit perspective. They based this early initiative on an aspect of their mission to foster positive change, and in support of driving best practices in credit risk identification and management.

As a start, in 2022, they began to tag any borrower reviewed by Credit Review within routine examinations focused on assessing risk grading and underwriting as "carbon sensitive". The identification is subjective, and is based on matters such as the loan borrower's industry, business operations, inputs or by-products, location and collateral type, and related potential repayment risk. Based on those data points their analyst makes an assessment as to whether or not to tag the loan as "carbon sensitive". An example would be a borrower with significant dependence on waterways currently experiencing profound and ongoing drought. Results are reported at the examination level, as well as on a consolidated basis to management and the 2nd line of defense (credit administration).

Challenges to Gathering Information to Support Climate Risk Analysis

Now is a good time to start gathering more information to use later for credit climate risk analysis and trending. Accurate coding and data gathering is the foundation of all portfolio analysis. That said, if you are looking for a list of NAICS codes to use for climate sensitive industries, you won't find it via Google. While in Europe they have already created an exhaustive list of manufacturers and other climate industries, in the US there is no list by industry code currently publicly available.

In a discussion with an OCC credit risk specialist in September of 2022 at an industry event, the OCC representative was asked by bankers why no such "climate sensitive industry code" list exists. The OCC specialist explained that the US government – and their Regulatory Agencies will not publish a list of industries that are "carbon bad". It's just not politically possible, unless the US legislature directs them to. They did add that creating your own list of climate sensitive industries based on common sense and available banking industry publication information would be a valuable first step in assessing climate credit risk.

In many cases, the climate sensitive industries the bank would want to tag are obvious: mining, chemical manufacturing, fossil fuels, etc. But it is not always that easy – as particular companies within an industry may have a carbon profile substantially different than the rest of their peers in that industry. This situation is particularly troublesome when trying to gather data on "green" industries – the other side of the climate coin. In most periodicals specific "greener" or "more sustainable" companies are noted, not their industries due to their different governance and sustainability practices.

Similar challenges arise when trying to identify geographic locations that are more vulnerable to acute physical climate events. For example, not all locations on the southern east coast are likely to see hurricane events with the same level of frequency or intensity. The same can be said for wildfires in the far west, and flooding in the Midwest.

More time and focused collection of climate and credit data to create more specific climate sensitive locations and industries is underway. Some of the larger credit data vendors are creating geographic overlays of climate disasters, to try and established more data driven assessments. But it is a relatively new discipline, and will take time for best practices to develop.

What is Today's Bottom Line for Community Banks and Climate Credit Risk Management?

As mentioned earlier in this paper, currently there are no plans for near term regulatory requirements related to climate change or carbon sensitivity reporting or tracking for community banks. Only the largest banks are being considered for rules around climate asset management, climate risk management frameworks and policies. Longer range possibilities impacting the larger US financial institutions include possible additional disclosures of climate risk asset exposure and climate stress testing scenario analysis.

So, while there is no immediate pressure on US community banks, climate risk is real, and will not "go away". At some point even smaller banks will have to identify, monitor and measure climate risk in their portfolios. Having good quality data is key to any successful analysis of risk, including supporting concentration analysis and sensitivity testing. If we have learned anything from the past, we know that identifying and collecting credit data is a long- term commitment and significant effort to undertake. It simply makes sense to start soon, as later

when you have to perform portfolio climate risk analysis you will have a good foundation and baseline to work with.

Some of the suggested practices in this paper are in their formative stages, are imperfect and need better data to work well. At this time, identifying and tracking climate sensitive industries and climate risky geographic locations of collateral creates only directionally correct credit risk information to work with. Even with those limitations, getting started sooner than later with the available tools and data makes good sense and should be consider a best practice.

Risk management techniques are always evolving, and the combination of technological leaps forward during the pandemic and more robust credit data management under the CECL implementation have already started the momentum in the right direction to support better credit risk management. Forward looking risk managers at banks of all sizes will want to continue that momentum in 2023, and look forward to perfecting a data driven climate credit risk management program in the future as tools improve and regulations and industry best practices mature. For now, directionally correct views of climate credit risk can potentially be a strategic risk management advantage for even the smallest bank.