SPECIAL REPORT

The Unseen Banking Crisis Concealed Behind the Climate Crisis

As Climate Disasters Bankrupt Insurance Companies, Banks End Up with the Risks and Losses; FSOC and Banking Regulators Must Act to Prevent Crashes and Bailouts

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There's a major untold story behind the climate crisis: today's climate disaster is tomorrow's banking crisis. As one headline put it, "sobering fact of Hawaii fire: as planet warms, no place is safe." Yes, "Hawaii is a warning," as are the increasingly severe and more frequent tornadoes, hail storms, hurricanes, flooding, landslides, and fires from coast to coast. But the warnings cannot be limited to the climate crisis as bad as that is; the warnings are also for the banking system that holds mortgages and loans on the vast majority of homes and businesses in the U.S., and the fact that those properties are increasingly underinsured if not uninsured. On top of that are all the bank loans related to other assets that climate disasters are destroying like autos, business inventories, and so much more. Insurance, from both the federal government and private companies, has historically proven to be an important layer of protection from climate risk for the banking industry, but recent events have increasingly raised concern about the strength and size of that protection.

It's no surprise that there is a great deal of attention on the burgeoning crisis among insurance companies and their insured individuals and businesses because of the increase in the number and severity of major, destructive, and very costly climate events. The U.S. property and casualty industry suffered losses of $5 billion in 2021, which ballooned to losses of $26.5 billion in 2022. There have already been 15 confirmed weather/climate disaster events with losses exceeding $1 billion each in the U.S. as of August 8, 2023, with losses almost certain to exceed 2022.

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The number of insurance companies going bankrupt, withdrawing from states, limiting coverage, and significantly raising premiums is increasing by the day. In addition, the reinsurance market, which is key for insuring major climate events, is facing a reduced investor demand, which is going to decrease coverage while increasing costs even more. However, this isn't just a crisis for insurance companies and their customers, as was emphasized at the meeting of The Financial Stability Oversight Council (FSOC) on Friday, July 28, 2023. The ongoing and worsening insurance crisis is the leading edge of a coming banking and financial crisis.

It is true that "extreme weather exposes gaps in insurance protections," as Treasury Secretary and FSOC Chair Janet Yellen said and many have detailed, but insurance companies are just the canaries in the coal mine, the early warning sign of a much worse banking crisis. That's why, just as insurance companies are recognizing and reacting to these climate risks and inevitable losses, the banks and banking regulators must act as well. Indeed, the FSOC, created to analyze emerging risks and coordinate among agencies, was designed to lead this type of effort and push banking regulators to act faster, more broadly, and in a highly synchronized fashion. It is past time for it to do so.

There is no denying the breadth, scope, and accelerating speed of the ongoing insurance crisis. For example, United Property and Casualty (UPC) "was the ninth property insurer in Florida to go insolvent since 2021 and the largest to do so in 15 years." In fact:

> "After at least six insurers went insolvent in Florida [in 2022], Farmers [Insurance Company] became the latest to pull out of the Florida market [in July 2023], saying in a statement that the decision was based on risk exposure in the hurricane-prone state. Climate change is threatening the very existence of some parts of Florida."

Climate events are becoming so severe and frequent that insurance companies are going bankrupt and withdrawing from high risk markets, including entire states, as proved by Farmers Insurance's and UPC's recent actions. The insurance companies that stay are increasingly denying renewal for existing homeowners' insurance policies or refusing to write new insurance policies in to ***limit their losses*** from climate events. As a result, consumers and businesses seeking insurance in those states and areas have less choice and face higher costs for insurance ***if they can get coverage at all***. There is also a greater potential for consumers and businesses to be uninsured or underinsured. As this occurs, communities will deteriorate as home values decline, outmigration increases, and uninsured or underinsured consumers and businesses face bankruptcy. Some have said that the effects from climate change "amount to an unofficial climate tax in hot spots like Florida, Arizona, and California" and that "eventually the extra costs could become a deterrent to living in certain areas," which will "undermine housing values."

These problems are also likely significantly worse than they appear for three reasons. First, the state-based regulation of insurance companies is often deficient, as detailed here. Thus, insurance companies that today appear well capitalized with reserves adequate to handle future catastrophes – as was the case with UPC – are likely not and therefore future uninsured losses are likely much higher than anticipated. Second, because few states systemically or comprehensively collect data on the availability or affordability of insurance, no one knows how many homes are underinsured or uninsured. That's why the National Association of Insurance Commissioners announced on August 15, 2023 an overhaul of data collection, hoping to fill that data gap in the future. Third, "housing prices in the U.S. have yet to fully price in [climate and insurance] risks, leaving many properties significantly overvalued."

In addition to extreme exposure to physical climate risks, some of the largest U.S. insurance companies are also heavily exposed to transition risks that stem from the shift toward a low-carbon economy because of their financial investment concentration in fossil fuel-related assets. A recent Ceres report highlights that this financial positioning could prove to be a dangerous and self-reinforcing downward spiral. The report authors summarize, "Continued investment in fossil fuel-related assets contributes to climate change, which in turn contributes to increasing physical risk to insured property, which impacts insurers as costs of claims rise."

While climate risk is tragic for homeowners and problematic for insurance companies, it is exponentially worse for banks and the financial system. That's because **insurance companies limiting their losses do not eliminate the losses entirely; they merely shift losses to other entities like banks** which have large and increasingly concentrated portfolios of loans and other credit instruments to those now uninsured or underinsured real estate properties and businesses. When the inevitable climate disasters occur, those exposures will quickly become realized losses, potentially at levels that will cause banks to collapse, and possibly ignite a credit contraction, precipitate contagion, and result in a banking crisis if not a financial crash.

Material physical and transition risks from climate events as well as recognition of and actions in response to these risks within the insurance industry are directly exposing banks and the banking system to grave if not existential threats in the near future. Banking regulators, therefore, must incorporate these risks into robust climate loss scenarios in stress testing and require banks to plan for these near-term risks materializing and causing significant losses.

The FSOC met on Friday, July 28 to, among other things, receive an update from the Climate-Related Financial Risk Committee and release the 2023 Staff Progress Report. While the progress and coordination on climate-related financial risks ("CRFR") is desperately needed, it is discouragingly slow and lacks meaningful change and action. Nearly two years ago, the FSOC member agencies were called on to bolster the financial system's resilience to CRFR. Since 2021, the FSOC member agencies and the Office of Financial Research have built a shared data and computing platform containing CRFR data, that is only available to member agencies. Also, a very limited scenario analysis pilot was recently announced for large banks to gauge vulnerability to CRFR, but results will not be released until later this year.

Two pending budget issues are making matters worse. First, as we enter the historical peak of hurricane season in the U.S., the Federal Emergency Management Agency ("FEMA") disaster relief fund is expected to narrowly avoid running out of emergency funds before the end of the September 2023 fiscal year, according to the August 2023 report. That's only possible because FEMA suspended most funding for non-emergency recovery efforts, which both preserve the value of properties and enable people to get their lives back to normal. Of course, even this assessment is based upon the current set of known and expected disasters and could quickly change if more disasters occur. With an annual budget of more than $43 billion, taxpayers via FEMA are already de facto paying for the failure to properly see, analyze, and prepare for climate risks and resulting losses.

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Second, the National Flood Insurance Program ("NFIP"), which is operated by FEMA, expires on September 30th. While some call this a "ticking time bomb," most believe it will be extended as it has been 25 times since 2017. However, the bigger underlying issue is that this program is another way that taxpayers cover losses due to climate events, thereby again indirectly assisting insurance companies and banks. As those events and costs increase, this program is also going to be unsustainable.

The financial loss resulting from climate events is material and increasing.

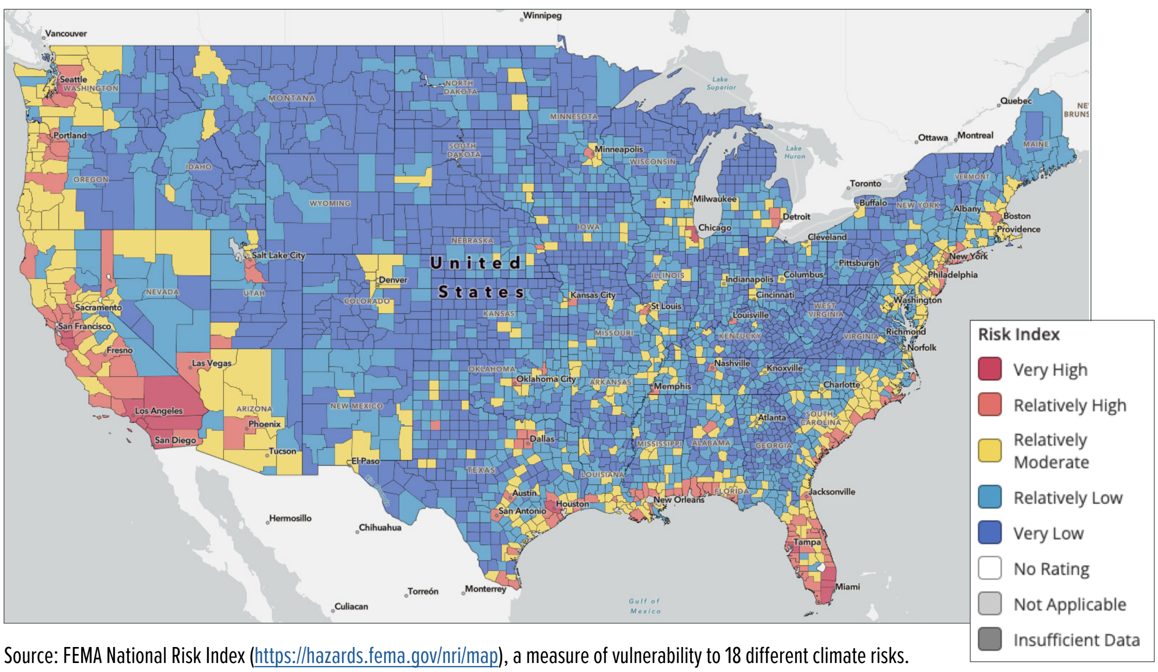
- The number of disasters and loss caused by climate events is increasing in the United States. In 2022, the U.S. experienced 18 separate weather and climate disasters costing at least $1 billion each, resulting in **more than $165 billion in losses – in just one year**. This puts 2022 into a three-way tie with 2017 and 2011 for the third-highest number of billion-dollar disasters in a calendar year, behind the 22 events in 2020 and the 20 events in 2021.
- The financial damages from disasters in 2022 of $165.1 billion were primarily driven by Hurricane Ian with $112.9 billion in damages, followed by the drought and heat wave that affected the western region of the U.S. and caused more than $20 billion in damages. **In aggregate, billion-dollar disaster losses in the last 10 years (2013-2022) reached $1.1 trillion in the U.S.**
- Importantly, these are conservative loss estimates that do not come close to reflecting all the damage from climate events because they only include disasters with more than $1 billion in damages. Disasters below $1 billion in damage still result in significant costs and losses to a local area and should not be overlooked. Such smaller disasters cause damage to residential property, commercial property, agriculture, small businesses, and local infrastructure. They are incredibly meaningful to local communities and their banks.

Coastal areas, particularly in Florida and California are most vulnerable to climate-related risks.

- FEMA's [National Risk Index](#) provides comprehensive data for communities that are most at risk from 18 natural hazards: avalanche, coastal flooding, cold wave, drought, earthquake, hail, heat wave, hurricane, ice storm, landslide, lightning, river flooding, strong wind, tornado, tsunami, volcanic activity, wildfire, and winter weather.

- "The higher-cost, lower coverage trend extends well beyond Florida and California," and, indeed, 31 states have seen double-digit rate increases since the start of 2021. While almost all the East, West, and Gulf coasts are highly vulnerable to climate-related risks, Florida and California are among the most vulnerable states in the country (see Map 1).
  - In California, 29 of 58 counties have High or Relatively High risk. These counties are among the most populated in the state, accounting for 94 percent of California's population.
  - In Florida, 28 of 67 counties have High or Relatively High risk. Like California, these counties are among the most populated, accounting for 85 percent of Florida's population.

Map 1: Florida and California Are Most Vulnerable to Climate Risk



Source: FEMA National Risk Index (https://hazards.fema.gov/nri/map), a measure of vulnerability to 18 different climate risks.

The insurance industry has recognized the gravity of financial risks stemming from climate events and is limiting its losses by exiting high-risk markets such as Florida and California.

- Recently, more and more private insurance companies are realizing that climate risks have become so grave, consequential, and costly that they are abandoning entire states to limit their losses from climate events. Between 2008 and 2021, more than 300 property and casualty insurers ceased operations nationwide, more than a 10 percent decline. These decisions harm consumers as insurance choices become more limited and more costly. They also harm entire communities by eroding home values and increasing outmigration.

- Florida and California have experienced some of the greatest loss of insurers. As shown in Table 1, Florida and California have lost 25 percent of their property and casualty insurance companies between 2008 and 2021, more than double the nationwide loss rate.
- Insurers have continued to exit high risk states since 2021:
  - In Florida, many private insurers have left the state or scaled back new policies and renewals in response to severe weather events, increasing construction costs, and litigation risk.
  - In California, State Farm and Allstate stopped issuing home insurance policies in 2023, in response to wildfire and flooding risk as well as rising construction costs.

Table 1

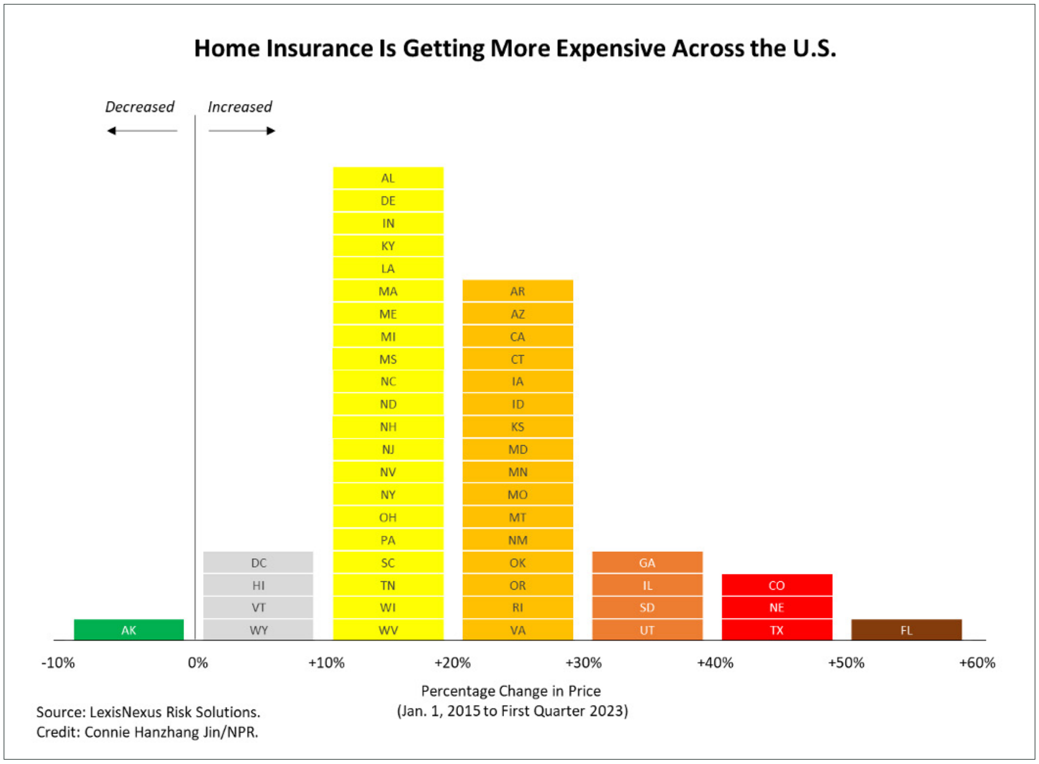
	Number of Property & Casualty Insurance Providers		Lost Providers	
State	**2008**	**2021**	**Count**	**Share**
Florida	147	110	37	25%
California	123	92	31	25%

Source: National Association of Insurance Commissioners.

The cost of insurance is rising in nearly every state in the country, as shown in Chart 1. The average cost of home insurance in the U.S. has increased 21% nationwide since 2015.

- 32 states and the District of Columbia have residual insurance programs that provide insurance coverage options for homeowners or commercial property owners who are unable to obtain insurance coverage from the private market because they are considered to be too high a risk for insurance companies, often because of their exposure to weather-related dangers, or because the cost of coverage has become too high. In 2022, 2.2 million residual policies were outstanding with total insured exposure of $837 billion.
- Floridians are paying as much as $6,000 annually for a home insurance policy, an increase of 42% compared with last year and well above the national average of $1,700.
  - More than half of the residual insurance policies outstanding nationwide were to Florida homeowners, 1.2 million policies for total exposure of $422 billion in 2022, in Citizens Property Insurance Corporation ("FL Citizens"). In response to a reduction in insurance availability for state residents due to bankruptcies and exits, the Florida Legislature established FL Citizens in 2002. FL Citizens is a not-for-profit, tax exempt, state government entity that provides insurance to Florida homeowners who are unable to find insurance on the private market. FL Citizens is funded by policyholders' premiums (which are much higher than the market rate from private insurers). Florida law requires FL Citizens to levy an assessment on FL Citizens and non-FL Citizens policyholders in the state if it experiences losses from particularly devastating storms.
  - Given the already high and rapidly escalating costs of such insurance, it is unclear how much longer Florida homeowners (many of them retirees) will be able to pay these increasingly costly homeowners insurance premiums. Furthermore, the political appetite for continuing to levy large assessments on residents for shortfalls may become increasingly challenging.

Chart 1



- California's average cost of insurance is actually slightly less than the national average. However, because homeowners' insurance is priced relative to home value or the cost to rebuild, the total cost for Californians is still quite high because of the state's high home values.
- Insurance companies are discontinuing coverage or refusing to renew policies in areas of California that are most vulnerable to disasters such as wildfires, which is increasingly driving homeowners to high-cost public insurance options.
  - California ranked second nationwide with more than 260 thousand residual insurance policies and total exposure of $209 billion California's "FAIR Plan" is a consortium of insurance companies that serves as a backup for homeowners who can no longer obtain insurance from private companies. FAIR Plan policies are typically much more costly than coverage from private insurers. The number of new and renewed FAIR Plan policies nearly doubled between 2018 and 2021 (the latest data available) and total exposure of insured properties more than quadrupled.

In addition to insurance provider exits, the risk of underinsurance is substantial and puts homeowners, lenders, and entire communities at risk.

- Data indicate that about 90 percent of homeowners have standard property insurance, primarily because most mortgage lenders require it, but several factors ranging from perverse insurance sales incentives to homeowner misunderstanding could cause homeowners to be profoundly underinsured, and possibly not even know it. This problem could be devastating when a climate event occurs if the homeowner does not have enough insurance coverage to repair or rebuild their home.

- Insurers operate in a competitive environment that incentivizes them to underestimate factors such as replacement costs. The lower the quoted replacement cost, the lower the premium for the homeowner. The lower the premium, the more likely the insurance salesperson will be to make an insurance policy sale in this competitive environment. The homeowner may think they have gotten a good deal, when in reality they may have purchased a home insurance policy that does not adequately account for replacement costs, especially in the current environment of high inflation for building materials and labor. If a homeowner in such a situation experiences a total loss of their home, they may unfortunately discover that they do not have adequate coverage to rebuild.

- Homeowners may also not be adequately protected against all relevant dangers. Flood insurance and earthquake insurance are examples of this risk. Most general property insurance policies do not cover flooding or earthquake perils. To be protected from these perils, homeowners typically must purchase additional policies, which may be cost prohibitive or considered unnecessary by the homeowner, until it is too late.
  - In the United States, homeowners that live in a designated flood zone are required to carry flood insurance, usually provided by the National Flood Insurance Program ("NFIP"), a federal program that services almost all flood insurance demand nationwide. However, the flood maps that determine coverage are updated infrequently, and therefore may not reflect current flood risk. Furthermore, recent flooding events have increasingly affected areas that were not in a flood plain and therefore considered "safe," resulting in uninsured losses for homeowners.
  - Similarly, only about 10 percent of California homeowners carry earthquake insurance. While the risk of earthquakes is well known, catastrophic loss resulting from an earthquake is considered by many homeowners to be too remote to justify the high cost of earthquake insurance. Additionally, high deductibles and low overall coverage reduce the value of insurance for homeowners.

Insurance companies are usually backed by reinsurance providers, but increasingly costly climate events or a substantially large event could put the reinsurers at risk, endangering the entire insurance system or putting a greater burden on taxpayers if the government is forced to step in to provide support.

- While struggling insurance companies have captured recent headlines, the challenges have been present for decades as private companies have become overwhelmed by disaster events and resulting losses. In some cases, the government has stepped in, and taxpayers end up footing the bill for high-risk insurance. Following extreme flooding of the Mississippi River, multiple flood control efforts, state and federal relief efforts to compensate flood victims, and the ultimate creation of the NFIP is a prime example of shifting risk for costly climate events from private companies to taxpayers. Researchers explain:

> "The Great Mississippi Flood of 1927 is one such example [in] which private insurers who previously sold flood coverage walked away from the flood insurance market completely. Their justification for doing so was that the massive losses they had sustained and would inevitably experience in the future required raising insurance premiums to unaffordable levels. These private insurance companies were replaced in 1968 by the National Flood Insurance Program (NFIP), a public program that sells government-backed flood insurance at subsidized rates to homeowners throughout the country.

> "Fast forward fifty years and flood insurance in the U.S. is provided almost exclusively through the NFIP today. However, the scale and scope of current and predicted future damages have fostered concern about whether markets designed fifty years ago are appropriate for adapting to climate change risks. Over its fifty-year history, the NFIP has amassed a $40 billion revenue shortfall, relying on its ability to borrow from the U.S. Treasury and its funding by federal taxpayers to survive where private insurers could not."

- The FSOC recently discussed the prevalence and concern of insurers themselves being overwhelmed by weather events in a July 28, 2023 meeting. Treasury Secretary and FSOC Chair Yellen said:

  > "American households are already seeing the impacts even if their own homes have not been damaged. As a result, more households are turning to residual markets for coverage or are foregoing insurance entirely."

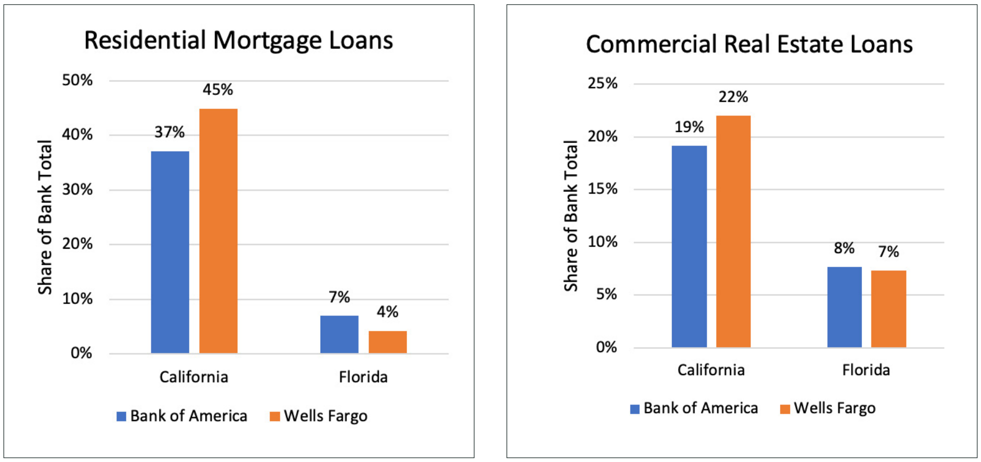
- Yellen added that just **60 percent of the $165 billion in losses from climate-related disasters in 2020 were covered by insurance** and that the FSOC must examine how these interconnected risks endanger the broader financial system. She explained that this "insurance gap" has disproportionately higher negative impacts on "underserved and disadvantaged communities which are already less resilient to financial shock." She also highlighted the need to understand how CRFR affect real estate markets and other financial institutions that rely on insurers.

Banks that lend in areas most severely affected by climate events are at risk of material financial loss if not failure, and the cumulative effects of the resulting financial risk could endanger financial stability.

- To date, a key reason that banks have had limited losses and no failures from CRFR is because public programs and private insurance companies have absorbed most of those losses. Programs such as the NFIP shield banks from first-order losses in many climate-related disasters. Private insurance companies provide the same type of shield for homeowners, commercial properties, and enterprises are affected by fires or other natural disasters. However, as insurers fail and exit markets, more risk falls to banks and other lenders.
- Several large banks are concentrated in the Florida and California markets and are particularly vulnerable to CRFR affecting these states (see Chart 2).
  - More than one-third of the outstanding residential mortgage loans held by Bank of America and Wells Fargo were in California.
  - About one-fifth of the commercial real estate loans held by these two institutions were in California.
  - Substantial shares of residential and commercial real estate loans at these two institutions were also located in Florida.

Chart 2

Residential and Commercial Real Estate Lenders Are Concentrated in States That Are Vulnerable to Climate-Related Financial Risk



Source: Bank of America and Wells Fargo Annual Reports, 2022.

- Large institutions are not the only lenders that are vulnerable, however. Smaller institutions that are geographically focused in areas that are vulnerable to climate events also face outsized risk in the event of a large and costly weather event or increasing insurer exits.
  - 76 banks in California and 60 banks in Florida operate exclusively in counties identified in Map 1 that are at “Very High” or “Relatively High” risk of weather events.
  - Most of these institutions are community banks with less than 5 branches. Unlike large banks such as Bank of America or Wells Fargo which may be able to lean on geographic diversification to ease the strain from CRFR, the geographic concentration of community banks in California and Florida could be an acute vulnerability as CRFR intensifies or insurers fail and exit the market. Increased credit risk, increased operational risk, and even failure are all possibilities for these banks if CRFR conditions worsen.

FSOC and banking regulators’ actions thus far are inadequate and inconsistent with the climate risks bearing down on banks and the financial system.

- FSOC Chair Yellen’s statements at the July 2023 meeting convey the importance and urgency of CRFR:

  “The threat of climate change has been something that I’ve spoken about for decades, and it’s something that we increasingly see in our daily lives. I believe it is imperative that we continue to take decisive action to fight climate change, for the sake of our planet and for the benefit of the global economy.”

- However, the FSOC’s and banking agencies’ slow, half-hearted actions suggest the opposite.
  - In October 2021, the FSOC released its first report on CRFR, establishing CRFR as a threat to financial stability. **Two years later**, the 2023 Staff Progress Report spends 23 pages describing little tangible progress beyond setting up working groups and establishing a mechanism to collect and organize CRFR data (Joint Analysis Data Environment or “JADE”). Frustratingly, access to JADE will not be shared outside FSOC member agencies.

- In January 2023, the Fed launched a pilot scenario analysis project "to learn about large banking organizations' climate risk-management practices and challenges and to enhance the ability of both large banking organizations and supervisors to identify, measure, monitor, and manage climate-related financial risks." The Fed plans to release aggregate results by year end 2023. Similarly, the Office of the Comptroller of the Currency ("OCC") is "conducting exploratory reviews of banks under OCC supervision with over $100 billion in total consolidated assets. The objective of these reviews is to develop a baseline understanding of the banks' management of CRFR, including their current use of and future plans for scenario analysis as a tool to identify and measure climate risk, model risk management, data capabilities and related challenges in obtaining data, and data limitations." Both efforts lack the speed, conviction, and urgency commensurate with the threat that CRFR presents to the banking industry and the financial system as a whole. They are also a stark contrast to the more proactive response by the European Central Bank, which recognizes that climate change presents challenges to broader central banking objectives and involves supervisory interventions for financial institutions to account for climate risk.
- Chair Yellen also announced the appointment of a Climate Counselor, but the described responsibilities of this individual focus on "leading Treasury's efforts to facilitate and unlock the financing needed for investments to achieve a net-zero economy at home and abroad," not CRFR.

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