ESG Research

Bank Regulation And Disclosure To Foster Climate-Related Risk Analysis

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Climate-related risks are being considered in stress testing, prudential frameworks, and disclosure standards, to raise banks' awareness of and preparedness for such risks. Still, banks face many obstacles to the effective assessment and management of those risks.

This report does not constitute a rating action.

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Numerous regulatory initiatives globally are raising banks' awareness of and preparedness for assessing their exposure to climate-related risks, but differing approaches are limiting progress. This research compares and contrasts the approaches of regulators and prudential authorities and aims to identify the key challenges that remain. To this end, we reviewed the major regulatory exercises in several jurisdictions and the most relevant draft disclosure standards issued in 2021 and 2022.

Key Takeaways

- There has been an increasing number of regulatory initiatives across the globe to accelerate the assessment of banks' exposures to and management of climate risks, notably through stress tests.
- Although they support the industry's preparedness, these regulatory exercises are being done at different paces and levels of detail.
- At the same time, banks face methodological challenges and data availability issues that continue to hinder progress in assessing their vulnerability to climate-related risks.
- Another hurdle for banks is navigating the numerous recommendations and standards to disclose climate risks, with different approaches to identifying issues to report on, and some still under development.
- The real step-change would be globally agreed analytical approaches and disclosure standards to enable banks, regulators, and investors to assess climate-related risks more consistently.

Supervisory Initiatives Are Helping Banks Analyze Climate-Related Risks, Although Progress Varies

Regulatory bodies globally are working on various initiatives to address climate-related risks for banks, including through the Network for Greening the Financial System (NGFS). Recently, the higher frequency of severe weather events is also pushing banks to prioritize climate-risk analysis.

In some jurisdictions, in Europe and Asia-Pacific (APAC) for example, the analysis of climate-related risks is more advanced than in others. Some regulators have helped guide banks on how to better integrate environmental considerations into their risk management frameworks and business strategies. For instance, the European Central Bank's (ECB's) guide on climate-related and environmental risks, released in November 2020, enhanced the banking industry's awareness and preparedness. However, this foundational exercise has not yet been completed in several countries.

The increasing role of climate stress testing is a key trend we identified earlier this year (see "Key Trends That Will Drive The ESG Agenda In 2022," published Jan. 31, 2022). Regulators' current focus is to assess banks' stages of development in climate stress testing and scenario analysis, aiming to uncover potential systemic risks. We found several common characteristics among Climate Stress Tests (CSTs), including their exploratory nature and the disclosure of only aggregate results, instead of at the individual bank level (see table 1). To date, the main objective has been to assess the preparedness of management teams in understanding, managing, and mitigating climate risks. Only some of these regulatory exercises, namely the CSTs in Europe and in some APAC countries, have disclosed the quantitative impact of climate-related risks on their

banking sectors' creditworthiness. Most CSTs have based their assumptions on some NGFS scenarios. We find that most used relatively mild assumptions, and therefore quantitative results showing only a relatively limited impact on capital are likely underestimating potential future losses. In addition, supervisors have so far focused on assessing the drivers of climate risks through the lens of credit risk analysis, and to a much lesser extent through other types of risk (such as reputational risk, business modeling, legal risk, and strategic positioning). We anticipate that supervisors will fine-tune their stress tests over time, providing more detailed quantitative measures of the climate-related risks at system and individual bank levels.

Europe

The ECB's CST is the most comprehensive and detailed climate stress test we have observed so far.

The quantitative part of this CST involved a subset of 41 European banks projecting potential losses they would incur under disorderly transition and physical risk scenarios. The banks estimated credit and market losses of about €70 billion on aggregate in the three-year disorderly transition and in the two one-year physical risk scenarios (flood, drought, and heat). Based on these estimates, we think the banks could cover such losses via earnings—representing around 18% of 2021 pre-tax profits annually—without capitalization levels being threatened. This is consistent with the results the Bank of England (BoE) reported in May 2022 in its Climate Biennial Exploratory Scenario. The BoE estimated losses of 10%-15% of U.K. bank earnings, not enough to materially reduce capital levels (see "Bank of England Stress Test Suggests The U.K.'s Banks And Insurers Can Absorb Future Climate Risk," published May 25, 2022). That said, we view these estimates as likely understating the climate stress losses banks might face in practice. This is because of data limitations, but also the macro assumptions (based on the NGFS scenarios) being relatively benign and the exercise covering only about one-third of total exposures of the 41 banks in the ECB's CST scope (see "ECB Stress Test: Eurozone Banks Need To Do More To Comprehend Climate Risk," July 11, 2022). The CST results also reveal that banks would face lower losses in an orderly transition scenario than after delayed action, in line with the ECB's economy-wide top-down climate stress test concluded in 2021 (see "Climate Risk Vulnerability: Europe's Regulators Turn Up The Heat On Financial Institutions," Aug. 2, 2021).

Asia-Pacific

The Financial Services Agency of Japan (JFSA) has encouraged banks to establish a governance framework for climate-related risks and factor these risks and opportunities into their business models and strategies.

In collaboration with the Bank of Japan (BoJ), the JFSA has developed a pilot exercise to test banks and insurers' assumptions and models to assess the impact of climate change on their business models and creditworthiness. The results reveal that the banks' estimated increase in annual credit losses was reasonably lower than their average annual net income. However, the report notes that the estimated results depend heavily on banks' analytical models and on banks' various additional assumptions. The JFSA and BoJ are committed to improving the comparability of this analysis and are encouraging the use of common assumptions and standard scenarios.

The Hong Kong Monetary Authority published the results of its pilot climate risk stress test to assess the potential financial impact of climate change on 27 banks.

This accounted for about 80% of the sector. Published in December 2021, the pilot covers a physical risk scenario, focused on typhoons and floods, and two climate transition scenarios

(NGFS based). The results highlight that the one-year credit losses from residential mortgages are expected to increase 25x (from an extremely low level) under the physical risk scenario. The impact is also material under the disorderly transition scenario, where banks' projected annualized credit losses from exposures to high-emitting industries increase 3x compared to 2019. With higher credit costs and an increase in risk-weighted assets, domestic systemically important banks' capital adequacy ratios are expected to drop by 3 percentage points on average over the five-year disorderly transition scenario. Although the sector's resilience is well supported by banks' strong capital buffers, the potential impact of climate change on their profitability and capital could also be notable. As with similar exercises in other jurisdictions, the CST also revealed major challenges in data availability and assessment methodologies.

The Chinese central bank conducted its first climate stress test to assess the financial impact on 23 leading Chinese commercial banks.

The test assesses the impact of an increase in greenhouse gas (GHG) emission costs on the repayment capacities of high-carbon industries—energy, steel, and cement—and the consequences for banks' asset quality and capital adequacy ratios. The test results, published in November 2021, show that if enterprises in these sectors do not decarbonize, their default rates will increase significantly under stress scenarios. However, as Chinese banks do not have high loan-book exposures to these three industries, the central bank's estimated impact on banks' capitalization would be limited with capital adequacy ratios declining by only about 60 basis points to 14.3% by 2030 under the most adverse scenario. The central bank plans to incorporate climate risk stress testing into its macroprudential framework and develop mandatory disclosure requirements for mega banks and listed financial institutions on climate and carbon emissions information.

North America

A pilot exercise by the Bank of Canada and the Office of the Superintendent of Financial Institutions assessed financial institutions' understanding of climate-related risks.

Published in January 2022, the pilot assesses the vulnerability to climate transition risks of six Canadian federally-regulated financial institutions. The analysis, which is built on four climate scenarios over a 30-year horizon from 2020 to 2050, aligns with those developed by the NGFS and focuses on credit and market risks, with top-down and bottom-up approaches. The exercise concludes that Canadian financial institutions are generally at the early stages of building climate-related risk assessment capabilities for transition risks, including through scenario analysis, and reveals differences in analytical tools, capacities, and assumptions across institutions. A parallel survey of the six pilot participants assesses current risk management practices. It reveals that, while most have incorporated climate-related risks into their risk appetite frameworks, they are yet to develop quantitative climate-related risk measures such as key risk indicators and risk limits and other more sophisticated tools to ultimately adjust their strategies and business decisions.

Regulatory oversight of U.S. banks' measurement and management of climate-related risks is accelerating.

Executive Order 14030 (May 2021) resulted in the Financial Stability Oversight Council (FSOC) issuing a report in October 2021 on how member regulatory agencies might assess the financial risks of climate change, improve related data and disclosures, integrate climate-related risks into existing supervisory frameworks or create new ones, and build expertise on climate-related issues. The guidance is non-binding with no mention of timeline or concrete guidance on

incorporating climate-related risks into stress testing or capital requirements. Certain U.S. bank regulatory agencies have responded to the FSOC guidance. For instance, in December 2021 the Office of the Comptroller of the Currency (OCC) released its draft "Principles for Climate-Related Financial Risk Management for Large Banks." This provides the largest OCC-regulated national banks with a framework to measure, manage, and mitigate both physical and transition risks, including through enhanced governance, strategic planning, reporting, and scenario analysis. In September 2021, the research department of the New York Fed published a methodology that could be used to stress test banks for climate transition risk. The chair of the Fed has stated that scenario analysis will be a part of the guidance under development. Toward this goal, on Sept. 29, 2022, the Fed announced a pilot climate scenario analysis with participation by six of the U.S.'s largest banks. The Fed expects to release findings of this pilot by year-end 2023 and these learnings are likely to help in the development of future supervisory stress-testing regimes for climate change.

Latin America

Some regulatory initiatives are more advanced than others in developing climate-related risks analysis for banks.

For instance, in the first half of 2022, Mexico's central bank performed a stress test to assess the impact of physical risk events (like cyclones, droughts, heat waves, and floods) on commercial banks' balance sheets, with the results showing a moderate impact. The Central Bank of Brazil has introduced several resolutions since 1995 to support social and environmental responsibility, with a focus on agribusiness considering Brazil's exposure to the Amazon Forest. In September 2020, the bank set out an environmental, social, and governance (ESG) agenda and has said it will conduct its first climate risk stress test for Brazilian banks, expected to be published before the end of this year.

Table 1

Climate-related risk regulatory initiatives in selected geographies

Geography	Regulatory authority	Climate stress tests (Y/N) - Transition risk and/or physical risk?	NGFS scenarios (Y/N)	Coverage (no. of banks)	Time of publication	Other initiatives to address climate risk
Europe	European Central Bank	Y - Transition and physical risks	Y	104 significant institutions, but only 41 for the quantitative part of the exercise	July 2022	Final guidelines published in November 2020 to explain how the ECB expects banks to prudently manage and transparently disclose climate-related risks under current prudential rules.
U.S.	Primary U.S. Prudential bank regulators, members of the Financial Stability Oversight Council (FSOC)	N - but in September 2022, the Fed announced a pilot climate scenario analysis with participation by six of the U.S.'s largest banks, the findings of which to be released by year-end 2023	N/A	N/A	N/A	FSOC published in October 2021 a report that suggested ways member regulatory agencies might assess the financial risks of climate change, improve related data and disclosures, integrate climate-related risks into existing supervisory frameworks or create new ones, and build expertise on climate-related issues. The Office of the Comptroller of the Currency (OCC) released draft principles providing the largest OCC-regulated national banks with a framework to measure, manage, and mitigate both physical and transition risks.
Canada	Bank of Canada and the Office of the Superintendent of Financial Institutions	N - but a pilot exercise was undertaken to assess the financial system's vulnerability to climate transition risks	Y	Six Canadian federally-regulated financial institutions, including two banks and four life and non-life insurance companies	January 2022	A survey conducted among the six pilot participants to assess current risk management practices.
China	People's Bank of China (PBOC; the central bank)	Y - to assess the impact of an increase in GHG emission costs on the repayment capacities of high-carbon industries, namely energy, steel, and cement	Not available	23 leading Chinese commercial banks	November 2021	Mandatory disclosure requirements regarding climate and carbon emissions information for the mega banks and listed financial institutions are under development.
Japan	Financial Services Agency of Japan (JFSA) and Bank of Japan	N - but the JFSA and BOJ published a report on their pilot exercise to assess the financial system's vulnerability to climate transition risks	Y	Three largest banks and three major non-life insurance groups	August 2022	JFSA published guidance to encourage banks to establish a governance framework for climate-related risks and factor these risks and opportunities into their business models and strategies.
Hong Kong	Hong Kong Monetary Authority	Y - Transition and physical risks	Y	20 major retail banks and seven branches of international banking groups, accounting for about 80% of the banking sector's total lending	December 2021	N/A

Taiwan		N - but the Financial Supervisory Commission plans to finalize a climate stress test scenario by end-2022 and start this exercise in 2023	N/A	N/A	N/A	N/A
Australia	Australian Prudential Regulation Authority (APRA)	N - but a Climate Vulnerability Assessment (CVA) was performed to assess banks' potential exposure to climate risk and to understand how banks could adjust their business models	Y	The five largest banks (accounting for about 75% of system assets)	Expected release: end-2022	In April 2021, APRA released draft guidance for banks, insurers, and superannuation trustees on managing the financial risks of climate change. An aspect of this guidance was the value of using scenario analysis to underpin the quantitative analysis of the potential impacts of different future climate scenarios.
New Zealand	Reserve Bank of New Zealand (RBNZ)	Y - Physical risks (droughts and storm events incorporated into banks' solvency stress tests since 2021)	Y	The five largest banks, accounting for more than 90% of system assets.	December 2021	In 2022, RBNZ plans to further develop climate change sensitivity analyses. The focus will be on coastal and river flooding effects on mortgage exposures, and the impact of drought and emissions pricing on agricultural exposures. The outcomes will inform a full climate change stress test, which will be conducted at a later date.
Brazil	Central Bank of Brazil	N - but in September 2020 the central bank issued an ESG agenda and has stated its commitment to conduct its first climate risk stress test for Brazilian banks, which we expect it will publish by end-2022	N/A	N/A	N/A	Adoption of a green protocol in 1995 and, since then, several resolutions to support social and environmental responsibility, with a special focus on agribusiness, were introduced.
Mexico	Central Bank of Mexico	Y - Transition and physical risks	Y	Banks	June 2022	Banco de México is undertaking an analysis of the banking system's physical and transition risk exposures. It is currently developing a framework to assess climate-related macro financial risks with a forward-looking perspective, which is expected to be completed in 2022.
Peru	Supertintendencia de Banca y Seguros y AFP	N - but it is working to incorporate climate risk within the stress model	N/A	N/A	N/A	N/A
Chile	Comisiòn para el Mercado Financiero	N - but it approved the planning of the Climate Change Working Group for 2022-2023	N/A	N/A	N/A	N/A

N/A--Not applicable.

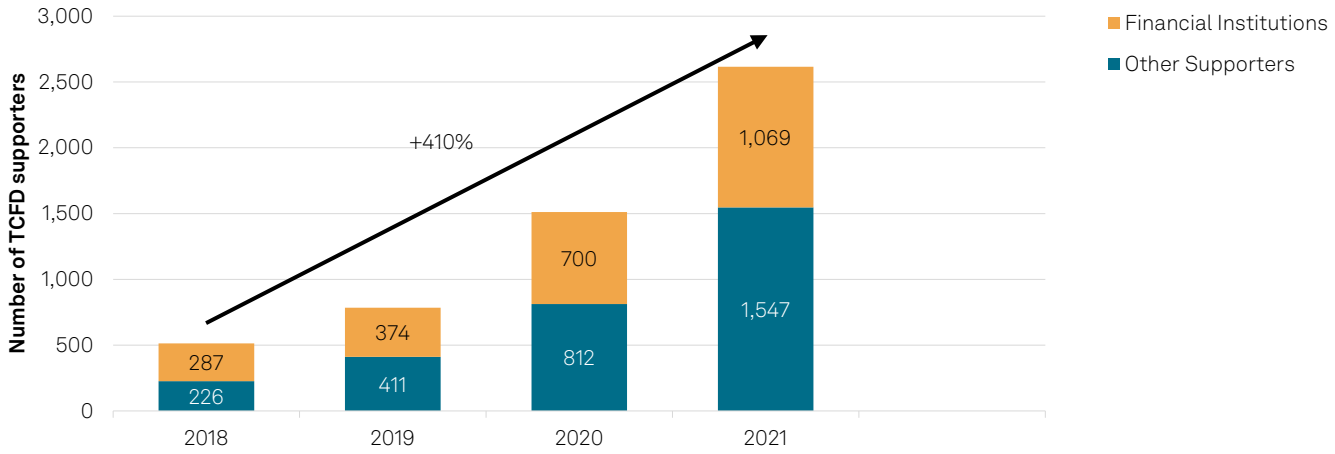
Banks Struggle To Navigate The Plethora Of Recommendations And Disclosure Standards

In our view, several jurisdictions' initiatives to improve sustainability disclosures will likely enhance the quality and the comparability of climate-related information. This is all the more supported by the fact that most of them refer to the recommendations of the Financial Stability Board's Task force on Climate-related Financial Disclosures (TCFD) as an effort to align and harmonize definitions, processes, or metrics related to climate-related risks. Yet, banks have to navigate numerous and various recommendations and disclosure standards, some still under development. Another hurdle for banks is getting access to climate-related information and data from the various economic sectors and companies to which they lend, or in which they invest, rendering data-availability issues even more pronounced.

In June 2017, the TCFD released its recommendations for a global framework for companies to develop more effective climate-related financial disclosures through their existing reporting processes. Since then, companies, including banks, have increasingly supported alignment with the TCFD recommendations (charts 1 and 2), and multiple initiatives have been launched to encourage better disclosure of climate-related information.

Chart 1

The number of TCFD supporters is increasing fast



TCFD--Task force on Climate-related Financial Disclosures. Source: TCFD 2021 Status Report.

Europe appears furthest along to date in terms of setting up climate-related disclosure standards.

The European Commission released its proposed Corporate Sustainability Reporting Directive (CSRD) in April 2021. This was part of a broader sustainable finance policy package that was open for consultation until early August 2022. The CSRD requires all large and listed EU companies to report in line with mandatory EU sustainability reporting standards for fiscal years beginning on or after Jan. 1, 2023 (while small and midsize listed enterprises get a further three years). The EU directive aims to improve the consistency and comparability of companies' sustainability reporting by requiring them to publicly disclose information about sustainability issues in compliance with EU regulations, including the EU Taxonomy, and according to the concept of "double materiality." This entails analysis of the risks they face ("financial materiality") as well as how their activities might affect the environment and people ("impact materiality"). A new set of sustainability reporting standards referring to the TCFD, being developed by the European

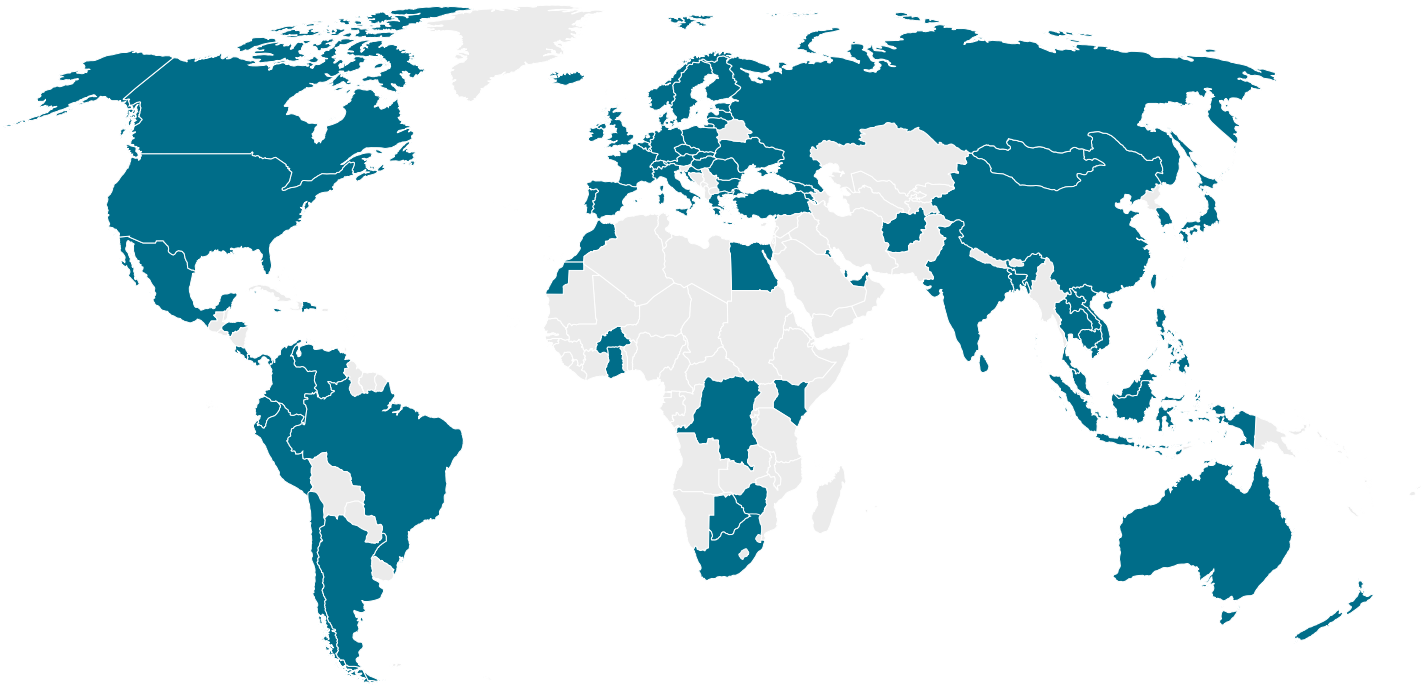
Financial Reporting Advisory Group (EFRAG), is earmarked for the end of October 2022. The EFRAG's disclosure standards adopt the "double materiality" concept to determine significant sustainability issues on which banks should report. A second set of complementary sustainability information, including more sectoral considerations, will likely be adopted by the end of October 2023.

The U.S. Securities and Exchange Commission published in March 2022 a proposal to standardize climate change reporting in companies' annual reports and other public documents.

The SEC's proposal applies to publicly traded companies in the U.S. and, if implemented, would require these companies to, among other things, report on their climate-related governance practices and transition plans to achieve decarbonization targets. The SEC's proposal is mainly focused on financial materiality; it would require companies to disclose how climate change is affecting their business and financial results. Required climate-related information would include disclosing GHG emissions, a common metric for assessing a company's exposure to climate-related risks. In particular, all publicly traded companies would be asked to disclose their scopes 1 and 2 emissions, while scope 3 disclosure would be required only for companies that have either set a decarbonization target that includes scope 3 emissions or have found scope 3 emissions to be material to their operations and financial performance. Companies would also be required to explain how they have identified climate-related risks and their potential impact.

Chart 2

TCFD supporters are widespread across the globe
3,000+ supporters across 114 countries



TCFD--Task force on Climate-related Financial Disclosures. TCFD supporter means that the organization believes the TCFD recommendations provide a useful framework to increase transparency on climate-related risks and opportunities within financial markets. Because many different types of organizations support the TCFD, there are not specific requirements for each type of supporter--however supporting organizations are expected to encourage TCFD implementation. For companies, support is a public commitment to work toward their own implementation of the TCFD recommendations. Source: TCFD.

The International Sustainability Standards Board (ISSB) has developed a global sustainability disclosure standard.

The International Financial Reporting Standards (IFRS) Foundation set up the ISSB in November 2021 to establish IFRS Sustainability Disclosure Standards. In March 2022, the ISSB released two drafts for consultation. The first covers general requirements for disclosing sustainability-related financial information (IFRS S1). It requires companies to disclose, as part of their financial reporting, information about their significant sustainability-related risks and opportunities and how sustainability-related financial information is related to information in their financial statements.

The second relates to climate-related disclosures (IFRS S2). It incorporates the TCFD recommendations, including metrics tailored to industry classifications derived from the industry-based Sustainability Accounting Standards Board standards. It requires companies to disclose information about how they expect climate change to affect their business model, strategy, and financial performance, as well as the governance processes, controls, and risk management practices they are using to monitor and manage climate-related risks and opportunities. The proposed disclosure requirements include not only scopes 1, 2, and 3 emissions, but also companies' transition plans and business-strategy resilience in multiple climate-change scenarios.

The ISSB's focus is on the financial materiality of sustainability issues, including those related to climate. Having closed the consultation period at end-July 2022, the ISSB is now expected to issue its new standards by the end of the year. As the adoption of the ISSB's disclosure standards will not be mandatory, individual jurisdictional authorities will decide whether to require their application. We will need to wait and see the extent to which the ISSB standard is ultimately adopted by individual jurisdictional authorities to assess its impact on driving consistency of reporting on sustainability-related risks and opportunities including climate-related disclosures across regions.

The European Banking Authority recently published its final draft technical standards for Pillar 3 disclosures of ESG risks.

Banks in Europe will be required to publish qualitative information about ESG risks and quantitative data about their exposure to climate transition and physical risks. These disclosures are to be aligned with the TCFD, and the classifications specified in the EU's Taxonomy Regulation. Banks will also be asked to report their green asset and banking book taxonomy alignment ratios, indicating the extent to which their financing activities are associated with economic activities aligned with the Taxonomy Regulation and the Paris Agreement. Banks will also need to clearly show how they are mitigating climate transition and physical risks, including information about how they are engaging with clients in the process of adapting to climate change and the transition to a more sustainable economy.

These initiatives highlight an already heightened awareness as to how relevant for policymakers climate-related disclosure is to addressing climate risks.

They also represent important progress toward a standardized and reliable set of climate-related information. We believe the creation of harmonized climate-related disclosure will help reduce information asymmetries, enhance transparency, and improve comparative analysis of environmental data. But the real step-change would be globally agreed disclosure standards. These would enable banks, regulators, and investors to assess climate-related risks more accurately. However, reaching global agreement is challenging and will take time; we can see this clearly in the ongoing efforts to converge US GAAP and IFRS.

The Prudential Treatment Of Environmental Risks Is A Complex Issue

The incorporation of environmental risks into the Pillar 1 regulatory capital framework could help with the consistent addressing of global risks such as climate change. According to the Basel Committee on Banking Supervision (BCBS) and the EBA, climate-related risks can be analyzed through the lens of traditional risk categories (credit, market, liquidity, operational, and reputational; see "Basel Committee Proposal Highlights Banking Authorities' Focus On Climate-Change Risks," Nov. 17, 2021). That said, the data availability in climate-related information disclosures as well as the analytical challenges of measuring the financial impact of climate change on banks' business and financial performance make it difficult for financial regulatory authorities to incorporate climate-related risks into their prudential frameworks (see "Capturing Environmental Risks In Banks' Capital Frameworks Is An Ongoing Discussion In Europe," May 6, 2022).

Several options to integrate climate-related risks into prudential measures are being considered.

A recent ECB publication discussed potential tools to embed climate-related risks into macroprudential measures for the banking sector. Some options (like introducing a sectoral systemic risk buffer or applying a concentration threshold or borrower-based measures) seem more feasible than others and could help banks increase their resilience to potential risks stemming from their exposures to sectors vulnerable to climate change, according to the ECB. Some also have the flexibility of not being capital-based measures. Some others (like concentration charges or the introduction of new sectoral risk weights or minimum loss given defaults) are more complex because they could materially raise capital requirements, thereby having potential negative side effects and, in some cases, might also overlap with microprudential requirements already in place (table 2), according to the ECB.

Amending Pillar 1 capital requirements would be the most difficult option

In a May 2022 discussion paper, the EBA appears unlikely to introduce brown and/or green factors into banks' Pillar 1 capital requirements, at least for now (see "Capturing Environmental Risks In Banks' Capital Frameworks Is An Ongoing Discussion In Europe," May 6, 2022). While we understand certain banks' appetite for a discount on the capital requirement of green assets, which could encourage them to fund the green transition, we think it is better to keep risk weights calibrated with the probability of default associated with these assets. It is currently difficult to find evidence that green assets carry a lower probability of default.

While the EBA explored some potential amendments within the Pillar 1 framework that could enhance the incorporation of environmental risks into existing risk factors (especially credit risk) we view as unlikely any large near-term increases in capital requirements related to these risks. This is not only because of the difficulties in applying risk-differentiating factors, but also because European banks could be perceived as riskier compared with international peers. Conversely, we anticipate that evidence of differences in the vulnerability of banks because of climate change might lead to some Pillar 2 add-ons (as has already happened to reflect deficiencies in risk management, high litigation risks, or other aspects of governance), which could ultimately influence banks' strategies over time.

Table 2

Some Candidate Tools The ECB Has Discussed For Addressing Climate-Related Risks In The Banking Sector

Options	Goals	Selected helpful attributes	Selected drawbacks	Feasibility according to the ECB
(Sectoral) systemic risk buffer (SyRB)	• Increase resilience against materialization of risks from such exposures • Discourage exposure to certain geographical areas for physical risk and/or critical sectors for transition risk	• Very flexible	• Challenging calibration • Complex classification system of sectors/geographical areas exposed to climate risk • Currently applicable for domestic exposures only	More
Concentration threshold	• Non-capital-based measure limiting exposure to a certain geographical area for physical risk and to critical sectors for transition risk	• Targeted measures	• Challenging calibration • Complex classification system of sectors/geographical areas exposed to climate related risks	More
Borrower based measures (BBMs)	• Decrease vulnerability of households toward climate risks and change the pattern of demand toward more energy-efficient houses or houses located in geographical areas less prone to physical risks (if applied in mortgage markets)	• Very flexible, no additional capital	• Gradual effect on resilience • Targeting only specific portfolios	More
Concentration charge	• A risk-weighted capital add-on that applies once exposures to a certain sector or geography particularly exposed to climate risk exceed a certain threshold	• Targeted measures	• Challenging calibration • Complex classification system of sectors/geographical areas exposed to climate risk	Less
Sectoral requirements (risk weights or minimum LGD)	• Higher risk weights or minimum LGD to be applied to exposures vulnerable to high physical and/or transition risk	• Mandatory reciprocity • (limiting arbitrage)	• New complex tool • Challenging calibration • Impact on microprudential requirements	Less

Note: LGD--Loss given default. Source: S&P Global Ratings on ECB/ESRB report (The macroprudential challenge of climate change, July 2022).

Banks Already Disclose Long-Term Climate Commitments But Details And Interim Targets Are Usually Missing

Over the past few years, an increasing number of banks have publicly disclosed their commitments to environmental sustainability. The most common commitment is to be net-zero in 2050. Most banks' public commitments to reduce their financed GHG emissions focus on the same high-emitting industries, especially the oil and gas and coal sectors. Their goals and commitments for some other economic sectors are less clear, in our view. These include real estate (residential or commercial) which often represents the majority of a bank's exposures (at least, but not only, in Europe) and is a material contributor to worldwide GHG emissions. As importantly, most of these commitments do not provide enough details, barely define interim targets, and mostly concern corporate lending and overlook capital market activities like bond or equity underwriting.

We also note that commitments to reduce financed emissions toward net-zero also depend on borrowers reducing their own emissions. At the same time, reducing absolute exposures is not an easy decision given that a reduction of financing facilities could affect some economic sectors, especially in economies that are largely dependent on fossil fuels. This is why we observe that some banks are increasingly engaging with companies on climate-related topics. While exclusion policies can help reduce the carbon footprints of lending or investment portfolios, this approach has its drawbacks, including breaking the relationship with revenues from these companies. Proponents of engagement therefore prefer to influence change by engaging with companies on the climate transition. Whether banks take the negative screening or engagement approach, they will remain under pressure to explain how they arrive at their decisions. They will also face pressure to credibly measure and disclose the concrete outcomes of their chosen approach.

Better Disclosure Of Banks' Climate-Related Risks Will Inform Our Credit Rating Analysis

We include the impact of environmental credit factors, such as climate transition risks, if we deem these material to our analysis of creditworthiness and if we have sufficient visibility on how those factors will evolve or manifest. Environmental factors currently have a limited impact on our bank credit ratings. For most rated banks our environmental credit indicator—reflecting the influence of this factor on our credit rating analysis—is E-2, indicating a neutral influence on our credit rating analysis (on a 1-5 scale with 5 being very negative). We believe that significant business and sector diversification in banks' loan portfolios mitigates their vulnerability to climate transition and physical risks. There are exceptions, though. A country's economic structure could explain high exposure to these risks for some banks.

Despite environmental factors being generally a neutral consideration in our credit rating analysis on most rated banks, we think that such factors will likely become more negative considerations over time, mainly due to climate-related risks. Public policy changes to support the transition to a low-carbon economy and more frequent severe climate events will increase the materiality of these risks and opportunities, as well as amplify the effects they might have on financial systems. As such, a bank's ability to measure and mitigate climate-related risks will likely become a more important factor that could affect its creditworthiness. For instance, our credit loss estimates at both system and individual bank levels could be impacted by this factor.

More harmonized and comparable disclosures of banks' exposures and vulnerabilities to climate and environmental risks would better inform our credit rating analysis and help us further differentiate among banks. As supervisors and banks provide greater transparency on the financial sector's vulnerability to these risks, this will likely increase the quality and the quantity of data we can leverage in our analysis.

Beyond Climate Change, Nature-Related Risk Analysis Is Gaining Traction

Climate-related risks are in the spotlight, but the notion that nature-related financial risks, including biodiversity loss and ecosystem degradation, could have material implications for financial stability is only now gaining traction. In March 2022, the NGFS published a statement encouraging financial authorities to hone skills and increase their capacity to consider these risks more in their supervisory activities. It also announced the creation of a task force to strengthen the analysis of nature-related risks, which is less advanced than that of climate change.

Biodiversity loss and climate change are interconnected. Biodiversity loss can translate into physical and transition risks and, conversely, climate change can cause biodiversity loss. The potential consequences for financial institutions and ultimately for financial stability explain regulators and investors' increasing focus on nature-related risks. That said, difficulties in measuring biodiversity loss and other nature-related risks make the assessment of their impacts even more challenging than climate change.

A few jurisdictions' initiatives highlight some financial authorities' efforts to address these risks. For example, in the Netherlands and France, the central banks tried to measure the extent to which their financial institutions are exposed to risks from biodiversity loss. They found that 36% and 42%, respectively, of their financial institutions' investments depend heavily on one or more ecosystems, concluding that the loss of biodiversity would substantially disrupt business processes and lead to financial losses.

We expect that the assessment of nature-related risks will gradually be incorporated into forward-looking scenario analysis, similarly to climate change. Progress on this front would require increased biodiversity-related data and disclosure, which is currently even less advanced than climate-related disclosure.

S&P Global Ratings Related Research

- ECB Stress Test: Eurozone Banks Need To Do More To Comprehend Climate Risk, July 11, 2022
- Bank of England Stress Test Suggests The U.K.'s Banks And Insurers Can Absorb Future Climate Risk, May 25, 2022
- Capturing Environmental Risks In Banks' Capital Frameworks Is An Ongoing Discussion In Europe, May 6, 2022
- The ECB's Climate Risk Stress Test: Raising The Bar For Banks, Feb. 3, 2022
- Key trends that will drive the ESG agenda In 2022, Jan. 31, 2022
- Basel Committee Proposal Highlights Banking Authorities' Focus On Climate-Change Risks, Nov. 17, 2021
- Climate Risk Vulnerability: Europe's Regulators Turn Up The Heat On Financial Institutions, Aug. 2, 2021

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