

Legal Update

BCBS Issues Two Climate-Related Reports Highlighting Work Remaining

On April 14, 2021, the Basel Committee on Banking Supervision (BCBS) issued two climate-related reports—[Climate-related risk drivers and their transmission channels](#) and [Climate-related financial risks - measurement methodologies](#).

REPORT ON RISK DRIVERS AND THEIR TRANSMISSION CHANNELS

The first report synthesizes existing literature and finds (bold red added for emphasis):

- **Banks and the banking system are exposed to climate change through macro- and microeconomic transmission channels that arise from two distinct types of climate risk drivers.** First, they may suffer from the economic costs and financial losses resulting from the increasing severity and frequency of physical climate risk drivers. Second, as economies seek to reduce carbon dioxide emissions, which make up the vast majority of greenhouse gas (GHG) emissions, these efforts generate transition risk drivers. These arise through changes in government policies, technological developments, or investor and consumer sentiment. They may also generate significant costs and losses for banks and the banking system.
- **Evidence suggests that the impacts of these risk drivers on banks can be observed through traditional risk categories.** The table below summarizes the potential effects in each risk type:

Risk	Potential effects of climate risk drivers (physical and transition risks)
Credit risk	Reduction in borrowers' ability to repay and service debt (income effect) or banks' ability to fully recover the value of a loan in the event of default (wealth effect).
Market risk	Reduction in financial asset values, including the potential to trigger large, sudden and negative price adjustments where climate risk is not yet incorporated into prices. Climate risk could also lead to a breakdown in correlations between assets or a change in market liquidity for particular assets, undermining risk management assumptions.

Liquidity risk	Reduction in banks' access to stable sources of funding as market conditions change. Climate risk drivers may cause banks' counterparties to draw down deposits and credit lines.
Operational risk	Increase in legal and regulatory compliance risk associated with climate-sensitive investments and businesses.
Reputational risk	Increase in reputational risk to banks based on changing market or consumer sentiment.

- **Existing literature largely focuses on the impacts of climate risk drivers on those aspects of the economy relevant to banks' credit risk and to a lesser extent on market risk.** There is little work that takes climate risk drivers all the way through to the impact on banks. So far, empirical analysis of realized impacts is largely focused on the wider economic impacts of observed physical risks. Given its forward-looking nature, analysis of transition risks is focused on scenario analysis. **To better understand transmission channels going forward, analysis on the realized impact of transition risks on banks across various jurisdictions would be valuable.**
- **The report highlights how the economic and financial market impacts of physical and transition risks can vary according to geography, by sector and by economic and financial system development:**
 - Banks' business models and exposures can increase the severity of any climate-related risk impact. This is because certain economic sectors will have greater sensitivities to acute climate-related physical risks or to the transition to a low-carbon economy;
 - Climate-related exposures vary according to the geographic location of a bank and its exposures. This is due to heterogeneity in weather patterns, natural environments, political systems and consumer sentiment; and
 - Literature suggests that less-developed economies are more susceptible to climate risk factors. They might also have lower initial resources to manage resultant losses.
- **Climate-related events and risks are uncertain and may be subject to non-linearities.** Physical risks have been categorized into acute and chronic events, and while some aspects of those risks can be predictable, there is increasing uncertainty as to the location, frequency and severity of these events. **There is uncertainty about how changes in policy, technology and consumer sentiment contribute to shaping transition risk.**
- **To size climate-related financial risks, banks and regulators require plausible ranges of scenarios to assess the potential impacts of both physical and transition risk drivers on their exposures. These scenarios need to be combined with sufficiently granular data that capture the climate sensitivity of their exposures and are subject to an appropriate methodology,** as discussed in the companion report *Climate-related financial risks – measurement methodologies*.
- **There is a limited amount of research and accompanying data that explores how climate risk drivers feed into transmission channels and the financial risks faced by banks.** Existing analysis does not generally translate changes in climate-related variables into changes in banks' credit, market, liquidity or operational risk exposures or bank balance sheet losses.

Instead, the focus is on how specific climate risk drivers can impact narrowly defined sectors of particular economies, individual markets or top-down assessments of the macro economy as a whole.

- **The report concludes that traditional risk categories used by financial institutions and reflected in the Basel Framework can be used to capture climate-related financial risks. To explore this further, a comprehensive analysis could usefully be undertaken on how climate-related financial risks can be incorporated into the existing Basel Framework.** Part of the Basel Committee's near-term work would be to identify gaps in the current Basel Framework, where climate-related financial risks may not be sufficiently addressed. This mapping exercise would be comprehensive in nature and could act as a conceptual foundation for the Committee's future work in exploring possible measures to address these gaps where relevant.
- **A better understanding of risk drivers and their transmission channels across all risk types could be gained from further research by a broader community. In this regard, further work on the impact of climate risk drivers on bank exposures would be valuable.** Empirical work to better understand indirect effects would also be informative. Broader steps for data improvements are set out in the companion report on measurement methodologies. To facilitate the research, further steps to improve data availability would be encouraged.

REPORT ON MEASUREMENT METHODOLOGIES FOR FINANCIAL RISKS

The companion report, which provides an overview of conceptual issues related to climate-related financial risk measurement and methodologies, as well as practical implementation by banks and supervisors, makes five key findings (again, bold red added for emphasis):

- **First, climate-related financial risks have unique features, necessitating granular and forward-looking measurement methodologies.** While conventional risk management tools may serve as a springboard for climate-related financial risk measurement, **the impacts from climate risk drivers contain unique features that could challenge the incorporation of these risks into existing processes. A particularly high exposure granularity may be needed to assess both physical risks (geolocational data, given spatially varying characteristics of climate impacts) and transition risk (counterparty- and industry-level data capturing risk resulting from a shift from a high- to a low-carbon economy).** This need arises from heterogeneities at different levels (e.g., sectoral, jurisdictional or geographic). **Further, key conditioning elements relate to uncertainty stemming from data, models or the limited ability of the past to act as a guide for future developments.** In addition, effective measurement should consider the availability and adoption of any risk mitigation or reduction techniques by banks or their counterparties.
- **Second, to date, measurement of climate-related financial risks by banks and supervisors has centered on mapping near-term transition risk drivers into counterparty and portfolio exposures.** Areas of particular focus include capturing the carbon intensity of portfolios and sectoral exposures, devising internal climate risk ratings or scores, or estimating

the prospect of more stringent climate regulation. **Progress has been less tangible in empirically capturing banks' exposures to physical risks. This may be at least partly attributable to considerable additional non-standard data requirements associated with quantifying physical climate impacts or confidence in the ability to insure against prospective losses.**

- **Third, banks and supervisors have predominantly focused on assessing credit risk as they advance in applying methods to translate climate-related exposures into categories of financial risk. A considerable focus on credit risk modeling has contrasted with a lesser focus on market risk and a very limited focus on liquidity and operational risk.**

Credit risk quantification efforts are mainly focused on addressing risks to corporate lending and real estate exposures, whereas other risk assessments, including on reputational risk, have remained predominantly qualitative. Moreover, the adoption of climate-related metrics has also been instrumental in allowing banks to communicate more actively with their stakeholders as they seek to manage reputational risks. Methodological efforts have built upon exposure mapping, with use of a varied set of candidate methodologies. Available methods specifying the paths of the main economic variables that underpin the performance of assets have run along a spectrum between bridging high-level features of climate modeling with economic and financial modeling to methods which account for complex feedback and amplification effects inherent to associated systems.

- **Fourth, while banks and supervisors remain at an early stage of translating climate-related risks into robustly quantifiable financial risk, work continues to gather pace.**

Initial efforts have focused mainly on identifying climate-related risks and related exposures. Methods linking these to traditional risk parameters (such as probability of default or loss-given-default) remain, in contrast, often in early stages. In general, the retooling of in-house systems for risk assessment purposes appears to face limitations, evidenced by banks' extensive use of external providers. **As pilot analyses have concluded, the need for forward-looking methodologies and multiple scenarios is increasingly recognized by banks and supervisors—but frameworks to systematically translate climate change scenarios into standard financial risk are not in place and currently require a mix of approaches.** Initial scenario analyses and stress tests have in many cases focused on selected portfolios or exposures (for transition risks), and selected hazards (for physical risks). Supervisory survey results and industry outreach also indicate that banks and supervisors often base their scenario analyses or stress tests on scenarios developed by third parties and tend to include scenarios for both transition and physical risks—though here also a stronger focus has been put on transition risk to date. **In both cases, efforts are ongoing to improve the translation of scenarios into financial risk parameters over typical risk management horizons.** Challenges include the range of impact uncertainties, limitations in the availability and relevance of historical data describing the relationship of climate to traditional financial risks, and questions around the time horizon. On the latter, forward-looking methods tend to span a longer time frame than traditional macroeconomic exercises, therefore requiring conditioning assumptions about balance sheet adjustment options.

- **Fifth, key areas for future analytical exploration relate to measurement gaps in data and risk classification methods, as well as methodologies suitable for assessing long-term**

climate phenomena not always of a standard nature. The mapping of climate risk drivers to financial exposures also requires classifying and differentiating risks across exposures. These two features of measurement—data and risk classification—warrant further investment. First, new and more granular data collections will probably be needed for both physical and transition risk assessments. Such needs range from geolocational data capturing risks of physical damage associated with acute or chronic physical risks to transition risks associated with climate adaptation actions at the level of industrial sectors and their constituent firms. Needs also exist on the side of financial data, notably for highly granular data collections to capture exposures of small and large financial institutions alike. Gaps include the quantity and quality of data reported by banks' counterparties (particularly by smaller firms), as well as issues related to the consistency of risk assessments at both the portfolio and exposure level. Second, banks and supervisors also face challenges applying consistent risk differentiation between individual exposures at a sufficient level of granularity across jurisdictions, as well as a lack of convergence in data standards limiting exposure comparability for internationally active banks.

In short, these BCBS reports show that, while significant progress has been made in the assessment and quantification of climate-related financial risks by banks and their supervisors, further work remains. The BCBS's approach and assessment mirror recent [announcements](#) by the Federal Reserve on its framework for assessing climate risk and indicate that the BCBS still has significant methodological and quantitative issues to resolve on how climate change risk impacts the financial system before this risk can be incorporated into bank regulatory requirements.

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