



Opinion Column - Denis Beau

France's new step for the supervision of climate-related financial risk

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Denis Beau of the Banque de France explains the results of its pilot exercise, and what comes next

The [pilot exercise](#) on climate risk conducted by France's Autorité de Contrôle Prudentiel et de Résolution (ACPR) is unprecedented. It is the first time that a supervisor has organised for the banking and insurance groups under its responsibility such a comprehensive and challenging exercise to assess their exposure and contemplated response to the transition and physical risks related to climate change.

Those physical and transition risks may have different but cumulative impacts. The ACPR, with the help of Banque de France staff, prepared this exercise in line with the guidelines created by the Network for Greening the Financial System (NGFS), and assessed two of the scenarios published by the NGFS in June 2020.

The innovative and ambitious nature of the pilot exercise lies in the specific features embedded. These include the 30-year time horizon over which financial risks related to climate change need to be assessed, the global geographical dimension, and the incorporation of policy and technological changes.

The global dimension is crucial for internationally active institutions like French banking and insurance groups, as climate change is a global phenomenon but unevenly distributed across jurisdictions. The effects of climate policies and technological changes are essential for assessing transition risk scenarios, as well as of the interactions between the economy and climate. But they are also needed to assess the financial consequences of physical risks in the absence of any active climate policies.

Besides the objective of assessing exposure and response to the risks stemming from climate change, the ACPR pilot exercise was designed to raise awareness among banks and insurance companies and help them better understand the transmission channels of climate-related risk. To that end, the ACPR implemented innovative methodologies to identify the most sensitive factors, beyond greenhouse gas emission, accounting for substitution effects and negative demand shocks resulting from the implementation of carbon tax policies.

A key and novel feature of the ACPR exercise relies in the implementation of the dynamic balance sheet assumption from 2025 to 2050, complementing the standard static balance sheet assumption applied for the first 5 years of the exercise. The participating institutions welcomed the relevance of this approach and the many advances it led to in terms of cross-disciplinary team mobilisation, internal discussions on risk analysis and the limits of the models currently used. It also helped firms to think about the strategic orientation of their lending, investment and insurance policies, their consistency with their public commitments and the impact of climate change on their business models.

The pilot exercise therefore served as a catalyst for spurring debate and, for some, sped up the mobilisation of teams and resources. Although this first exercise was carried out on a voluntary basis without implications in terms of capital requirements, it belongs to the set of prudential tools used by the ACPR to foster the integration of climate change risks into the governance and the risk management of the supervised entities.

Main Results

The main outcomes of this exercise revealed an overall "moderate" exposure of French banks and insurers to climate risks. This conclusion must be put into perspective in view of the uncertainties concerning both the speed and the impact of climate change. It also crucially depends on the assumptions, the scenarios analysed and the methodology underlying this exercise. Based on the current balance sheet structures, it nevertheless appears that considerable efforts must be made to help significantly reduce greenhouse gas emissions by 2050 and to contain the rise in temperature by the end of the century.

The banking and insurance sectors' moderate exposure is consistent with the projections of the Intergovernmental Panel on Climate Change (IPCC) used in this exercise. These show that France (which accounts for about 50% of the exposures of French financial institutions) and Europe (which

accounts for about 75% of exposures) are relatively less affected by climate change than other geographical areas. France also produces less than 2% of global greenhouse gas emissions.

This favourable situation is due to the high share of nuclear power in electricity production in France. However, this situation is not without risks in the context of climate change, as illustrated by the severe drought episode of summer 2020. The drop in water level made it difficult to cool certain nuclear power plants, leading France to produce or import electricity from coal-fired power stations.

The exposure of French institutions to the sectors most impacted by transition risk, as identified in this exercise (including mining, coking and refining, oil, agriculture, construction, etc.), is relatively low. For banks, exposures to sensitive sectors represent 9.7% of the credit portfolio as of December 31, 2019, and for insurers, 17% of the portfolio (11% of which is insurance exposures to the manufacturing sector alone). In addition, institutions intend to reduce their exposures to these sectors by 2050.

However, these sensitive sectors post the highest increase in the cost of risk, which rises threefold, compared with a 1.4x rise in the overall cost of risk. These sectors also have the largest rise in probabilities of default. In addition, the more disorderly the transition, the higher the cost of risks. The associated increase in the probability of default is indicative of the current underestimation of climate change risks.

Finally, even though France is relatively spared in the IPCC scenarios, the pilot exercise shows that the vulnerabilities associated with physical risk are far from negligible. Thus, based on the information provided by insurers, the cost of claims could rise by a factor of five to six times in certain French departments between 2020 and 2050. The main hazards contributing to this increase in claims are related to the risk of “drought” on the one hand and that of “flooding” on the other, as well as to the rise in the risk of cyclonic storms in the overseas territories (French Caribbean). This increase in claims highlights an insurability risk in certain parts of the country, a risk which insurers fully offset by an increase in insurance premiums.

Next steps

Hopefully, this exercise will pave the way for subsequent tests to be carried out in the near future. It is important that supervisors take up this work in order to design and launch their own climate stress tests in order to contribute to the development of a common base of knowledge and climate risk assessment. In addition, it should contribute to illustrate the needs of ambitious extra-financial accounting framework to provide both comprehensive and comparable data on climate change risks and exposures.

To build further on this first step, new working groups will be set up with stakeholders of the Paris financial centre and with external counterparties. The work will focus on three issues. First, the design of the scenarios, the improvement of the analytical frameworks and the identification of the sensitive sectors. Secondly, methodological approaches for the assessment of “physical risk”, which is a notable area for improvement. And thirdly, the models and data sources used by banks and insurers.

In addition, ACPR and Banque de France are actively contributing to the design and preparation of the climate stress test to be conducted by the European Central Bank in 2022 and are actively involved in the European and international work conducted in several forums, such as the European Insurance and Occupational Pensions Authority, the Basel Committee on Banking Supervision, the International Association of Insurance Supervisors and the Financial Stability Board.

The assessment of financial risks induced by climate change should become routine, and will therefore be repeated regularly. The next ACPR exercise should take place in 2023/2024.

Denis Beau is the first deputy governor of the Banque de France and represents the governor as chair of the ACPR.