BOX V.1
THE RISKS OF CLIMATE CHANGE FOR THE FINANCIAL SYSTEM IN CHILE

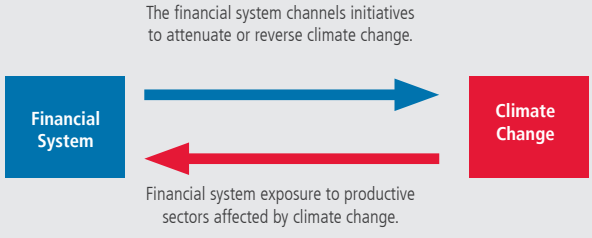
The increase in the plant's temperature (WMO, 2016), attributed to the emission of greenhouse gases (GHG) due to industrial activity, is known to cause climate change. This phenomenon could produce profound changes in human activity and the economic system that sustains it[1]/.

Like all other economic activities, the financial system has the potential to affect the environment, and it could even amplify the effects of climate change, for example, by channeling resources toward contaminating activities. In general, financial entities that adopt environmental sustainability commitments seem to minimize these effects, reorienting resource allocation toward initiatives that help reduce or reverse the effects of climate change.

On the other hand, climate change can have an adverse effect on the financial system, for example, when specific investments or loans are channeled toward productive assets that cease to be viable in the future as a consequence of this phenomenon. In this case, climate change becomes a source of financial risk (diagram V.1, lower arrow).

This box focuses on the analysis of this second dimension—namely, climate change as financial risk—and, in this context, describes the role of the financial regulator in identifying and mitigating climate change as an amplifier of risks to the financial system.

DIAGRAM V.1
Interaction between the financial system and climate change



Source: Central Bank of Chile.

Structural effects of climate change

Global financial markets are currently subject to various sources of structural change, such as immigration, population aging, or technological innovation.

Climate change, however, has characteristics that make it unique within these structural changes (NGFS, 2018). This view is primarily related to its potentially irreversible effects, which are vast in scope and enormous in magnitude, on multiple economic agents and the productive systems in which they operate.

Climate change as a source of financial risk

Climate change presents risks for financial activity, which, according to the conceptual framework initially used by the U.K. Prudential Regulatory Authority (PRA) and later followed by the FSB and the Bank of England, among others, can include physical, transition, and liability risks[2]/.

Physical risks

Physical risk refers to the transmission to the financial system of the impact of severe natural events on highly exposed financial sectors. Such events can include heat waves, landslides, forest fires, floods, storms, sea level rise, droughts, ocean acidification, and changing rainfall patterns.

Traditionally, climatic disasters are a source of operational risk and thus are a central component of financial entities' contingency plans.

The phenomenon of climate change can clearly amplify this risk, to the point of threatening financial losses. These losses require a broader analysis, for example, in the context of stress test processes.

[1]/ IPCC (2018).

[2]/ PRA (2015).

In the case of the losses generated by physical risks, it is essential to identify whether they are insured. If so, the physical events would have a direct impact on insurance and reinsurance companies. Moreover, the materialization of physical risks has the potential to affect diverse financial institutions (banks, institutional investors, etc.) that may be exposed either through productive sectors affected by climate change or through changes in the value of collateral (Bank of England, 2017).

Transition risks

Transition risks reflect the financial impact of the adjustment process toward a low-carbon economy (i.e., climate policy, technology, or market adjustments). For example, the Paris Agreement is an international treaty that considers a series of public climate policies oriented toward reducing GHG emissions or becoming carbon neutral[3]/. The global costs of these initiatives are estimated at over US$830 billion annually[4]/.

This will imply a transition away from productive sectors that are more intensive in GHG emissions toward green or carbon-neutral sectors, which could affect the financial sector through direct exposure or through exposure to related financial assets.

Liability risks

A third risk, known as liability risk, arises from the loss generated for financial and nonfinancial companies by people or corporations seeking monetary compensation for climate events or industry transition. In this case, the indirectly affected institution could, in turn, affect the financial sector.

Role of financial regulators and supervisors

Financial regulators and supervisors play an important role in the incorporation of climate change in the risk management frameworks of financial entities. In this sense, it is essential for financial institutions to correctly recognize, identify, measure, and manage these risks.

Logically, this is an unfolding process that requires substantially broadening the knowledge bases not only of regulators and supervisors, but also of the supervised entities.

One of the most important international actions in this area is the Task Force for Climate-Related Financial Disclosures (TCFD), a private initiative led by the FSB. The objective of the TCFD is to develop guidelines to help entities improve their ability to manage the financial risks arising from climate change; and, based on these processes, to develop voluntary, consistent disclosures that will be useful for investors, lenders, insurance underwriters, and other interested parties (diagram V.2).

In 2018, a group of financial authorities formed the Network for Greening the Financial System (NGFS) for the exchange of international standards and best practices, including requirements for increasing information on the effects of climate change, the development of a common language, the integration of financial risks into the monitoring of financial stability, and a more detailed supervision of financial institutions.

Locally, the Finance Ministry has made important efforts to ensure that the authorities and financial entities incorporate this discussion into their activities, including the creation of a Green Finance Desk.

From the perspective of the CBC, it is important to incorporate these climate issues and the associated risks for the financial system into its financial stability monitoring, which requires first understanding their characteristics, in particular in the context of the Chilean market.

DIAGRAM V.2
TCFD recommendations on information disclosure

Source: TCFD (2018).

[3]/ The Paris Agreement (2015) commits the countries that are parties to the agreement to implement actions to reduce GHG emission, with the goal of avoiding a temperature increase of over 2.5°C (ideally 1.5°C), for 2050.
[4]/ IPCC (2018).