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Too hot to lend? How rising temperatures squeeze corporate credit




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Abstract

High temperatures and a sustained rise in temperatures are not identical climate risks. Based on granular data on French SMEs, our study shows that both are accompanied by a slowdown in lending, particularly for medium and long term loans, but that their impact should not be viewed as similar, as the underlying mechanisms, the sectoral impact, and the regional exposure are distinct.

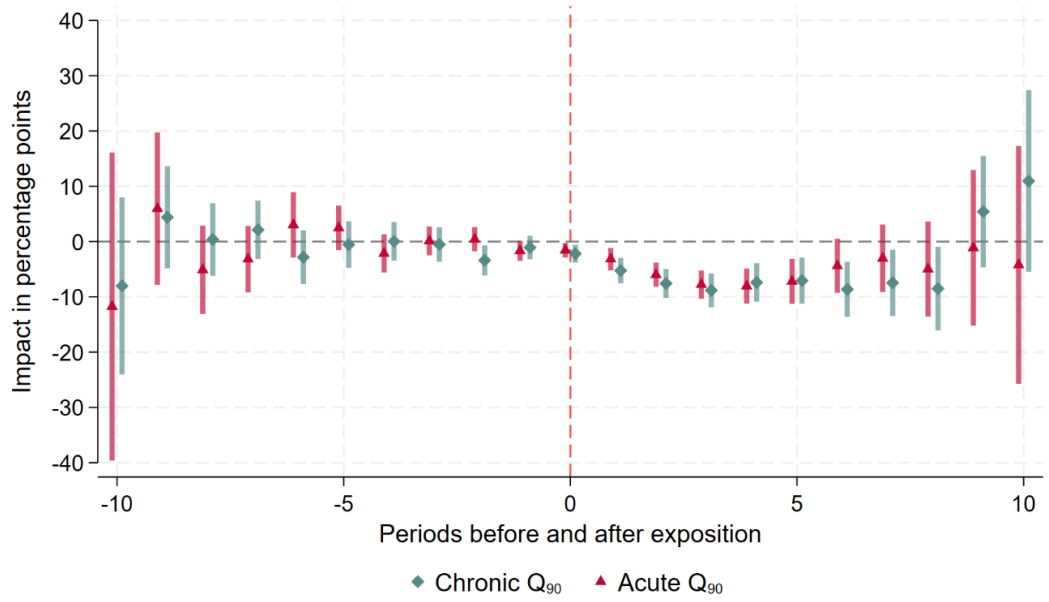
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Banks scale back their lending when faced with rising temperatures

The heatwaves of summer 2026 served as a reminder that high temperatures can quickly disrupt business in many sectors, from construction to catering. The question, therefore, is how credit institutions will respond to this heightened risk. There is a risk that they will reduce their lending due to the expected decline in the profitability of affected borrowers, coupled with an increased risk of default or a fall in the value of collateral.

To analyse this, we cross-reference temperature data from Météo-France with geolocated information on businesses and outstanding loans reported to the Banque de France's Credit Register for the period 2010-23. Our analysis focuses on French small and medium-sized enterprises with a single establishment. The granularity of the data allows us to measure changes in climate exposure around each business location, rather than using a regional average. The study focuses on supply by neutralising demand using a comparison of similar local businesses (in terms of size and sector) on the same date. We then examine how the risk perception of banks changes following a rise in temperature above a certain threshold in a given year. Chart 1 shows a relative decline in the growth of corporate lending to these businesses of around 4.4 percentage points, on average, a few years after increased exposure to a period of rising temperatures.

Chart 1. The impact of rising temperatures on credit growth, by type of exposure to temperature risk



Sources: Banque de France, Météo-France, INSEE, DGFiP, authors' calculations. Note: annual impact following a temperature shock for the 10% of largest deviations (Q90). Chronic risk: average temperature; acute risk: days ≥ 35 °C. 95% confidence intervals.

Two forms of climate risk, two different channels

The analysis distinguishes between two types of temperature-related risks. Indeed, the physical risk associated with climate change is not limited to extreme events. Businesses are also facing a gradual rise in average temperatures, which could have a lasting impact on their profitability.

"Acute" risk refers to an increase in the number of days of extreme heat, with temperatures exceeding 35°C. "Chronic" risk refers to the rise in the annual average temperature compared with a historical baseline. These two types of risk affect businesses through various channels and over different time horizons. Chronic risk can gradually change production conditions by having a lasting impact on profitability, operating costs or the value of assets; acute risk can cause one-off disruptions to activity, infrastructure or supply chains.

Credit growth declines when temperatures rise, particularly in the medium and long term

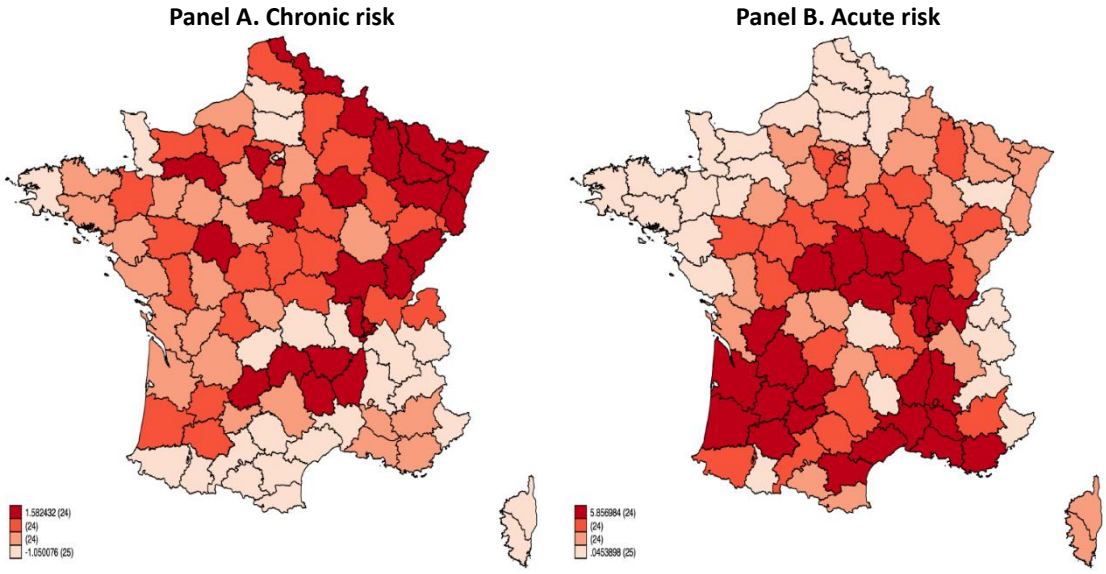
Our results show that dynamics differ depending on the type of temperature risk considered. For the largest acute exposures (the most severe 10%), credit growth contracts by an average of 4.4 percentage points, and this contraction may persist for up to five years. For a deviation of equal severity, chronic warming leads to a more sustained decline in growth, of around 5.2 percentage points, which can last for up to eight years (see Chart 1). In absolute terms, this order of magnitude is equivalent to the average annual growth in lending to SMEs over the period 2017-19. One possible interpretation is that, faced with increased risk, banks distinguish between a wave of exceptionally hot days – which may only be temporary – and a significant deviation from average temperatures, which would lead to a more thorough reassessment of a firm's prospects. It should be noted that we measure a net impact on the supply of credit: a decline linked to the perception of increased risks, and, conversely, a rise in funding for adaptation investments. Over the period under review, the net negative impact resulting from increased risks remains the dominant factor.

Furthermore, banks do not simply adjust the total volume of loans. In some sectors, they also adjust their maturity: they reduce medium- and long-term loans more sharply while potentially maintaining a larger proportion of short-term financing.

Exposure varies across regions

These two risks are not distributed equally across the country. Compared with the 1976–2005 average, the rise in average temperature is more pronounced in the north and east of mainland France. By contrast, the increase in the number of episodes of extreme heat is concentrated more in the centre and the south. Two businesses located in different areas may therefore be faced with different types of climate change.

Chart 2. Geographical distribution of the two types of temperature risk



Sources: Météo-France, authors' calculations. Note: Average deviations for 2010–23 compared with the 1976–2005 reference period for the average temperature (Panel A) and the number of days with temperatures above 35°C (Panel B), by department.

Chart 2 illustrates this contrast and shows why an overly aggregated measure of climate risk can mask highly different local situations, particularly as the analysis is carried out at a more granular geographical level than simply by department. To assess businesses' exposure accurately, it is necessary to distinguish between the location of premises, the nature of the temperature shock, and the sectors that may be more or less vulnerable depending on the type or intensity of exposure.

Some sectors are more vulnerable than others

It is also worth examining the sectoral heterogeneity of credit responses. Growth in outstanding loans in sectors such as trade and transport, accommodation and leisure, manufacturing and mining, appears to be affected by both chronic warming and episodes of extreme heat. In other sectors, such as real estate, construction, or services, outstanding loans are more affected by acute episodes.

Our sector-level impact assessment, which takes into account the economic conditions common to both exposed and unexposed firms, suggests that part of the credit slowdown stems from an adjustment in the supply of bank credit. These findings are consistent with recent research conducted in other contexts, such as Aguilar-Gomez et al.

Financial indicators might not yet fully capture such risk

One finding is particularly significant for the analysis of banking risk: when we take companies' credit ratings into account, the impact of exposure to temperatures remains virtually unchanged. Traditional financial ratings therefore do not appear to take full account of this aspect of climate risk.

This may indicate that banks are using additional information, or that they are already adopting, at least partly, a forward-looking approach. A company with satisfactory financial ratios but which is exposed to rising temperatures may find its business affected in the future. In this case, historical financial data may not necessarily be sufficient to assess future risk.

Climate change does not affect businesses – or the banks that finance them – in the same way. For banks, our findings suggest that a forward-looking and more granular assessment of climate risk should be integrated into credit analysis and the monitoring of their portfolios.

Overall, faced with high temperatures, banks are significantly reducing the distribution of their lending, albeit still to a limited extent. However, the net impact on credit growth could change if there were increased funding for adaptation investments.

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