

The impact of climate transition risks on financial stability. A systemic risk approach

Javier Ojea-Ferreiro

Joint Research Centre of the European Commission

29 November 2021 – 5.00 PM
Streaming on GoToWebinar

Abstract

Transitioning to a low-carbon economy involves risks for the value of financial assets, with potential ramifications for financial stability. In this paper, we quantify the systemic impact on financial firms arising from changes in the value of financial assets under three climate transition scenarios – hot house world, orderly transition, and disorderly transition – reflecting different levels of vulnerability in the transition to a low-carbon economy. We present three systemic risk metrics computed from a copula-based model of dependence between financial firm returns and financial asset market returns: climate transition expected returns, climate transition value-at-risk, and climate transition expected shortfall.

Empirical evidence for European financial firms over the period 2013-2020 indicates that the impact of climate transition risk varies across sectors and countries, with banks and real estate firms experiencing the highest and lowest systemic impacts from a disorderly transition, respectively. We find that firm size, return on assets and default premium are the main drivers of climate transition risk, and that, in terms of capital shortfall, the cost of rescuing more risk-exposed financial firms from climate transition losses are relatively manageable. Simulation of climate risks over the next five-year period shows that disorderly transition is expected to lead to a significant cost for banks, while financial