Climate policy, physical and transition risks: evidence from a macro-financial agent-based model

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Abstract

Though climate physical and transition risk will likely affect socio-economic dynamics along any transition pathways, their unfolding is still poorly understood. I will discuss a series of results assessing the materiality of climate risks for economic and financial stability by means of the "DSK" agent-based integrated assessment model. Our evidence suggests that physical risks under unmitigated emissions are likely shifting the growth paradigm towards a high-volatility low-growth regime, with pronounced financial instability. While these results call for immediate and ambitious interventions, we also show that climate policies are not all alike. Aggressive and abrupt carbon taxation is found increasing the likelihood of large recessions, while command-and-control regulation emerges as a more desirable policy, minimizing transition costs. A preferred policy mix is also discussed.

Keywords: physical risks, economic and financial instability, climate policy, transition risks.

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