A climate stress test on the financial vulnerability of Italian households and firms

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Abstract

This study presents a novel methodological framework for assessing the exposure of the Italian financial system to climate policy risks, using a micro-founded approach. By combining survey and administrative data with energy accounts and energy prices, we estimate the energy demand elasticity of Italian households and firms at the micro-level and we use this information to simulate the effects of four one-off carbon taxes (corresponding to €50, €100, €200 and €800 per ton of CO_2) on their income and profits. To compute if (and how) carbon taxes might affect the share of financially vulnerable agents and the debt at risk, these estimates are employed as an input for the microsimulation models used to monitor financial stability at the Bank of Italy. According to our results, a level of carbon taxation within the range of €50–200 per ton does not have a sizeable effect on the share of financially vulnerable agents. The micro approach allows us to take into account the heterogeneous transmission channels of climate risks and indicates that the financial risks stemming from climate shocks are limited overall and specific to individual households and industries.

Keywords: Climate change Carbon tax Climate stress test Financial vulnerability

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