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Forest fires in Italy: An econometric analysis of major driving factors

Melania Michetti (1,2) and Mehmet Pinar (3)

(1) Centro Euro-Mediterraneo sui Cambiamenti Climatici (CMCC), Bologna, Italy (melania.michetti@cmcc.it), (2) Fondazione Eni Enrico Mattei (FEEM), Venezia, Italy (melania.michetti@feem.it), (3) Business School, Edge Hill University, Ormskirk, UK (mehmet.pinar@edgehill.ac.uk)

Despite the relevant fire risk to which Italy is subject from north to south, very few analysis focus on this area. This article investigates the causes of forest fires frequency and intensity in Italy during the first decade of the XXI century. The dynamical aspects of fire danger are explored through the use of panel data techniques which fully capture the impacts on forest fires of changes in both socio-economic and climatic conditions. Italy is treated as a unique region in a first model specification, while it is then split into 3 geographical areas (north, centre, and south) to capture locally specific aspects. Two different dependent variables are alternatively employed and a number of ad hoc tests are performed to corroborate the robustness of our estimates.

Results highlight the importance of considering the fire situation separately for the northern, central, and southern parts of Italy. While the presence of railway networks positively affects fire risk, the impact of livestock depends on its specific composition. Favourable effects in fire reduction are represented by the increase in education levels (north and centre) and touristic flows (north and south), and by the containment of illegal activities (south). Weather patterns appear to be important determinants all over the Italian peninsula.