



Deciphering the impact of hydro-geological hazards on Italian firms: a nation-wide assessment

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Landslides and floods are responsible for casualties and economic losses worldwide and Italy is one of the most affected countries. However, despite the relevant damages, little is known on the indirect effects that such hazards exert on the local and national economy.

In this nation-wide study, the indirect effects of hydro-geological phenomena on Italian firms are assessed by coupling variables concerning Italian firms' competitiveness with a dataset of flood and landslide events. Econometric indicators were defined starting from data provided by organizations such as INPS, ISTAT, CERVED, Tax Registry and Bank of Italy. A geodatabase providing the timing and location of harmful hydro-geological events was compiled by an automated web datamining procedure based on a semantic algorithm scanning internet news. The dataset covers all Italian municipalities in the timespan ranging from 2010 to 2020.

A statistical analysis highlighted that hydro-geological disasters, even the non-extreme ones, may negatively affect the future development of local economies: firms located in municipalities hit by a relevant event face on average a 4.8% increase in the probability of exiting the market with respect to non-impaired firms. Moreover, surviving firms seem to be slightly affected by natural disasters, in particular on the revenue side (-3.5%) and, to a lesser extent, on employment (-1.7%). Across Italy, these effects are very heterogeneous, depending on the location and the characteristics of the affected firms. The most evident effects are observed in case of micro and small businesses, for those active in services and those located in rural and suburban areas.