Gains from Patent Protection: Innovation, Market Power and Cost Savings in India

Anna-Theresa Renner*

Abstract

Construction workers are at an elevated risk of heat stress, and adaption through climate control is expensive or infeasible. In this paper, we study the short-term effect of high temperatures in the Austrian construction sector. In particular, we are interested in the immediate causal impact of uncomfortably high temperatures on workers' health and subsequent productivity. To do so, we exploit highly spatially disaggregated data at the postcode level from 2013 to 2019. First, we have information about the near-universe of construction sites in Austria, with information about construction site duration in days and the number of employees working on those sites. Second, we have daily information about the universe of labor accidents in Vienna, including number and type of accidents, and economic sector (including the construction sector). Third, we use hourly climate measures including temperature, wind and precipitation. This data allows us to estimate the effect of high temperatures on the likelihood of accidents on construction sites. We find that days with temperatures of more than 32° cause more accidents. Heat days also increase the accident probability days later. These results are driven by heat waves, i.e. episodes with more than three days with a maximum temperature exceeding 32°. We are also able to explore heterogeneity at the construction site level and find that the results are driven by construction sites for new buildings, rather than renovation, demolition or expansion works. Regarding the accident type, we see heat days affecting mostly accidents such as falling, slipping, and loss of controls of machines. Our results suggest room for the prevention of occupational accidents in sectors where climate control is difficult to implement.

*TU Vienna