

Heat and automation: Evidence from Tanzanian manufacturing firms

How do firms in low-income countries adapt to extreme temperatures? I study this question by leveraging a panel of Tanzanian manufacturing firms with unique information on the use of semi- and fully automated machines. Extreme temperatures dynamically shape firm-level choice to automate: Contemporaneous heat stress lowers the firm-level probability of adopting automation while past exposure increases adoption. In terms of implications, firms lay off manual workers but constant aggregate employment suggests that automation raises demand for other skills within the firm. Firms with automation also exhibit higher resilience to heat stress. Finally, I ask whether a common type of economic policy in low-income countries - VAT exemptions on imported machines - shapes the firm-level automation response to heat. Firms eligible for the policy are more likely to automate when experiencing hazardous temperatures, but only if they are large enough to make such investments.