Automation and Value Creation across Buyer-Supplier Networks: Evidence on Product Upgrading

Seda Köymen Özer (joint work with Daniela Maggioni & Alessia Lo Turco)

We investigate how the import of automation affects upgrading within firm production networks. We exploit comprehensive data on product mix, foreign trade, balance sheets, employment, and firm-to-firm transactions for Turkish manufacturing firms from 2009 to 2020. Using propensity score matching alongside event study analyses and an instrumental variable approach, our work provides robust evidence that firms importing automation improve the quality and lower quality-adjusted prices of their products. We also show that the positive effects on product upgrading are specific to automation-related capital goods, with no similar impact from other capital imports. Importantly, the benefits of automation extend downstream throughout the supply chain to firms sourcing inputs from automation adopters, while no significant effects are transmitted to upstream suppliers.