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REDUCING THE REPLICATION TIME FOR STRUCTURAL ESTIMATIONS: A SUCCESSFUL REPLICATION OF "AN ANATOMY OF INTERNATIONAL TRADE" USING GPU COMPUTING

ABSTRACT

Eaton, Kortum, and Kramarz (2011) (EKK) discovered empirical patterns from French manufacturing firms that a baseline firm heterogeneity model could not explain. The authors proposed and estimated a model that closely matches the patterns observed in French data. This paper successfully replicates their findings using author-provided data, re-implementing their algorithms in Python and leveraging graphics processing unit computing to significantly boost computational speed. Applying the model to Chinese manufacturing data, despite differences in context, showed that the model explains most observed patterns well.