Production Networks, Input Trade, and Misallocation*

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Abstract

This paper extends the framework to gauge the cost of resource misallocation of Hsieh and Klenow (2009) to incorporate sectoral input-output linkages (IO) and evaluate the potential biases in the estimated costs of misallocation arising from the use of the value-added model. We explore two sources of potential biases: (1) the misspecification of the value-added model and (2) incorrect inferences of firm’s idiosyncratic productivity and factor market distortions using value-added data. The key to our results is whether there are intermediate distortions that are not reflected in the recorded value of intermediate inputs. We find that in the absence of intermediate distortions, the value-added model is correctly specified and value-added data can be used to correctly infer firm’s idiosyncratic productivity and distortions. When there are such distortions, the value-added model is misspecified, and inferred firm productivity and distortions will be biased. Using Chinese and Indian manufacturing enterprise data, we find that, however, the biases in the estimated aggregate efficiency loss in both countries are small, as in the data the dispersion of inferred distortions is significantly smaller than those in primary input markets. That said, existing literature using the value-added framework may still have overstated the cost of misallocation due to the use of an incorrectly calibrated elasticity of substitution between firms’ products.

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