Global Sourcing and Domestic Production Networks*

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Abstract

This paper studies from both theoretical and empirical perspectives how a country's domestic production networks are shaped by firms' offshoring decisions. We develop a model to study heterogeneous firms' input sourcing from multiple industries, domestic regions, and foreign countries. Input sourcing entails communication with suppliers, which is endogenously increasing in the differentiation of input varieties. The model predicts that firms are less likely to source differentiated inputs, especially from distant domestic and foreign suppliers, due to high communication costs. Triggered by foreign countries' export supply shocks, firms start offshoring inputs from foreign suppliers, which replace their less productive domestic suppliers in the same industry (direct replacement effect). The resulting decline in the marginal costs induces firms to start sourcing from the more productive and distant domestic suppliers (productivity effect), but possibly also from the more proximate ones in the newly sourced differentiated input industries (industry composition effect). The net effect of offshoring on a firm's domestic production networks depends on the relative strength of the three effects, which we verify using data for 4.5 million buyer-seller links in Japan. Based on a firm-level instrument, we find that after offshoring, firms are less likely to drop suppliers, but more so for the larger and more distant ones. They tend to add suppliers that are more proximate and from differentiated input industries. These results imply that firms' offshoring increases the spatial concentration of domestic production networks.

Key Words: production networks; global sourcing, offshoring, face-to-face communication

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