

# Endogenous Production Network and Knowledge Diffusion in Supplier-Customer Relationships

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## Abstract

This paper studies how knowledge diffusion in supplier-customer relationships influences the structure and dynamics of production networks. Combining components from Klette and Kortum (2004) and Oberfield (2018), I develop a tractable structural model that allows heterogeneous firms to endogenize the choice of staying with or switching away from the current supplier, not based solely on cost minimization but on the potential for future gains through knowledge sharing. The model predicts that higher rates of knowledge diffusion lead to increased growth, greater dispersion in firm performance, and a “stickier” production network. Empirical analysis using data from Compustat’s firm-level input-output data and OECD Citation Statistics highlights the overlap between production and citation networks, showing that supplier-customer with citations tend to last longer and have bigger shares.