

Technology Sourcing Activities of Foreign Subsidiaries and Productivity of Parent Firms: Firm-Level Analysis

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Abstract

Technology sourcing activities, which are activities to adopt foreign technology through foreign R&D, have been receiving increasing attentions, as the tunnel of the international technology diffusion. This study attempts to incorporate both knowledge flow of technology frontier and R&D activities conducted by subsidiaries into one model. Using the patent data as a proxy for the technology stock of the U.S. manufacturing industry, the empirical model explicitly assumes that the technology sourcing, the spillovers from the U.S. to the parent firms, is proportional to the R&D effort conducted by the subsidiaries. For the empirical research, I construct firm-level data obtained from Osiris database consist of 135 non-U.S. based manufacturing firms which own subsidiaries in the U.S. I conduct the regression analysis using panel data from 1998 to 2006. Then, I found the technology sourcing by subsidiaries has a positive and significant effect on the productivity of the parent firms. Quantitatively, the technology sourcing accounts for about 15% of the productivity of the parent firms.

Keywords: economic growth, total factor productivity (TFP), technology diffusion, technology sourcing

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