

Firm-to-Firm Technology Transfers along the Chains within and across Borders*

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Abstract

This paper examines the technology transfers of manufacturing firms in Southeast Asia in several origins and destinations, including domestic and international transactions. From a policy perspective, public resources for knowledge diffusion in emerging economies may be misallocated if the nature of cross-border technology transfers are not fully understood in the context of business-to-business (B2B) markets. Using firm's self-reported incoming and outgoing technology transfers along with firm-to-firm trade data in Southeast Asia (Indonesia, the Philippines, Thailand, and Vietnam), this paper studies following questions: (1) how much embodied incoming and outgoing technology transfers can occur within and between borders; (2) how much inter-firm technology diffusions can occur from which countries to Southeast Asia, and vice versa; (3) how in-house R&D (as absorptive capability) can interact with technology transfers from firm's production partners and why; (4) how much incoming technology transfers can generate product and process improvements to manufacturing firms. Based on these empirical understanding of how technology transfer occurs, this paper estimates an empirical model of knowledge diffusion along with production chains to construct counter-factual simulations. Evidences from management practices of incoming and outgoing technology transfers along within production networks also serves as a policy basis of investigating the impact of which types of incoming knowledge and absorptive capability on the knowledge production function.

Keywords: embodied technology transfer; matching with transfers; management practices; linked manufacturer-supplier analysis.

JEL Classification Number: O12, O14, O32, L14, F14.

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