

# Does the Structure of Multinational Enterprises' Activity Affect Technology Spillovers?

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## Abstract

We attempt to combine a comprehensive firm-level dataset for the business activities of Japanese multinational enterprises (MNEs) and information on the patent citations between the MNEs and their host countries to identify how the structure of MNEs' activity affects technology spillovers between the MNEs and their host countries. We propose new specifications of foreign direct investment (FDI) by exploiting information on sales and purchases of foreign affiliates of MNEs, i.e., pure horizontal, pure vertical, partially horizontal, and partially vertical FDI. We then estimate the effects of those four types of FDI on technology spillovers. Our findings reveal that pure vertical FDI plays a dominant role in technology spillovers when Japanese MNEs invest in developed countries. In that case, spillovers are mutual between the MNEs and their host countries. When Japanese MNEs invest in developing countries, by contrast, any types of FDI do not significantly facilitate technology spillovers between the MNEs and their host countries.

*Keywords:* technology spillovers; patent citations; FDI; multinationals

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