

Inventor Network and Knowledge Spillovers

Rinki Ito*

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Abstract

In the knowledge spillovers across firms, this study investigates how inventor connections matter and whom it is important for inventors to connect with. To quantify the strength of connections across firms, I construct an inventor network of firms in which each link is reflected co-invention relationship, using US patents in 1980-2003. I multiply this measure as weight by other firms' R&D activities to estimate the effect on firm output. In the empirical analysis, since there is concern about the potential endogeneity of other firms' R&D activities and network formation, I address this problem with a control function approach, which is one of the IV strategies. I find that the spillover effects from the top inventors are larger than those from the rest of the inventors, and that inventors with many ties to different firms are particularly important.

Keywords: Co-invention networks, R&D spillovers, peer effects

*Graduate School of Economics, Kyoto University, Yoshida Honmachi, Sakyo-ku, Kyoto (Email: itou.rinki.73r@st.kyoto-u.ac.jp).