Strategy Content (B) - Term Paper

Heterogeniety in knowledge flows across locations

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Outline

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Research Question

- How do knowledge spillovers between locations vary by location?

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- How do knowledge spillovers between firms vary by location?

Positioning in Literature

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- Zhao (2006) suggested that MNCs generate patents from weak IPR countries by substituting the weak institutional environment with internal organization
- Singh (2007) suggested that knowledge spillovers differ between MNCs and host country firms, and that personnel flows seem to explain the mechanism

Alternative Hypothesis

- Increased patenting activity may not necessarily spillover to other local firms when the local ecosystem of firms is heterogenous

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- Knowledge spillover will be higher between MNC subsidiary and MNC headquarters

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Unit of Analysis

- Knowledge Flow : Citation-Location-Firm

Dependent Variable

- Share of Knowledge Flows (for each year, measured by the number of flows between locations or between firms/total number of knowledge flows)

Independent Variable

- Location Dummy to Indicate same of different location (Bangalore, Beijing, Israel, San Francisco, Boston and Austin are considered for this study)

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- Location Dummy to Indicate same of different location (Bangalore, Beijing, Israel, San Francisco, Boston and Austin are considered for this study)
- Firm Dummy to Indicate same of different firm (based on patent assignee)

Control Variables

- Number of MNC affiliated patent inventors, Stock of patents owned by MNC firms in operation, Patent class/sub-class

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- Year and Firm fixed effects

Dataset

- PatentView.org data of USPTO patents from 1976

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- Filtered by region of originating patent

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Alternative Explanations

- Lower absorptive capacity in local firms vs. higher absorptive capacity in MNCs may lead to the skew toward MNCs patenting more

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- Lower absorptive capacity in local firms vs. higher absorptive capacity in MNCs may lead to the skew toward MNCs patenting more
- Liability of foreignness may force local firms to compete in different markets of different segments than MNCs

Implications of Work

- Would help to better understand the dynamics of spillovers in knowledge in the local context

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- May help inform policy makers and managers about ways to improve the spillover effects of human capital

Almeida, P. and Kogut, B. (1999). Localization of knowledge and the mobility of engineers in regional networks. *Management Science*, 45(7):905–917.

Jaffe, A. B., Trajtenberg, M., and Henderson, R. (1993). Geographic localization of knowledge spillovers as evidenced by patent citations. *The Quarterly Journal of Economics*, 108(3):577–598.

Singh, J. (2007). Asymmetry of knowledge spillovers between mncs and host country firms. *Journal of International Business Studies*, 38(5):764–786.

Zhao, M. (2006). Conducting r&d in countries with weak intellectual property rights protection. *Management Science*, 52(8):1185–1199.