Review of literature on the nature of knowledge spillovers

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Abstract

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1 Notes on individual articles

Table 1: Notes on individual articles

Article	**Main Idea**	**Scholarly Tradition**
Almeida and Kogut (1999)	Regional variation in knowledge spillovers due to institutions and labor networks.	
Arora et al. (2017)	Localization of patent citation may not be due to localization of knowledge flow. Local knowledge flows may exist but may not be captured by patent citations.	

Article	Main Idea	Scholarly Tradition
Audretsch and Feldman (1996)	Prior: Innovation and technological change depend on new economic knowledge. Literature has explored the role spillovers play in generating increasing returns and eventually economic growth. The argument here is that if the ability to receive knowledge spillovers is influenced by distance from knowledge source, then you should find spatial concentration in areas where knowledge spillovers are likely to play an important role. Purpose of Audretsch and Feldman (1996) is two fold. First, to understand to what extent does industrial activity cluster spatially?, and Second, to link the geographical concentration to the existence of knowledge externalities. Audretsch and Feldman (1996) control for spatial concentration of location of production, and suggest that while information may be transmitted better due to better communication infrastructure, the same may not be true of knowledge which may have a tacit element.	
Jaffe (1989)	Spatially mediated knowledge spillovers.	
Glaeser and Kerr (2009)	Confirm the observation by Chinitz (1961) that new entrants are drawn to regions with small suppliers	

Article	Main Idea	Scholarly Tradition
Awate et al. (2015)	Diffusion of innovative capabilities goes from advanced country firms to emerging country firms. Since both AMNEs and EMNEs are internationalized, the EMNE headquarters develop innovation capabilities slower than AMNE subsidiaries	
Bahlmann (2014)	Local and distant search implies that geographical network diversity affects innovation in an inverted-U manner	
Bell (2005)	Disentangle the geographic effect from the effect of networks (managerial ties, and institutional ties)	
Baptista and Swann (1998)	Maybe diversification within clusters is not particularly useful	
Cantwell and Mudambi (2005)	Not just location but group level and subsidiary level mandates matter for R&D.	
Dunlap-Hinkler et al. (2010)	Generic innovation capabilities hinders breakthrough performance. Decentralization is helpful.	
Eisingerich et al. (2010)	Cluster performance is determined by network effects (Network strength and openness), and is moderated by environmental uncertainty.	
Eriksson (2011)	On mobility, but not clear	
Fitjar and Huber (2015)	International personal and formal networks are correlated with innovation in firms. Local networks not as much.	

Article	Main Idea	Scholarly Tradition
Fitjar et al. (2016)	Goldilocks distance - innovation works well when geographic distance is neither too near nor too far.	
Fu et al. (2012)	Path dependent evolution of regional innovation systems. First mover advantage and institutional first mover advantage.	
Fu et al. (2013)	Learning by interacting - informal Guanxi network.	
Giuliani (2007)	Firm level social network characteristics as affecting diffusion as against geographical proximity and embeddednesss in local networks (prior). Economists view that public goods are subject to spillover effects. Economic geographists view that embeddedness in firms in localized networks.	
Giuliani and Bell (2005) or Giuliani et al. (2005)	Reversing the direction. Absorptive capacity of firms leads to agglomeration. Knowledge is not diffused evenly in the air, but flows within a core group of firms with advanced absorptive capacities.	
Grillitsch and Nilsson (2017)	Negative spillovers - those with weak internal knowledge grow faster in knowledge intensive regions	
Henderson et al. (2005)	Are three digit patent classes too broad. Underlying forces run both ways. Knowledge spillovers provide incentives to collocate. Colocation (to begin with) may encourage cross pollination. Knowledge spillovers are highly elusive.	

Article	Main Idea	Scholarly Tradition
Huber (2012)	To what extent does local spillovers help?	
Alnuaimi et al. (2012b) or Alnuaimi et al. (2012a)	International R&D helps inventors but not subsidiary level capabilities. Collaboration is more international and not local.	
Jaffe et al. (1993)		
Krugman (1991)	Core - periphery model of economic differentiation.	
Lissoni (2001)	Codified and firm specific knowledge in SME clusters.	
Lorenzen and Mudambi (2013)	Personal relationships (prior: Organization based pipelines and MNE subsidiaries). Global linkages with decentralized network structures.	
Mudambi and Swift (2012)	Role of MNE clusters - a review of literature	
Mudambi and Navarra (2004)	Intra MNC firm flows leads to bargaining power.	
Murata et al. (2014)	Localization of flows	

References

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

Alnuaimi, T., Opsahl, T., and George, G. (2012a). Innovating in the periphery: The impact of local and foreign inventor mobility on the value of indian patents. *Research Policy*, 41(9):1534 – 1543.

Alnuaimi, T., Singh, J., and George, G. (2012b). Not with my own: long-term effects of cross-country collaboration on subsidiary innovation in emerging economies versus advanced economies. *Journal of Economic Geography*, 12(5):943–968.

Arora, A., Belenzon, S., and Lee, H. (2017). Reversed citations and the localization of knowledge spillovers. Working Paper 23036, National Bureau of Economic Research.

Audretsch, D. B. and Feldman, M. P. (1996). R&D spillovers and the geography of innovation and production. *The American Economic Review*, 86(3):630–640.

Awate, S., Larsen, M. M., and Mudambi, R. (2015). Accessing vs sourcing knowledge: A comparative study of r&d internationalization between emerging and advanced economy firms. *Journal of International Business Studies*, 46(1):63–86.

Bahlmann, M. D. (2014). Geographic network diversity: How does it affect exploratory innovation? *Industry and Innovation*, 21(7-8):633–654.

Baptista, R. and Swann, P. (1998). Do firms in clusters innovate more? *Research Policy*, 27(5):525 – 540.

Bell, G. G. (2005). Clusters, networks, and firm innovativeness. *Strategic Management Journal*, 26(3):287–295.

Cantwell, J. and Mudambi, R. (2005). Mne competence-creating subsidiary mandates. *Strategic Management Journal*, 26(12):1109–1128.

Chinitz, B. (1961). Contrasts in agglomeration: New york and pittsburgh. *The American Economic Review*, 51(2):279–289.

Dunlap-Hinkler, D., Kotabe, M., and Mudambi, R. (2010). A story of breakthrough versus incremental innovation: corporate entrepreneurship in the global pharmaceutical industry. *Strategic Entrepreneurship Journal*, 4(2):106–127.

Eisingerich, A. B., Bell, S. J., and Tracey, P. (2010). How can clusters sustain performance? the role of network strength, network openness, and environmental uncertainty. *Research Policy*, 39(2):239 – 253.

Eriksson, R. H. (2011). Localized spillovers and knowledge flows: How does proximity influence the performance of plants? *Economic Geography*, 87(2):127–152.

Fitjar, R. D. and Huber, F. (2015). Global pipelines for innovation: insights from the case of norway. *Journal of Economic Geography*, 15(3):561.

Fitjar, R. D., Huber, F., and Rodríguez-Pose, A. (2016). Not too close, not too far: testing the goldilocks principle of 'optimal' distance in innovation networks. *Industry and Innovation*, 23(6):465–487.

Fu, W., Diez, J. R., and Schiller, D. (2012). Regional innovation systems within a transitional context: Evolutionary comparison of the electronics industry in shenzhen and dongguan since the opening of china. *Journal of Economic Surveys*, 26(3):534–550.

Fu, W., Diez, J. R., and Schiller, D. (2013). Interactive learning, informal networks and innovation: Evidence from electronics firm survey in the pearl river delta, china. *Research Policy*, 42(3):635 – 646.

Giuliani, E. (2007). The selective nature of knowledge networks in clusters: evidence from the wine industry. *Journal of Economic Geography*, 7(2):139.

Giuliani, E. and Bell, M. (2005). The micro-determinants of meso-level learning and innovation: evidence from a chilean wine cluster. *Research Policy*, 34(1):47 – 68.

Giuliani, E., Pietrobelli, C., and Rabellotti, R. (2005). Upgrading in global value chains: Lessons from latin american clusters. *World Development*, 33(4):549 – 573.

Glaeser, E. L. and Kerr, W. R. (2009). Local industrial conditions and entrepreneurship: How much of the spatial distribution can we explain? *Journal of Economics & Management Strategy*, 18(3):623–663.

Grillitsch, M. and Nilsson, M. (2017). Firm performance in the periphery: on the relation between firm-internal knowledge and local knowledge spillovers. *Regional Studies*, 0(0):1–13.

Henderson, R., Jaffe, A., and Trajtenberg, M. (2005). Patent citations and the geography of knowledge spillovers: A reassessment: Comment. *The American Economic Review*, 95(1):461–464.

Huber, F. (2012). Do clusters really matter for innovation practices in information technology? questioning the significance of technological knowledge spillovers. *Journal of Economic Geography*, 12(1):107.

Jaffe, A. B. (1989). Real effects of academic research. *The American Economic Review*, 79(5):957–970.

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.

Krugman, P. R. (1991). *Geography and trade*. The MIT press.

Lissoni, F. (2001). Knowledge codification and the geography of innovation: the case of brescia mechanical cluster. *Research Policy*, 30(9):1479 – 1500. Codification of Knowledge:.

Lorenzen, M. and Mudambi, R. (2013). Clusters, connectivity and catch-up: Bollywood and Bangalore in the global economy. *Journal of Economic Geography*, 13(3):501.

Mudambi, R. and Navarra, P. (2004). Is knowledge power? knowledge flows, subsidiary power and rent-seeking within mncs. *Journal of International Business Studies*, 35(5):385–406.

Mudambi, R. and Swift, T. (2012). Multinational enterprises and the geographical clustering of innovation. *Industry and Innovation*, 19(1):1–21.

Murata, Y., Nakajima, R., Okamoto, R., and Tamura, R. (2014). Localized knowledge spillovers and patent citations: A distance-based approach. *The Review of Economics and Statistics*, 96(5):967–985.