

Firms and Knowledge Institutions – The Innovation Potential in Low-Tech Sectors and Small Firms

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Abstract

Knowledge institutions have been defined as important for the firms' ability to innovate. Much of the knowledge in these institutions is noncodified and dependent where the search and transfer mechanisms are essential in order to capture the knowledge. In this paper, I argue that in order to capture noncodified and dependent knowledge, the strength of ties between firms and knowledge institutions and absorptive capacity of the firm, has an influence on the search and transfer mechanisms. A theoretical model is developed where a high level of absorptive capacity and moving toward strong ties to knowledge institutions promotes the search and transfer mechanisms which then will benefit the innovative performance of the firm, while a low level of absorptive capacity and moving toward weak ties are the least beneficial. The estimation of an ordered probit model including 1544 firms from the Danish manufacturing and service industry supports the hypothesis at the overall level. Estimations for each sector show that the hypothesis is partly supported by the low- and medium-tech sectors, and for the size estimations, that small firms who fulfill the two requirements are in a better position to produce less imitative product innovations compared to large firms. Given the fact that the frequency of interaction with knowledge institutions or universities/technical support institutions is small, and the degree of absorptive capacity is relatively low, for both the low- and medium-tech sectors and small firms, a large innovative potential exists for these types of firms. The results support policies promoting interaction between firms and knowledge institutions in general and especially mobility programs aiming at those firms which have no or few academics employed.

Keywords: Innovation, inter-firm, absorptive capacity, strength of ties, industrial policy