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Are MAR, Jacobs and Porter externalities less important for multi-plant firms than single plant firms?

In the literature treating endogenous growth models, human capital accumulation and knowledge spillovers serve as the basis for the growth in an economy. Dynamic externalities in this context are postulated to be the source of productivity growth that operate in an wider environment characterized by increasing returns to scale external to the individual firm, see e.g. Romer (1986) and Lucas (1988). Since such externalities stem from the interactions of economic agents these effects should be more pronounced when agents are in close proximity to one another. According to Glaeser et al. (1992) there are three different types of dynamic externalities, jointly sharing the view that innovation and improvements in a particular firm increase the productivity of other firms; but the postulated sources of these externalities differ.

Views based on ideas developed by Marshall (1920), Arrow (1962), and Romer (1990), and hence referred to as Marshall-Arrow-Romer (MAR) theory, hold that concentration of an industry in a specific location promotes knowledge spillover between firms, thus inducing productivity growth of that industry. Furthermore, a monopolistic local market structure, rather than local competition, enhances growth since the former restricts the dissemination of ideas to a larger extent and thus allows externalities to be internalized by the innovating firm. At the other end of the spectrum, Jacobs (1969) emphasizes the importance of accumulation of knowledge associated with diversity in industries, and hence postulates that industries located in highly diversified areas are likely to grow most rapidly. In addition, according to this conceptual framework, a highly competitive climate obliges firms to innovate to remain competitive, which in turn further promotes the transmission of knowledge across firms. Finally, Porter (1990) views of externalities, like MAR, emphasize that concentration within the same industry is the dominant channel for spillover between firms, but in contrast to MAR and more in line with Jacobs, local competition is believed to foster growth by promoting rapid adoption of innovation and dissemination of local information. It should be stressed that these models are not mutually exclusive, but instead differ in the aspects emphasized in attempts to explain how externalities affect productivity.

In this paper I:

- a) study the growth effects of MAR, Jacobs and Porter externalities in 40 industries, using plant-level micro data for Swedish single and multi-plant firms from 1997 to 2005;
- b) discriminate between MAR, Jacobs and Porter externalities;
- c) compare whether multi-plant firms are less dependent on externalities than single plant firms possibly due to greater potential in-house resources.