

Agglomeration or Selection?

The Case of the Japanese Silk-Reeling Industry in 1896–1916

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Abstract

Plants in clusters are often more productive than those located in non-clusters. Higher productivity in clusters could be caused by agglomeration effects that improve productivity of all plants in a region, or plant-selection effect that drives out low productive plants by intense competition in a cluster. This paper uses plant-level data on the Japanese silk reeling industry in 1895-1916 to distinguish between these two effects. We identify the plant-selection effect by using different implications on the distribution of plant-level productivity of the two effects. We found that plants in clusters were more productive. The widths of distribution of plant productivity in clusters were narrower and severely truncated than those in non-clusters. Moreover, high-cost (low-productivity) plants had significantly higher probability of exit in and only in clusters. These results imply that the plant-selection effect was one of the sources of the higher plant-level productivity in clusters.

Keywords: Agglomeration; Plant-selection; Heterogenous firms; Economic geography
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