

# On the Spatial Scale of Industrial Agglomerations

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## Abstract

Standard approaches to studying industrial agglomeration have been in terms of scalar measures of agglomeration within each industry. But such measures often fail to distinguish spatial scales of agglomeration. In a previous paper, Mori and Smith [37] proposed a pair of quantitative measures for distinguishing both the scale and degree of industrial agglomeration based on an explicit method for detecting spatial clusters. The first, designated as the *global extent* of industrial clusters, measures the spatial spread of these clusters in terms of the areal size of their *essential containment*, defined to be the (convex-solid) region containing the most significant subset of these clusters. The second, designated as the *local density* of industrial clusters, measures the spatial extent of individual clusters *within their essential containment* in terms of the areal share of that containment occupied by clusters. The present paper applies this pair of measures to manufacturing industries in Japan, and the results obtained are systematically compared to those of the most prominent scalar measures currently in use. Finally, these measures are shown to support certain predictions of new economic geography models concerning the relationship between shipment distances and spatial scales of agglomeration for individual industries.

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