## Productivity, Returns to Scale and Product differentiation

--- An Empirical Analysis using Japanese Firm Data ---

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## Abstract

This paper examines productivity and returns to scale under the assumption of a monopolistic competition using Japanese firm-level data. Although differentiating products (services) is considered important in firms' strategies and productivity growth, it is not well examined in preceding empirical literature. In this paper, we study this issue in two manufacturing industries and two retail trade industries, applying the model proposed in Melitz (2000). Our results indicate that retail trade industries follow increasing returns to scale while two examined manufacturing industries do not reject constant returns to scale. In addition, numbers of establishments are considered as proxies of numbers of differentiated services provided by each firm in retail trade of foods and beverages. Regulation reform for large scale retailers in 2000 seems to give no positive impact on productivity of larger scale retail traders of foods and beverages.

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