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Ownership structure and technical efficiency in Indian manufacturing firms: a stochastic frontier approach

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Abstract

The study is proposed to explore the divergence in the technical efficiencies of the group affiliated and standalone Indian manufacturing firms using Battesse and cells (1992). Group affiliated firms have been claimed to have easier access to finance by various studies in comparison to standalone firms. Standalone firms generally find difficulties in arranging financing sources whereas group firms can access finance from the profitable group firms at a lesser cost of capital than persisting market rates. Standalone firms need to be more efficient and profitable to accumulate internal earnings to accept available positive NPV (net present value) projects. The study will be conducted using linear logarithm form of Cobb-Douglas production function, where the value added in the particular financial year will be used as the dependent variable while independent variables will be capital stock and a number of employees working in the firm at time t. The efficiency of the firms will be captured by the non-negative term (-u) constituted in the error term of the stochastic frontier equation. The study will be conducted for the period 2010-2016 using various data sources that include prowess database from the centre for monitoring Indian economy, Reserve bank of India and annual survey of industries. The study will help to understand the efficiency patterns of Indian manufacturing over the years and will also explore whether the situation of credit constraints will motivate firms to be more efficient than their competitors. The main motivation for the study is derived credit constraints that are faced by the firms by virtue of not belonging to a business group.

Keywords: Technical efficiency, Ownership structure, stochastic frontier analysis, India, Manufacturing firms