

Productivity and Technical Efficiency Performance of the Indian Textile and Apparel Industry: Application of Deterministic Production Frontier Model

Swaran Lata Meena^{*} and Aarti Suryavanshi

Department of Economics, MRIIRS, Faridabad, Haryana, India

Abstract: This study examines the production performance of India's textile and apparel industry estimating a Cobb–Douglas production function via the corrected ordinary least squares method in cross-sectional data sourced from the Annual Survey of Industries, 2023–24. The estimated elasticity of labour (0.614) and capital (0.340) confirm that it is a labour-intensive industry. A mean technical efficiency of 0.898 indicated that this industry operated below its best-practice frontier. Among sub-industries, wearing apparel performed the highest technical efficiency (1.00), while spinning, weaving and finishing recorded the lowest (0.819). The capital productivity differentials among sub-industries indicate resource misallocation, particularly in upstream segments.

Keywords: Cobb–Douglas Production Function, Frontier Analysis, Indian Textile Industry, Technical Efficiency

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^{*} Corresponding author. Ph.D. Scholar. Email: slataecon@gmail.com