TECHNICAL EFFICIENCY IN THE BASIC INDUSTRY LISTED ON INDONESIA STOCK EXCHANGE (IDX): DEA AND SFA APPROACHES

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Abstract

This research attempts to modeling performance measurement for the basic industry listed on Indonesia Stock Exchange (IDX) using the data envelopment analysis (DEA) and the stochastic frontier analysis (SFA). There are 47 panel firms analyzed over the period of 2000-2005 or 282 pooled observations. The output variable is total sales and input variables are labor, inventory, fixed assets and capital. Z-variables are age of the firm, size of the firm, market share and time period. Empirical findings reveal that the average technical efficiency (mean TE) for basic industry is 0.6106. The study indicates the existence of output slacks (output deficits) and input slacks (input wastages) in the basic industry's operation. The study also shows that the joint effect of four z-variables on the technical inefficiencies of the basic industry is significant although the individual effects of one or more variables may not be statistically significant.

Keywords: Technical efficiency, Basic Industry, Performance Measurement, Data Envelopment Analysis (DEA), Stochastic Frontier Analysis (SFA), Indonesia Stock Exchange (IDX)