DEA METAFRONTIER ANALYSIS ON TECHNICAL EFFICIENCY DIFFERENCES OF NATIONAL UNIVERSITIES IN THAILAND

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ABSTRACT

Since the national university in Thailand has a variety of academic institutes located throughout the country, resulting in technical efficiency differences among the regions. Therefore, this study aims to measure the regional differences in technical efficiency of the 77 national universities. As a metafrontier model is able to calculate the comparable technical efficiencies for firms operating under different technologies, the concept of metafrontier estimated by Data Envelopment Analysis (DEA) was adopted to be the methodology. The frontiers were divided into five regions; Bangkok, central, north, northeast, and south. Besides, this study used the cross-section data of 2011 recorded from Office of the Higher Education Commission in Thailand. Firstly, an analytical framework necessary for the definition of a metafrontier function was described. Then, the property of the metafrontier function estimated by non-parametric DEA was exclusively explained in this research. Finally, the empirical results of the DEA metafrontier were presented and discussed.

Key Words: Cross-section data, DEA metafrontier, regional differences, technical efficiency, Thai national universities.