RELATIVE EFFICIENCY OF SEAPORTS IN MINDANAO

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ABSTRACT

Technical efficiency (TE), allocative efficiency (AE) and productivity measures were calculated using Data Envelopment Analysis (DEA) and Malmquist Total Factor Productivity (TFP) indexes for panel data of eight government seaports in Mindanao over six-year period, 2001 to 2006. Ports under the Southern Mindanao port district are Davao, General Santos and Zamboanga while ports belonging to Northern Mindanao port district are Cagayan de Oro, Iligan, Nasipit, Ozamiz and Surigao. Test of difference between the operating efficiencies of the two port districts was also computed. Output variables are shipcalls, cargo throughput and container traffic; input variables are berth length and vessel’s average service time (in calculating for variables are berth length and vessel’s average service time (in calculating for the TE) and capital outlay and operating expenses (in the case of AE calculation). The ports of Cagayan de Oro, Ozamiz and Davao emerged as the technically efficient ports relative to the rest of the sample. These three ports were also the top performers in terms of having the greatest volume of cargoes, shipcalls and container traffic respectively. The two lest efficient ports were Iligan and Surigao, which, based on actual performance, serviced the least number of shipcalls and the least number of cargoes and containers for the period in review. There are a pervading allocative inefficiency across the sample with only the port of Ozamiz registering full AE during the six-year period. All the ports in the sample experienced productivity growth and regression at varying degrees during the six-year period. These changes in productivity were attributed to both technical efficiency like the ports of Davao, Cagayan de Oro and Ozamiz pointed to technology adjustments as the primary mover of their productivity changes. At 5 percent level of significance, there were no significant differences in the technical efficiency and allocative efficiency scores of the ports when analyzed according to the port district where they belong.

Keywords: Technical Efficiency, Allocative Efficiency, Data Envelopment Analysis

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