

口蹄疫前後臺灣養豬連續記帳戶之成本效率分析

陳柏琪, 黃玉鴻, 莊正旺, 張靜貞

國際企業學系

管理學院

pochi@chu.edu.tw

摘要

This study analyzes the cost efficiency of hog industry in Taiwan using the swine farms in the bookkeeping system collected by the Animal Technology Institute Taiwan during 1995~2008 as the sample. The technical and cost efficiency are measured by using stochastic frontier analysis (SFA) and data envelopment analysis (DEA). The impacts of exogenous factor affecting efficiencies are also investigated simultaneously. The results indicates that the SFA and DEA produce consistent results for each time period and that the mean cost efficiency scores are 0.877 and 0.842 respectively which suggests an 12.3% up to 15.8% cost-saving improvement could be made by reallocating their resource applications. The inter-temporal comparisons suggest that the cost efficiency deteriorates right after the outbreak of the foot-and-mouth disease, but improves after the accession of WTO and the increase of feed prices. The regression result of farm-specific factors on cost efficiency indicates that both farmer's education level and experience are not significant, but farms producing feeder pigs and hogs simultaneously are more efficient than the others. Expanding farm size is also beneficial to efficiency improvement. Based on these results, it is suggested that training programs on adopting professional knowledge and market information for expansion purposes should be helpful for swine farmers in strengthening their capacity to adapt to the rapid changing environment.

關鍵字：Hog farm, Cost efficiency, Stochastic frontier analysis, Data envelopment analysis, Foot-and-Mouth disease, Unbalanced panel data