

Ewepa 2011 - XII European Workshop on Efficiency and Productivity Analysis - Verona - Italy

Book of abstracts

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factors, would be valuable information to come to grips with the overfishing problems. To estimate efficiency, a shadow revenue model, with are based on a system constituted by a short-run translog revenue function and its factor share equations are applied. The results reveal large inefficiency among the sample vessels. Sample average technical inefficiency is found to be 55%, and sample average allocative inefficiency 46%. Thus, on average the industry could have increased their revenue by more than 100% by simply using their exiting inputs more efficient and produce a more "correct" output mix in light of the prevailing output prices. Although both technical and allocative inefficiency is found to vary substantially between farms, the results indicate that they are positively correlated. Thus, a technically inefficient farm often exhibits a high degree of allocative inefficiency as well. This might indicate the existence of managerial skills, whereby some farmers are better managers than others, both at adopting and using state-of-the-art production technologies, and at adjusting their output production to the prevailing output price vector. References: Kirkley J, Squires D and Strand I (1998) Characterizing Managerial Skill and Technical Efficiency in a Fishery. *Journal of Productivity Analysis* 9, 145-160. Kumbhakar SC, Lovell CAK (2000) *Stochastic Frontier Analysis*. Cambridge University Press

Monitoring the productivity change of retailing stores

Clara VAZ, Ana Camanho S.

Sectorial Analysis I

The purpose of this paper is to evaluate the productivity change of stores from an European retailing organisation. The Malmquist index, complemented with bootstrapping, is used to measure the changes in store productivity between the years 2002 and 2004. It also investigates the differences between two distinct store formats (supermarkets and hypermarkets), and the impact of scale size on productivity change.

This paper describes a case study of the application of the Malmquist index and bootstrapping to retailing stores. From a methodological point of view, it describes an enhanced approach to explore the relative position of frontiers from two different time periods, which enables determining if the frontier of one period dominates the other, or if the frontiers are crossed. The analysis of performance changes over time should take into account two effects: the variation of technical efficiency of each store and the change in the position of the best-practice frontier. The Malmquist index correctly captures these two effects. The variation in technical efficiency measures changes in the ability of each store to approach the best performance levels observed in the reference units. The changes in the frontier reflect technological developments in the practices of the best shops.

The results of the case study showed that hypermarkets had a more favorable performance than supermarkets between 2002 and 2004. The stores improved overall productivity levels, mainly due to improvements in the productivity levels of the frontier. There were some supermarkets which moved further away from the best-practice frontier (both technical and scale efficiency levels declined), leading to a decrease in their overall productivity levels. Concerning the relative position of the frontiers, we concluded that for some regions of the production possibility set there is statistically significant evidence that the frontier of 2004 is more productive than the frontier of 2002. Nevertheless, for other input-output mixes the frontiers of 2002 and 2004 are equally productive, such that in those regions the frontiers may crossover.

The Relationship Between Technical Efficiency and Industrial Concentration : Evidence from the Indonesian Food and Beverages Industry

Maman SETIAWAN, Grigorios Emvalomatis, Alfons Oude Lansink