A Translog Cost Function Analysis of Refrigerated Warehouse Industry

The purpose of this study is to estimate economies of scale in a refrigerated warehouse industry. Warehousing has become a very attractive investment for opportunist investors according to McKinsey (McKinsey on Investing Number 2, summer 2015), also it is a vital chain in suppliers’ competition. In the food and agribusiness which has a huge contribution in global trade economy there are plenty of investment opportunities in cold chain storages. These opportunities as well as relative competition among suppliers are influenced by cost of warehousing, which brought our attention to study economies of scale in this industry. We believe findings from this study would shed light on cost management, labor specialization and exhibit any benefits from probable M&A in this industry. We utilize a Translog cost function treating labor and electricity as two input factors to test our hypothesis about existence of economies of scale in cold chain storages. Accordingly we obtain shape of average costs. Results are estimated from simple OLS regression. The type of data is cross-sectional relates to year 2014, collated by a survey through the Global Cold Chain Alliance (GCCA). We believe this to be the first study in warehouse industry that specifies a Translog cost function to obtain economies of scale. We show that there is cost advantages with increasing number of output as the average cost curve is U-shaped.

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