

A Procedure for Full Ranking of DEA Units with Secondary Frontier

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Abstract—There is increasing interest in fully ranking the performance of organizational units with multiple inputs and outputs. We smooth the congenital differences of efficient and inefficient units. The concept of the secondary frontier is to eliminate the effects of super-efficiency and inefficiency. The pseudo secondary frontier is constructed to lie between the efficient and inefficient units. Location of the projection points of each unit on the secondary frontier is determined and each has the same efficiency score. A common set of weights of those projection points is determined. Units then are ranked by the measured distances to the secondary frontier. The procedure is illustrated by the example of the ranking of profitability performances of the 29 companies in Taiwan's semiconductor industry.

Keywords—Data envelopment analysis, Performance analysis, Ranking, Secondary frontier, Common weights analysis

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