

DEA game cross efficiency

We examine the cross efficiency concept in DEA. Cross efficiency links one DMU's performance with others, and has the appeal that scores arise from peer evaluation. However, one set of optimal DEA weights (possibly out of many alternate optima) may improve the cross efficiency of some DMUs, but at the expense of others. We generalize the original DEA cross efficiency concept to game cross efficiency. Specifically, each DMU is viewed as a player that seeks to maximize its own efficiency, under the condition that the cross efficiency of each of the other DMUs' does not deteriorate. We show that the optimal game cross efficiency scores constitute a Nash Equilibrium point.