

1032-49-172

Rod A Freed* (raf12@cox.net), 25832 Empresa, Mission Viejo, CA 92691. *Optimization with multiple maximands.*

In many applications, the researcher may be interested in maximizing multiple maximands. Of course, adjusting the control variables so as to increase one of the maximands may reduce another of the maximands. For example a corporate officer may increase spending on physical capital in an attempt to maximize profit. But this increase in spending on physical capital will decrease the return on assets, an entity which the corporate officer also wants to maximize. What is the decision maker to do? We show that he/she can convert the problem into a probabilistic one. We specify the probability density of a function of the vector of maximands, and then show that we can set the vector of control variables so as to maximize confidence that the vector of maximants will hit any target of the decision maker's choosing. (Received August 20, 2007)