

The transportation: more–for–less criterion*

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Abstract

The transportation more–for–less criterion is related to the classical transportation problem. For certain instances of this problem an increase in the amount of goods to be transported may lead to a decrease in the optimal total transportation cost. Even though the criteria has been known since the early days of linear programming, it receives very little attention in the literature, and it seems to be almost unknown to the majority of the LP–practitioners.

This paper presents conditions for a transportation cost matrix to be protected against the criteria. These conditions are rather restrictive; supporting the results reported from simulations that the criteria might occur quite frequently. We also consider some post optimal conditions for when the criteria may occur. A simple procedure for modifying an existing model to exploit the criteria is given and illustrated with examples.

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