

Robust Portfolio Selection in Multiattribute Capital Budgeting

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Abstract:

We consider the selection of multiattribute project portfolios in the presence of incomplete information about attribute weights. In particular, we present an algorithm for the determination of potentially optimal and non-dominated portfolios. We also consider robustness measures for the identification of portfolios that exhibit satisfactory performance across the full range of possible attribute weights. Based on linear programming, the proposed approach is particularly suitable to problems where the number feasible portfolios is large and where multiple resources and project interdependencies need to be accounted for. We also give a numerical example and consider potential applications of the framework.

Keywords:

Capital budgeting, multicriteria portfolios, incomplete weight information, dominance between portfolios, robustness