

Selected applications for portfolio optimization

T. Tichy¹, A. Kresta² and S. Ortobelli

Technical university Ostrava, 701 21 Ostrava, Czech Republic
tomas.tichy@vsb.cz

1 Introduction

In this work potential usage and impact of different measures for portfolio problems is studied in connection with metaheuristic approaches. We use semidefinite positive correlation measures consistent with the choices of risk-averse investors and propose new portfolio selection models that optimize the relation between the portfolio and one or two market benchmarks. We then discuss when and how suitable measures can be used to reduce the dimensionality of large scale portfolio problems. Finally, through an empirical analysis, we show the impact of different measures and optimization approaches on portfolio selection problems and on dimensionality reduction problems. In particular, we compare the ex-post sample paths of several portfolio strategies.