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Darinka Dentcheva, Andrzej Ruszczyński

Institutions: Stevens Institute of Technology, Rutgers University

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Portfolio Optimization with Stochastic Dominance Constraints[*]

Darinka Dentcheva[†]   Andrzej Ruszczyński[‡]

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Abstract

We consider the problem of constructing a portfolio of finitely many assets whose return rates are described by a discrete joint distribution. We propose a new portfolio optimization model involving stochastic dominance constraints on the portfolio return rate. We develop optimality and duality theory for these models. We construct equivalent optimization models with utility functions. Numerical illustration is provided.

KEYWORDS: Portfolio optimization, stochastic dominance, stochastic order, risk, utility function, duality.

JEL CLASSIFICATION: G11, C44, C61.

[†]Stevens Institute of Technology, Department of Mathematical Sciences, Hoboken, NJ, e-mail: ddentche@stevens.edu

[‡]Rutgers University, Department of Management Science and Information Systems, Piscataway, NJ 08854, USA, e-mail: rusz@business.rutgers.edu

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