

# Portfolio Optimization with Stochastic Dominance Constraints\*

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May 12, 2004

## 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.

This paper appeared in  
*Journal of Banking & Finance*, Volume 30, Issue 2, February 2006, Pages 433-451

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\*Research supported by the NSF awards DMS-0303545, DMS-0303728, DMI-0354500 and DMI-0354678.

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