Multiple Return Estimation for Robust Portfolio Optimization

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Classical mean-variance formulations for portfolio optimization depend on reliable estimates for returns and risks of securities included in the portfolio selection model. A comparison of different estimation techniques, however, shows that their outcomes may vary significantly and, thus, suggests to integrate these models within the framework of robust optimization. Using a multi-scenario multi-objective modeling approach that incorporates multiple return estimation, new formulations for robust portfolio optimization are proposed and illustrated.