

Risk measures are subject to many scientific papers and monographs published on financial portfolio optimization problem within stochastic programming. Currently there are many functionals which measure risk of random future losses according to risk managers preferences. However, their sensitivity is studied less commonly, especially according to possible changes of input data or with respect to the portfolio allocation. This thesis deals with sensitivity of two frequently discussed measures - Value at Risk (VaR) and Conditional Value at Risk (CVaR). Explicit contamination bounds for relative VaR optimization problem are expressed using general results of parametric optimization valid for quadratic programming. A numerical study and a heuristic algorithm for correlation matrices stressing are involved. Sensitivity of VaR and CVaR is studied through their derivatives with respect to the portfolio allocation. Assumptions for the derivatives are formulated, Hessians introduced and convexity is discussed. At last, some dynamic risk measures for multi-period investory models are proposed.