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The Efficient Frontier for Uncorrelated, Bounded Assets

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Abstract This paper develops a closed form solution of the mean-variance portfolio selection problem for uncorrelated assets when an additional technical assumption is satisfied. The mean-variance portfolio selection problem considered here deals with the budget constraint and lower bounds or the budget constraint and upper bounds. For the mean-variance portfolio selection problem dealing with lower bounds the closed form solution is derived for two cases: a universe of only risky assets and a universe of risky assets plus an additional asset which is risk free. For the mean-variance portfolio selection problem dealing with upper bounds, the results presented are for a universe consisting only of risky assets. In each case, the order in which the assets are driven to their bounds depends on the ordering of their expected returns.