

Portfolio Selection With Implied Moments

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Abstract

Many different approaches to implement the classical mean-variance portfolio optimization with multiple risky assets have been suggested and tested in the literature. Overall, the success of these approaches to beat simple benchmark strategies consistently out of sample is very limited. The major problem seems to be that moments of the future joint return distribution are too unstable to be predicted precisely from historical data. In this paper, we use information about these moments that is implied in option prices to solve the portfolio selection problem. In particular, we do not use any stationarity assumptions or calibration to historical data. Our fully implied approach shows how cross-sectional restrictions alone can be used to identify the global minimum variance portfolio. An empirical study for a portfolio of 30 major US stocks demonstrates that a significant risk reduction can be achieved by using this fully implied approach.