

ABSTRACT

In 1991, Konno and Yamazaki developed Mean Variance Methods and introduced a new method called Mean Absolute Deviation (MAD). MAD can be used in portfolio optimization using Linear Programming. In practice the Mean Absolute Deviation method uses historical data analysis ranges forming a portfolio with a certain period. MAD model is more optimal and simpler in computation time because the calculation does not use the matrix covariance calculation and the inverse matrix as the Mean Variance models so the computation time is smaller.

Based on the results of experiments performed using LQ45 Index with the assumption that Short Selling are allowed, Mean Absolute Deviation method has a lower risk (0.07593) compared with Mean Variance Method (0.18709), but if Short Selling is not allowed (no-Short selling) Mean Absolute Deviation method gives an average value of risk did not differ significantly. The average value of the return on the Short Selling transaction and no-Short Selling transaction using Mean Absolute Deviation Method also did not differ significantly with Mean Variance Method.

The average value of the minimum risk on Mean Absolute Deviation Method based no-Short Selling transactions generated by Portfolio 5 (0.0399), lower than the Short Selling transactions generated by Portfolio 2 (0.0488). Experiments also show the performance of the computing time required Mean Absolute Deviation method is faster than the Mean Variance Method.

Keywords: portfolio, LQ45, *Mean Absolute Deviation*, *Mean Variance*, *Short Selling*, *no-Short Selling*