
Portfolio Optimization Using Value-at-Risk in Manufacturing Companies

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Abstract Active portfolio management means allocation of resources based on an active strategy, and its main objective is not only making a profit and positive returns, but also earning higher returns than usual. Higher return means a better performance than the benchmark portfolio. The purpose of this research is to optimize portfolios using value-at-risk in manufacturing companies (food industry). In this regard, the statistics and data of weekly prices of 21 companies' shares during 1392-1394 were used. In this study, the method of minimization of value-at-risk for a given portfolio according to expected returns by Genetic Algorithm and Lingo is provided. The results show that Genetic Algorithm, considering the solution space, can better identify the appropriate portfolio. The difference in weights was 2.49 by Genetic Algorithm and 4.22 by Lingo. Therefore, Genetic Algorithm could better calculate the appropriate weights for optimal portfolio due to the search in solution space. **Key words:** Optimal Portfolio, Value-at-Risk, Genetic Algorithm.

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