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AN ALGORITHM FOR CONSTRUCTION OF A PORTFOLIO WITH A FUNDAMENTAL CRITERION

Abstract:

The classical models for construction of investment portfolio do not take into account fundamental values of considered companies. In our approach we extend the portfolio choice by adding this dimension to the classical criteria of profitability and risk. It is assumed that an investor selects stock according to their attractiveness, measured by some fundamental values of companies. In this approach portfolios are assessed according to three criteria: their profitability, risk (measured by variance of returns) and fundamental value (measured by some indicators of fundamental value). In this article we consider earnings to price ratio as the measure of the fundamental value of a company. In the paper we consider an algorithm for constructing portfolios with fundamental criterion based on analytical solutions for appropriate optimization problems. In the optimization problem we consider minimizing variance with constrains on expected return and attractiveness of investment, measured with some indicators of fundamental values of companies in a portfolio. We also present empirical examples of calculating effective portfolios of stocks listed on the Warsaw Stock Exchange.

Keywords:

portfolio analysis, fundamental value, multicriterial choice, fundamental analysis

JEL Classification: C61, C63, G11