

OPTIMAL PORTFOLIO SELECTION BY USING COOPERATIVE GAME THEORY APPROACH DURING MALAYSIA GENERAL ELECTION 14 AND ITS PERFORMANCE

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ABSTRACT

The cooperative game theory approach focusses on the final decision to the investors' portfolio based on the payoffs. In this paper, the model of players (sectors) is divided into three groups where each player will have three strategies (stocks) for the game. The prices of each stock from Bursa Malaysia have been used in order to get the payoff from each stock and its coalition sectors by averaging the returns. The game value of the multiple-player game will be applied to obtain Shapley value to find the optimal increment of the returns. The players will cooperate to defeat the market by using Shapley value percentages. The optimal portfolio performance has been calculated during Malaysia GE14 by using Sharpe criteria. The proposed portfolio performed outperformed the market in 6 months before and after GE14.

Keywords: Cooperative Game Theory, Shapley Value, Portfolio Selection