

# Applying monte carlo concept and linear programming in modern portfolio theory to obtain best structured weighting

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## Abstrak

.....In the capital market, investment is usually utilized as a kind of tool for the investors against the number one enemy, the inflation. By this way, investment is a better alternative than time deposit and cash instrument which offer less return on investment than capital market instrument. Investment can also be a tool for investors in growing their wealth and preserve it. By staying invested, investor can generate earnings and even more from their existing money or fund as long as the market is in expectation and in favour.

Now the world is entering the era of recession when the trend is bearish and market is not so favorable. Many investors are now experiencing great losses and suffer in their investment. The investment has become like an enemy instead of a tool to grow, protect and preserve the wealth of investors. Some investors have stated that the investment did not making them money anymore at this time of recession, some said that better not to invest their money in capital market instead. All of these statements were raised mainly because one thing that investors have usually forgotten, its portfolio risk management. Investment bankings in US were bankrupt and no more. The capital markets in every major country were experiencing great amount of loss and people suffered in their investment. That was because one term that has been abandoned all this time, portfolio risk management.

In bullish trend, that was fine to structure the portfolio of investment in stocks and less in bonds as long as the return and risk of the portfolio were also fire with the investors. But when the market changes, the structure should be different in terms of portfolio contents. The investor should reduce the portion or share of stocks (since these relatively have high volatility) and increase the share of bonds and cash in their portfolio. That is the thing the investor should do.

Capital market of Indonesia has also suffered because of this world recession. The JCI as the main index price of BEI (Indonesia Stock Exchange) has shown a great downturn for the past one year. Now is the bearish year of the JCI. Therefore, it is also wise for the rational investors to also consider restructuring their portfolio to become mainly in bonds and cash instead of stocks. The way the investors doing this should be by applying the best method ever conceived called modern portfolio theory which was founded by Nobel Winner Henry Markowitz.

Risk and Return are just like two sides of one coin. The greater the return, the greater the potential risk may embodied within the investment. The research in this thesis will show investor on how to find out the lowest risk of a portfolio investment by providing them with several structures of portfolio weighting. By this way, investor can compare and make the decision based on risk-return consideration and opportunity cost as well.