

Title of Independent Study: Risk and Returns Analysis, Price Estimation, and Portfolio

Management of Energy Stocks Using CAPM

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Abstract

This study aims to: 1) Analyze and examine rate of return and risk of the investment in energy stock by using capital asset pricing model (CAPM) 2) as a guideline in making investment decision in each current energy stocks, determine the actual price, and apply for investment portfolio management.

In this research on energy sector, the researcher chose 25 stocks from energy sector are AI, AKR, BAFS, BANPU, BCP, DEMCO, EASTW, EGCO, ESSO, GLOW, IRPC, LANNA, MDX, PTT, PTTEP, RATCH, RPC, SCG, SGP, SOLAR, SPCG, SUSCO, TCC, TOP, TTW Moreover, The information used in this study consists of 3 parts, including: **The first part** is return rate of government bond and treasury bills for 3 years, which are considered as risk free stocks (Risk free Rate). **The second part** is the historical closing index of thailand stock market and closing price of stocks in energy sector in monthly. **The third part** is average of expected return rate for the next one year. The researcher analyzed by Comparing Capital asset Pricing Model (CAPM) with average of expected return in order to applying on investment portfolio.

The study showed that the estimation energy sector's equities corresponded to CAPM theory. That means stocks with high risk (high β) offer high expected return accordingly. Also, stock with low risk (low β) offer low expected return rate. As a result stocks with high return rate

and high risk is SOLAR, which is 138.048% and 1.672, respectively. Ratch is a lowest return rate and lowest risk stock, with 13.265% return rate and the risk of 0.127. About investment decision sorted by investor type, it was found that the total 12 stocks are AKR, BANPU, BCP, ESSO, IRPC, MDX, PTT, RPC, SGP, SOLAR, SUSCO, TOP offered more annual expected return rate than stock market does. Their beta coefficients (β) are above 1 ($\beta > 1$). This group of equities are suitable for the investors who can face risk (Risk Lover). Furthermore, stock in energy sector that has the highest return rate and highest beta value (β) is SOLAR, and BCP has lowest return rate and lowest beta value (β). The rest 13 energy sector are AI, BAFS, DEMCO, EASTW, EGCO, GLOW, LANNA, PTTEP, RATCH, SCG, SPCG, TCC, TTW offered less annual expected return rate less than stock market does. Their beta coefficients (β) are below 1 ($\beta < 1$). This group of equities are suitable for the investors who avoid risk (Risk- averter). The energy sector that has the highest return rate and highest beta value (β) is PTTEP. The energy sector that has the lowest return rate and lowest beta value (β) is RATCH. About comparison between annual expected return rate and average expected return rate, it was found that total 10 stock are BAFS, BCP, DEMCO, ESSO, GLOW, IRPC, SGP, SPCG, TOP, TTW offered more annual expected return rate than average expected return rate (overprice: overvalue). The total 5 stock are BANPU, EGCO, PTT, PTTEP, RATCH offered more annual expected rate of return than average expected return rate (underprice: undervalue). The suggestion is the investor should analyze systematic risk and non-systematic risk as well as considering other factors that affect to each stock before making investment decision.

Keywords Rate of return and risk, Investment portfolio management in stock market