Relationship Between Return and Risk in Indonesia Stock Exchange

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Abstract

Based on the standard CAPM , Sharpe has shown that the expected return in one holding period is increased proportionally to the market risk. Though has been derived by using the same concept, Amihud and Mendelson have shown that the expected excess return per unit time as a function of liquidity risk has a concave shape. This paper clarifies why these two models result in different relationships. If the expected excess return in one holding period is used, it is shown in this paper that the Amihud-Mendelson model will result in linear relationship similar to the one derived by Sharpe. As the data for holding period is usually not available, the holding period is estimated as the number of outstanding share divided by the trading volume per unit time. Empirical results based on the last five years data obtained in Indonesia Stock Exchange are included to show the validity of the proposed concept.

Key words : CAPM, volatility, liquidity, clientele effect

1 Introduction

Indonesia Stock Exchange (IDX), the only capital market in Indonesia, has grown very fast in recent years. The IDX index has grown 27% annually in the last five years. Market capitalization has grown 31% in the same period. These growths are much higher compared to other countries in the region. Although the market has grown very fast, the growth of investor especially the local one still very small compared to other countries. Various activities have been established by the Indonesia Stock Exchange to socialize the capital market and to increase the local investor.

Liquidity and volatility are risk that must be faced by any investor. Many local investors are considering that investment in stock market is much riskier than in ordinary sectors. According to the standard CAPM (Capital Asset Pricing Model) theory an investor should maximize the expected return for a given risk or the risk should be minimized for a given expected return. How to predict the expected return as a function of risk is the main issue of financial research in the last decades. Many works have shown that the expected return increase with the liquidity and volatility risk. Though a lot of works have been published, there are still many issues to be clarified.

Based on the standard CAPM, Sharpe [1964] has shown that the expected excess return in one holding period is proportional to the market risk or volatility. Though has been derived by using the same concept, Amihud and Mendelson have shown that the expected excess return per unit time as a function of liquidity risk has a concave shape. This paper clarifies why these two models result in different relationships. If expected excess return in one holding period (instead of per unit time) is used, it is shown in this paper that the Amihud-Mendelson model will result in linear relationship similar to the one derived by Sharpe. As the data for holding period is usually not available, the holding period is estimated as the number of outstanding share divided by the trading volume per unit time. Empirical results based on the last five years data (2008-2013) obtained in Indonesia Stock Exchange are included to show the validity of the proposed concept. It is expected that the research results will provide a complete picture about the stock performance in Indonesia Stock Exchange and, therefore, can be used as additional information for local investors to invest in stock market.