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On the Relationships among Expected Return, Volume, Holding Period, and Bid-Ask Spread in Indonesia Stock Market

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Abstract: The relationships among expected return and various liquidity measures are first examined theoretically in this paper. Under constant holding period, it is shown that the expected return is proportional to the bid-ask spread. Under constant expected return, the holding period is proportional to the bid-ask spread and the volume is inversely proportional to the bid-ask spread. Under constant bid-ask spread, the expected return is inversely proportional to the holding period and is also proportional to the volume. Based on five years data from Indonesia Stock Market, the previous relationships are examined empirically.

Keywords: liquidity, expected return, bid-ask spread

1. INTRODUCTION

Liquidity is the risk that must be faced by an investor in any stock market. Liquidity is also a key measure of market efficiency and important condition for financial market growth and development. Though a lot of work on liquidity risk have been published, Amihud and Mendelson are the first that formalized the relationship between expected return and liquidity risk [1]. They have shown that there is a clientele-effect that relating the holding period and liquidity risk (bid-ask spread). The clientele effect saying that under constant expected return per unit time, the holding period is linearly proportional to the bid-ask spread. Due to this clientele effect, the relationship between the expected return per unit time and bid-ask spread has a concave form. Though a lot of work on liquidity measures and the effects on the expected return have been published, there are still many points have to be clarified.

This paper first shows theoretically the relationships among expected return and various liquidity measures. Under constant holding period, it is shown that the expected return is proportional to the bid-ask spread. Under constant expected return, the holding period is proportional to the bid-ask spread and the volume is inversely proportional to the bid-ask spread. Under constant bid-ask spread, the expected return is inversely proportional to the holding period and is also proportional to the volume. Based on five years data from Indonesia Stock Market, the previous relationships are examined empirically.

2. PREVIOUS WORKS

Liquidity has long been an important issue for securities traded in financial markets. Liquidity, however, is an elusive concept that is difficult to measure by using just a single quantity. Various measures have been proposed to measure the liquidity or illiquidity. The common proxies of liquidity are bid-ask spread, stock turnover, trading volume, illiquidity ratio, return reversal, and zero return measure. Goyenko, Holden, and Trzcinka have questioned the various measures of liquidity [2]. Trading activity as a measure of liquidity has also been proposed.

Amihud and Mendelson have shown that the expected return increase with the relative bid-ask spread [1]. In 2002, Amihud has proposed another measure of illiquidity that is the ratio of the daily return to the daily volume of transaction [3]. By using this new measure, it was shown that illiquidity can be measured better than just by using relative bid-ask spread. The use of

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