Risk and Return Nexus in Malaysian Stock Market: Empirical Evidence from CAPM

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Abstract
This paper examines the applicability of CAPM in explaining the risk-return relation in the Malaysian stock market for the period of January 1995 to December 2006. The test, using linear regression method, was carried out on four models: the standard CAPM model with constant beta (Model I), the standard CAPM model with time-varying beta (Model II), the CAPM model conditional on segregating positive and negative market risk premiums with constant beta (Model III), as well as the CAPM model conditional on segregating positive and negative market risk premiums with time varying beta (Model IV). Empirical results indicate that both the standard CAPM models (Model I and Model II) are statistically insignificant. However, the CAPM models conditional on segregating positive and negative market risk premiums (Model III and Model IV) are statistically significant. In addition, this study also discovers that time varying beta provides better explanatory power.

Keywords: Stock market, CAPM, time-varying beta

JEL Classification: G10, G12, C20

1. Introduction

Stock market plays an important role in stimulating economic growth of a country. It helps to channel fund from individuals or firms without investment opportunities to firms who have them and thus improves the country's economic efficiency. It is the lifeblood of the economy of a nation that concerns individuals, firms as well as government. However, stock market is a volatile financial market, in which various factors can affect the return that investors can gain from investing in stocks. The uncertainty of reward from stock market is translated into risks that investors have to bear for investing in stocks. Broadly, risks exist in the stock market can be categorized into unsystematic risk which is firm specific as a result of company specific factors and systematic risk which is market related risk in consequence of market related factors. According to Markowitz Portfolio Theory (Markowitz, 1959), unsystematic risk can be diversified away through diversification of portfolio and thus the capital markets will not reward investors for bearing this type of risk. Instead, the capital markets will only reward investors for bearing systematic risk that cannot be eliminated through diversification.

Since the return from investment in stock market is uncertain, knowing the risk and return nexus in the stock market will be crucial for investors to maximize their return and minimize their risk, and thus ensuring the attractiveness of investing in stock market. Various theories relating risk and return have been developed about 60 years ago. In 1952, Markowitz developed the portfolio theory showing investors how to create portfolios of individual investments to optimally trade off risk versus return. Sharpe (1964) and Lintner (1965) marked the birth of asset pricing theory linking the expected return of an asset to its market risk using the Capital Asset Pricing Model (CAPM). Ross (1976) formulated Arbitrage Pricing Model (APM) as an alternative to CAPM. APM relates expected return of an asset to unidentified risk factors, which can be more than one. The unidentified risk factors could be anything but realistically it is most likely to be macroeconomic variables such as interest rate, inflation rate and so on. There are many other theories developed thereafter, some of them are modification of CAPM and APM. All these theories claim the possibility to estimate return of an investment. However, according to Bruner *et al*. (1998) and Graham and Harvey (2001), CAPM was found to be the most favored model of practitioners and academics. Dhankar and Singh (2005) also stated that CAPM is widely accepted as an appropriate technique for evaluating financial asset.

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