EMPIRICAL STUDY ON SEMI-STRONG FORM MARKET EFFICIENCY: EVIDENCE FROM COLOMBO STOCK EXCHANGE

BY

KALUGALA VIDANALAGE ARUNA SHANTHA

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DECLARATION

The work described in this thesis was carried out by me under the supervision of Dr P D Nimal and a report on this has not been submitted in whole or in part to any university or any other institution for another degree/ diploma.
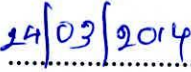
Kalugala Vidanalage Aruna Shantha

DECLARATION

I certify that the above statement made by the candidate is true and that this thesis is suitable for the submission to the University for the purpose of evaluation.

....   14/03/2014

Dr P D Nimal   Date

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Abbreviations

AARs   – Average Abnormal Returns

APT   – Arbitrage Pricing Theory

ASPI   – The All Share Price Index

BE/ME   – Book-to-Market Equity ratio

CAARs   – Cumulative Average Abnormal Returns

CAPM   – The Capital Asset Pricing Model

CSE   – The Colombo Stock Exchange

E/P   – Earnings-to-Price ratio

FF Three-factor Model   – The Fama and French (1993) Three-factor Model

HML   – High minus Low, that is the Book-to-Market Equity in the FF Three-factor Model, the difference between the return on a portfolio of value stocks (with high book-to-market ratios) and the return on a portfolio of growth stocks (with low book-to-market ratios).

SMB   – Small minus Big, that is the size factor in the FF Three-factor Model, the difference between the returns on return on a portfolio of small stocks minus the return on a portfolio of big stocks.

Empirical Study on Semi-Strong Form Market Efficiency: Evidence from Colombo Stock Exchange

Kalugala Vidanalage Aruna Shantha

ABSTRACT

The concept of Efficient Market Hypothesis holds the view that market prices fully reflect all available information. It has extensively been studied on both developed and emerging stock markets over the last 50 years. Different empirical studies conducted even for the same market are found to have conflicting results, mainly in emerging capital markets. As far as the CSE is concerned, there is very limited number of recent studies on its semi-strong form efficiency and the results of these few studies are not consistent with each other. Further, companies listed on the CSE are appeared to have very low interest in giving their shareholders stock dividends (issuing bonus shares), instead of paying cash dividends. Moreover, the current literature does not contain a study which investigates the comparative power of different asset pricing and firm-specific expected return estimation models.

Accordingly, the objectives of this study are to examine whether there is positive information content associated with bonus share issue announcements and the CSE is semi-strong form efficient in respect of such announcements, and both asset pricing models and firm-specific models have got similar power to detect abnormal performance in stock prices. The standard event study methodology is employed for a

sample of 54 bonus share issue announcements on the CSE from 2001 to 2011. The expected returns of the firms announcing the bonus share issues are determined applying a combination of the firm-specific and the asset pricing models namely, the Mean-adjusted Return Model, the Market Model, and the FF Three-factor Model.

The results of the study suggest that market reacts positively to announcements of bonus share issues as statistically significant positive AARs are found during the event window. Then, the reason for decreasing trend in the number of bonus issue announcements over past five years is not due lack of their positive information content, but would be due to the fact that the new Companies Act requires a solvency test to be satisfied before announcing the bonus shares. This involves some cost because the certificate of solvency is required to be obtained from the auditors of the company. Consequently, companies may be more interested towards splitting shares because it provides same benefits to shareholders as bonus issues, but does not requires a solvency test. Further, it is evident that the CSE is not efficient in its semi-strong form over the period from 2001 to 2011 because results show an overreaction to bonus share issue announcements. In addition, there is enough evidence to conclude that the responses of stock prices to bonus share issue announcements are not significantly different among asset pricing models and firm-specific models of expected return estimation. Therefore, both types of models are applicable for event studies because they have got same capability in detecting abnormal performance in stock prices.

Keywords: Semi-strong form market efficiency, Colombo Stock Exchange, Bonus issues, Three-factor model

CHAPTER ONE

INTRODUCTION

"Markets are efficient" and "market prices of financial assets follow a random walk" are main two pillars of traditional financial economics. The efficient markets hypothesis holds the view that market prices fully reflect all available information. The three forms of market efficiency are weak form, semi-strong form and strong form efficient markets. Market is weak form efficient if the historical prices of securities are fully reflected in their current prices. If all publically available information is impounded accurately and instantly into prices of securities when it becomes available, the market is considered to be semi-strong form efficient. The semi-strong form efficiency also includes the weak form efficiency because past stock prices are publically available information to market participants. The strong form of market efficiency implies that share prices include all information, both public and private, which affects the prices of securities.

According to Fama (1965a), Random walk hypothesis holds the idea that security prices generated by markets follow a random walk. The more the markets are efficient, the sequence of price changes are more random. In most efficient markets, the price changes are completely random and unpredictable. Since market participants are attempting to profit from information that they hold, the information will be incorporated into market prices, eliminating the profit opportunities. Accordingly, market prices must fully reflect all available information and profits cannot be consistently earned from trading on such available information. Much of early

literature on efficient market hypothesis revolved around this random walk hypothesis. Lucas (1978) states that if all investors are rational having rational expectations, prices fully reflect all available information and marginal-utility weighted prices follow martingales. Building on the work by Paul A. Samuelson and Eugene F. Fama in the 1960s, who introduced this efficient market hypothesis framework, this notion has been applied in the empirical studies of finance, generating controversial results in different markets and with different kind of information. Even after ample of research mainly in developed financial markets over the past decades, there is still no a consensus on whether financial markets are actually efficient.

1.1. Background of the Study

The focus of this section is to provide background to the research problem discussed in the section 1.2. of this report. Therefore, this section mainly discusses the gaps in the existing literature in order to provide a background to the research problem identified in the following section.

1.1.1. Controversial results of the previous empirical studies on Efficient Market Hypothesis

Many of early studies testing the efficient market hypothesis were based on the random walk hypothesis. For example, Cowles and Jones (1937) Cootner (1962; 1964), Fama (1963; 1965a), Fama and Blume (1966), and Osborne (1959) are among many others who carried out test on the random walk hypothesis using historical price data and found evidence supporting this hypothesis. Fama (1970) reviews the early tests on random walk hypothesis with his own contributions, and reaches a conclusion that "*the*