

**IMPACT OF MACROECONOMIC VARIABLES ON SIZE
AND BOOK TO MARKET EFFECTS IN STOCK
RETURNS: EVIDENCE FROM SRI LANKA**

By

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Declaration by the Author

The work described in this thesis was carried out by me under 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 or Diploma.


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


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Impact of Macroeconomic Variables on Size and Book to Market

Effects in Stock Returns: Evidence from Sri Lanka

Sampath Deepthi Lanka Kongahawatte

ABSTRACT

The main purpose of this study is to find whether size and BM effects are subsumed by macroeconomic variables in explaining variation in stock returns in Sri Lanka using stocks listed in the Colombo Stock Exchange (CSE). In addition it is expected to find whether beta, size and BM effects are significant in explaining variation in stock returns and to find whether macroeconomic variables are significant in explaining variation in stock returns. The sample covers the period from 1998 to 2013 and includes all the stocks with required information. The macroeconomic variables considered for the study consist of change in expected inflation, unanticipated inflation, unanticipated change in term structure, unanticipated change in risk premium and growth rate in industrial production. Nine Size-BM portfolios are constructed each year for the purpose of analysis and Fama MacBeth cross-sectional regressions designed for various models over four holding periods ranging from one month to one year constitute the main test method. The results show that reversed size effect that is positive impact of size on stock returns persists in the CSE, especially up to holding period of six months. The effect of BM is found to be consistent that is a positive BM effect is observed in six month and one year holding periods. Beta however is not found to be significant in explaining stock returns. Macroeconomic variables seem to affect stock returns, but to a

lesser extent that is no specific macroeconomic variable found to be affecting the stock returns in all the holding periods. The introduction of macroeconomic variables to the test model causes a drastic reduction of the significance of size and BM effects apart from the semiannual holding period, indicating macroeconomic variables subsume size and BM effects in explaining variation in stock returns. The results of this study suggest that stock returns in the CSE are explained by size effect, BM effect and macroeconomic variables at least partially. Thus, the findings of this paper could be useful for investors and they could consider size and BM effects and macroeconomic variables associated with stocks in developing their investment strategies.

CHAPTER ONE

INTRODUCTION

1.1 Background

This study investigates whether the macroeconomic variables could subsume the size effect and Book value of equity to Market value of equity ratio (BM) effect in Sri Lanka.

A commonly accepted theoretical explanation for the variation of returns of different stocks has been a much debatable issue in the area of finance. The introduction of the Capital Asset Pricing Model (CAPM) (Sharpe, 1964; Lintner, 1965; Black, 1972), resolves this problem. However, some researchers come up with the idea that beta, the measure of systematic risk, which is the risk factor under CAPM that determine the return is not sufficiently capable of explaining the variation of returns of stocks. Researchers identify many factors such as size (Banz, 1981), Leverage (Bhandari, 1988), Book value of equity to Market value of equity (Stattman, 1980), Earnings to Price ratio (Basu, 1983) etc. to have an impact on stock returns even after adjusting for beta risk. These factors are called anomalies as the CAPM contends that beta is sufficient to explain the variation of stock returns and any other variable does not have marginal explanatory power.

Development of arguments against the CAPM have motivated the researchers all around the world to explore different models to fulfill the requirement of a best fitting model in order to explain the variation of stock returns. Fama and French (1993) three factor model is a result of this pursuit for a better asset pricing model. This model asserts that the return of the stock is dependent on three factors, namely, market, size