

**THE BEHAVIOR OF SECTOR RETURN AND  
VOLATILITY AROUND BUDGET: EVIDENCE FROM  
COLOMBO STOCK MARKET**

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Degree of Master of Science

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University of Moratuwa

Sri Lanka

November 2018

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Thesis Submitted in partial fulfillment of the requirements for the degree Master of  
Science in Financial Mathematics

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### **Declaration of the Candidate and Supervisor**

The work submitted in this thesis is the results of my own investigation, except where otherwise stated.

It has not already been accepted for any degree, and is also not been concurrently submitted for any other degree.

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Date

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## **Acknowledgment**

I am heavily indebted to my supervisor, Mr. Rohana Dissanayake, Senior Lecturer, Department of Mathematics, University of Moratuwa for his inspiration and invaluable support throughout my graduate studies at the University of Moratuwa. Undeniably, this work would not have been a success without his directions, guidance and immeasurable contribution. It was really a great honor to have been his student.

Besides my supervisor, I would like to give my sincere thanks to Mr. T M J A Cooray, Senior Lecturer, Department of Mathematics, University of Moratuwa and course coordinator of M.Sc. studies for his support and the encouragements during my study period and the graduate studies at the University of Moratuwa.

Warm appreciation also goes to staff of the Kuli/Deegalla Rewatha M.M.V. for their support and encouragements.

Most importantly, I would like to express my deepest gratitude to my mother, my father, my sisters, my brothers, my husband and my beloved son for their love, unflinching support and encouragement. Without them, I definitely could not have come this far.

## Abstract

The study examines the behavior of stock returns and volatility in Diversified Holdings (DIV) sector of CSE around three annual government budget announcements. The daily returns of the sector over a period of three years from 1<sup>st</sup> April 2015 to 29<sup>th</sup> March 2018 are tested using three types of conditional time varying models, namely GARCH, EGARCH and GJR-GARCH. Three cases are considered using the dummy variable for  $n=5, 10$  and  $15$  with three scenarios,  $n$  number of days on pre- budget, pre and post budget, post- budget for each case. Seven models are fitted except pre-budget with  $n=10$  and pre-budget with  $n=15$ . This study finds strong evidence for the presence of budget announcement effect in stock returns and volatility of the sector. Returns during all considered windows are significantly negative and it implies that significant reduction in return. This reduction is increasing when getting closer to the budget date. Due to this effect investors can earn an abnormal return by buying stocks before five days of the budget announcement or after five days of the budget announcement and selling stocks after 15 days from the budget date.

Key Words: Volatility, Stock Return, All share price index, GJR-GARCH,  
Budget, pre, post

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## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Description</b>
ADF	Augmented Dickey-Fuller
AR	Auto Regressive
ARCH	Auto Regressive Conditional Heteroscedasticity
ASPI	All Share Price Index
BSE	Bombay Stock Exchange
CAAR	Cumulative Average Abnormal Returns
CSBA	Colombo Share Brokers' Association
CSE	Colombo Stock Exchange
DF	Dickey-Fuller
DFE	Dynamic Fixed Effects
DIV	Diversified holdings
DNB	Department of National Budget
EGARCH	Exponential Generalized Auto Regressive Conditional Heteroscedasticity
ETF	Exchange Traded Funds
GARCH	Generalized Auto Regressive Conditional Heteroscedasticity
GJR GARCH	Glosten Jagannathan Runkle Generalized Auto Regressive Conditional Heteroscedasticity
MA	Moving Average
MVRM	Multi Variate Regression Model
NSE	New York Stock Exchange
OLS	Ordinary Least Square

SBA	Share Brokers' Association
TGARCH	Threshold Generalized Auto Regressive Conditional Heteroscedasticity
WTC	World Trade Centre