The copyright © of this thesis belongs to its rightful author and/or other copyright owner. Copies can be accessed and downloaded for non-commercial or learning purposes without any charge and permission. The thesis cannot be reproduced or quoted as a whole without the permission from its rightful owner. No alteration or changes in format is allowed without permission from its rightful owner.



THE IMPACT OF ECONOMIC SHOCKS ON STOCK RETURN AND TRADING VOLUME RELATIONSHIP



MASTER OF SCIENCE (FINANCE) UNIVERSITY UTARA MALAYSIA DECEMBER 2018

THE IMPACT OF ECONOMIC SHOCKS ON STOCK RETURN AND TRADING VOLUME RELATIONSHIP

By LEE JIH SHIN



Thesis Submitted to
School of Economics, Finance & Danking,
University Utara Malaysia,
In Partial Fulfilment of the Requirement for the Master of Science (Finance)

PERMISSION TO USE

In presenting this dissertation paper in partial fulfilment of requirements for the postgraduate degree from University Utara Malaysia (UUM). I agree that the library of this university may make it freely available for inspection. I further agree that permission for copying this dissertation in any manner, in whole or part, for the scholarly purpose may be granted by my supervisor or in their absence, by the Dean of Othman Yeop Abdullah Graduate School of Business where I did my dissertation paper. It is understood that any copying or publication or use of this dissertation paper part of it for financial gain shall not be allowed without my permission. It is also understood that due recognition shall be given to me and to the UUM in any scholarly use which may be made of any material in my dissertation paper.

Request for permission to copy or to make other use of material in this dissertation paper in

whole or in part should be addressed to:

Universiti Utara Malaysia

Dean of School of Economics, Finance & Banking University Utara Malaysia 06010 UUM Sintok Kedah Darul Aman Malaysia

i

ABSTRACT

This study analyzed the relationship between trading volume and stock return in the Main Market of Bursa Malaysia from April 2009 to October 2018, and ACE market from April 2000 to October 2018. The relationship was then re-examined surrounding four exogenous shocks in macro events. The first two shocks, standardization of lot size, and the global financial crisis were only applicable to the Main Market only while two other shocks, the oil price shock, and the 14th Malaysian general election were applicable to both market. Granger-causality test showed a significant bidirectional relationship between trading volume and stock return. Results of the ordinary least squares (OLS) further revealed that there was a positive and significant relationship between trading volume and stock return. This positive relationship is consistent with the sequential arrival of information model and the mixture of distribution hypothesis model (MDH). The positive relationship generally was held for the period before and after the economic shocks related to the standardization of lot size, the global financial crisis, and the oil price shock. The stock return-volume relationship was, however, significantly weaker during the global financial period and became insignificant during the 14th Malaysia general election in the Main Market. The findings of a weaker stock return-trading volume relationship are consistent with the MDH. Overall, the significant positive stock return-volume relationship for the overall and subsamples of economic shock events implied that when the investors observed an increase in the trading volume, they start to invest in the stock as the stock returns also increased due to the positive stock return-volume relationship. The stock return-volume relationship can help in the investor's investment decisions.

Keywords: Trading Volume, Stock Return, Granger-Causality Test, Regression Test, Macro Events

ABSTRAK

Kajian ini menganalisa hubungan antara volum dagangan dan pulangan saham di Pasaran Utama Bursa Malaysia dari April 2009 hingga Oktober 2018, dan pasaran ACE dari April 2000 hingga Oktober 2018. Hubungan tersebut kemudian diperiksa semula sekitar empat kejutan eksogen dalam peristiwa makro. Dua kejutan pertama, piawaian saiz lot, dan krisis kewangan global hanya terpakai untuk Pasaran Utama sahaja manakala dua kejutan lain, kejutan harga minyak dan pilihan raya umum ke-14 Malaysia terpakai bagi kedua-dua pasaran. Ujian causality-Granger menunjukkan hubungan bidirectional yang signifikan antara jumlah dagangan dan pulangan saham. Hasil kuadrat paling biasa (OLS) selanjutnya menunjukkan bahawa terdapat hubungan positif dan signifikan antara jumlah dagangan dan pulangan saham. Hubungan positif ini selaras dengan ketibaan model maklumat ketibaan dan campuran model hipotesis pengedaran (MDH). Hubungan positif umumnya diadakan untuk tempoh sebelum dan selepas kejutan ekonomi yang berkaitan dengan standardisasi saiz lot, krisis kewangan global, dan kejutan harga minyak. Walau bagaimanapun, hubungan volum pulangan saham adalah ketara lemah semasa tempoh kewangan global dan menjadi tidak penting semasa pilihan raya umum ke-14 di Pasaran Utama. Penemuan hubungan volum dagangan volum yang lemah adalah konsisten dengan MDH. Secara keseluruhan, perhubungan volum semula volum positif yang signifikan untuk keseluruhan dan subsimpel peristiwa kejutan ekonomi tersirat bahawa apabila pelabur melihat peningkatan dalam jumlah dagangan, mereka mula melabur dalam stok kerana pulangan saham juga meningkat disebabkan oleh saham positif perhubungan balikvolum. Hubungan jumlah pulangan saham dapat membantu dalam keputusan pelaburan pelabur.

Kata kunci: Jumlah Dagangan, Pulangan Saham, Ujian Kausaliti Granger, Ujian Regresi, Peristiwa Makro

ACKNOWLEDGEMENT

At first, I want to thank the God for his blessing and strength for successfully complete this research. I also pray to His greatness to inspire and enable me to finish this dissertation paper on required time. Without his permission, for sure I cannot make it possible.

I will always be grateful to my supervisor, Prof. Madya Dr Wong Woei Chyuan for the valuable guidance and constructive comments that led to the success of this research. I appreciate all your efforts and I consider it as a great privilege to do my master project paper under your guidance. Without his understanding and advice, this dissertation paper would not been completed successfully. I also would like to extend my gratitude to Dr Sabri Bin Nayan in helping me in using Eviews as well as conducting and contribute additional input for this study.

Next, I dedicate this project paper to my beloved parents who laid the solid foundation for this achievement and who made education a priority for me and my siblings. Your unconditional love and immeasurable support sustained me this far. Words cannot express my gratitude for all the care in every stage of my life. You are the best and supportive parents anyone could ever ask for.

Besides that, my thank to my friends for being part of my success journey, who help me a lot in information sharing and ideas, as well as keep supporting each other in this battle. Lastly, I would like to give appreciation to myself as I am grateful to my true self for not giving up as this struggle is real. I am thankful for my brain to withstand some unnecessary temptations from the heart and my eyes for going through countless nights of facing the computer screens. A bitter sweet journey which I cannot buy on street. Paid off

TABLE OF CONTENTS

PERMI	SSION TO USE	i
ABSTR	ACT	ii
ABSTR	AK	iii
ACKNO	OWLEDGEMENT	iv
TABLE	OF CONTENTS	v
СНАРТ	ER 1	1
INTRO	DUCTION	1
1.0	Background of Study	1
1.1	Problem Statement	5
1.2	Research Questions	7
1.3	Research Objectives	7
1.4	Significance of Study	8
1.5	Scope and Limitations Of The Study	9
1.6	Organization of The Thesis	10
CHAPTER TWO		11
LITERA	ATURE REVIEW	
2.0	Introduction	
2.1	Underlying Theories	11
2.1.	2.1.1 Sequential Arrival of Information Model	
2.1.2 Mixture of Distributions Hypothesis (MDH)		13
2.1.3 Simultaneous Information Arrival Model		15
2.1.	4 Information Uncertainty	15
2.1.	5 Random Walk Hypothesis	17
2.2	Empirical Evidence	17
2.3	Summary of Chapter	20
CHAPT	ER 3	25
METHO	DDOLOGY	25
3.0	Introduction	25
3.2	Hypotheses Development	27
3.3	Measurement of Variables	28
3.3.	1 Dependent and Independent Variable	28
3.3.	2 Major Events Windows	28
3.4	Techniques of Data Analysis	31
3.4.	1 Descriptive Statistics Analysis	31
3.4.	2 Correlation Test	31

3.4	4.3 Pairwise Granger Causality Test	32
3.4	1.4 Regression Analysis – Ordinary Least Squared Method (OLS)	32
3.4	4.4.1 Main Market Model	32
3.5	Summary of Chapter	33
CHAP	ΓER 4	34
RESUI	TS AND DISCUSSION	34
4.0	Introduction	34
4.1	Descriptive statistics analysis	34
4.2	Correlation Analysis	39
4.3	Pairwise Granger Causality Test	40
4.4	Regression Analysis – Ordinary Least Square (OLS) Method	41
4.5	Summary of Hypotheses Testing	46
4.6	Summary of chapter	49
CHAP	ΓER 5	50
CONC	LUSION AND RECOMMENDATIONS	50
5.0	Introduction	50
5.1	Summary of Findings	50
5.2	Implication of Study	51
5.3	Recommendations for Future Research	53
REFEI	RENCES	54
	Universiti Utara Malaysia	

CHAPTER 1

INTRODUCTION

1.0 Background of the Study

Price-volume is a well-researched topic in finance. According to Karpoff (1987), there are mainly three reasons as to why a comprehensive understanding of this relationship matter. Firstly, the relationship can enhance our understanding of the structure of financial markets. For example, the price-volume relationship can be explained by the type of investors in the market which will lead to changes in the relationship between trading volume and stock price. The financial market is made up of a mixture of optimists and pessimists who directly affect stock price-volume relationship. Secondly, the relationship will help in event studies to outline the implications of these event studies. The speculator will also benefit from this study as they will know how the window selection in the event study will affect their decision to buy or sell stock. Furthermore, data from the price-volume relationship can be applied to event studies to calculate the changes in the variance of the price process either during the event or pre- and post-event. Lastly, the price-volume relationship can be support in the futures market where the changes in price is expected to have an effect on the trading volume in the futures market. This depends on the issue of the stabilization factor on future prices in speculation. The futures market is similar to the stock market in many aspects, for example, there is also private and public information in the futures market and expected to be the same relationship between price and trading volume as in the stock market. Tauchen & Pitts (1983) examined the price-volume relationship in the Chicago futures market and obtained similar to as positive price-volume relationship as shown in stocks. Kayali and Akarim (2010) examined the price-volume relationship in the Turkish Derivatives Exchange and the results showed a unilateral causality relationship running from trading volume to return. In addition, the study by Chen, Firth and

The contents of the thesis is for internal user only

REFERENCES

Alrawashideh N. M. S. (2009). The Relation Between Average Stock Return to Earning Ratio and Book to Market Ratio in FTSEBM. (Unpublished master's thesis). University Utara Malaysia, Malaysia.

Andreassen. P. B. (1988). Explaining the Price-Volume Relationship: The Difference between Price Changes and Changing Prices. Organizational Behaviour and Human Decision Processes 41, 371-389.

Azad. A.S.M., Azmat S., Fang V. and Edirisuriya P. (2014). Unchecked Manipulations, Price-Volume Relationship and Market Efficiency: Evidence from Emerging Markets. Research in International Business and Finance 30,51-71.

Chaudhuri K. and Kumar. A. (2015). A Markov-Switching Model for Indian Stock Price and Volume. Journal of Emerging Market Finance 14(3), 239-257.

Chen G., Firth M., and Xin Y. (2004). The Price-Volume Relationship in China's Commodity Futures Markets. The Chinese Economy, Vol. 37, No. 3, p.p. 87–122.

Copeland T. E. (1976). A Model of Asset Trading Under the Assumption of Sequential Information Arrival. Journal of Finance, 31, 1149-1168.

Darolles S., Fol G. L. and Mero G. (2017). Mixture of Distribution Hypothesis: Analyzing Daily Liquidity Frictions and Information Flows. Journal of Econometrics.

Epps, T. W. and Epps, M. L. (1976). The Stochastic Dependence of Security Price Changes and Transaction Volumes: Implications For the Mixture of Distributions Hypothesis. Econometrica, Vol.44, 305-321.

Girard. E and Biswas. R. (2007). Trading Volume and Market Volatility: Developed versus Emerging Stock Markets. The Financial Review 42, 429-459.

Granger C.W.J and Morgenstern. O (1963), Spectral Analysis of New York Stock Market Prices. Kyklos, 16, 1-27. Hiemstra, C and J. Jones (1994). Testing for Linear and Nonlinear Granger Causality in the Stock Price-Volume Relation, Journal of Finance, 49, 1639-1664.

Gunduz L. and Hatemi-J A. (2014). Stock Price and Volume Relation in Emerging Markets. Emerging Markets Finance and Trade, 29-44.

Husin M. B. (2016). Grander-Cause Effect on Trading Volume and Stock Return Volatility: Evidence from Ace Market Malaysia. (Unpublished master's thesis). University Utara Malaysia, Malaysia.

Kadour A. (2009). The Relationship between Trading Volume and Stock Returns: Value versus Growth Stocks in Malaysia. (Unpublished master's thesis). University Utara Malaysia, Malaysia.

Karpoff. J. M. (1987). The Relation Between Price Changes and Trading Volume. A survey. Journal of Financial and Quantitative Analysis, 22, 109-126.

Kayali M.M. and Akarim Y.D. (2010). Price and Trading Volume Relationship in Future Markets: Evidence from Turkey. The Empirical Economics Letters, Vol. 9, 565.

Kearney R. C. C. (2015). Testing the mixture of distributions hypothesis on target stocks. Journal of International Financial Markets, Institutions and Money, 3-42.

Liu X., Liu X, Liang X.B. (2015). Information-driven trade and price-volume relationship in artificial stock markets. Journal Physica A 430, 73-80.

Ruan Q., Jiang W. and Ma G. (2015). Cross-correlations between Price and Volume in Chinese Gold Markets. Journal Physica A, 1-13.

Tauchen. G. E. and Pitts M. (1983). The Price Variability-Volume Relationship On Speculative Markets. Econometrica, Vol-51, 485-505.

Wang K. and Yang H. (2018). The Price-Volume Relationship Caused by Asset Allocation Based on Kelly Criterion. Journal of Physica A 503, 1-8.

Yuan. Y, Zhuang. X. Liu Z. (2012). Price-Volume Multifractal Analysis and Its Application in Chinese Stock Markets. Physica A 391, 3484-3495.

Zhang X. F. (2006), "Information Uncertainty and Stock Returns", Volume 61, Issue 1, p.p 105-137.

