THE EFFECT OF MONEY SUPPLY ON FINANCIAL RATIOS AND STOCK RETURN IN MALAYSIA

BORHAN SAYEDY

A thesis submitted in fulfilment of the
requirements for the award of the degree of
Doctor of Philosophy

Azman Hashim International Business School
Universiti Teknologi Malaysia

SEPTEMBER 2018

DEDICATION

This work is dedicated to my parents Abdollah and Keshvar who provided unconditional love and taught me how to soar on eagle's wings, my lovely wife Dana for her unconditional love, endless support and patience, and to my siblings Bahman, Khavar, Nasrin, Loghman and the rest of my family and friends Kiarash and Reza for their support and encouragement.

ACKNOWLEDGEMENT

I would like to respectfully thank my supervisor, Tan Sri Prof. Dr. Mohd Zulkifli bin Tan Sri Mohd Ghazali, whose assistance, guidance and most of all his supervision was the keys to successfully complete this thesis. I would also like to thank my co-supervisor Dr. Zarina Abdul Salam for her support, assistance and patience.

I am very thankful to my parents, my lovely wife and my siblings for their continuous support, encouragement, and endless patience. Thank you very much for making my life so fulfilled.

ABSTRACT

This thesis examines the effect of two macroeconomic variables as moderators on the relationship between three financial ratios and stock return in the Kuala Lumpur Stock Exchange (KLSE). The macroeconomic variables in this study are interest rate (INT) and money supply (MS) and the financial ratios are debt-to-equity ratio (DE), dividend per share (DPS) and quick ratio (QR). Firm size and book-to-market value are considered as controlling variables and further analyses have been done to avoid methodological problems. This study examines the impact of the selected financial ratios on stock return and investigates the moderating effect of INT and MS on the relationship between the financial ratios and stock return. The data was obtained from 300 companies that were listed in KLSE from year 2003 to 2012. Least square regression with robust standard errors, generalized least squares regression (GLS) and fixed effect regression were used to analyse the data in order to control for non-normality and heteroscedasticity. The findings suggest that an increase in value of a firm's debt relative to its equity would cause a decrease in the firm's stock return in the following year. The results also indicate that firms with higher QR and DPS are likely to have a higher stock return in the subsequent year. Moreover, the findings show a negative relationship between INT and stock return, but there is no evidence that shows significant impact for MS on stock return. The findings of this study further show that INT moderates the relationship between DE and stock return but suggest no evidence of moderating the relationships between QR, DPS and stock return. However, based on the findings, MS moderates the relationships between DE, QR and stock return, but does not moderate the effect of DPS on stock return. Nevertheless, both INT and MS -the selected macroeconomic variables- have a moderating effect on the relationship between all selected predictors and stock return. The findings of this study would be of interest to domestic and international investors, stockbrokers, board of directors, financial managers and policy makers.

ABSTRAK

Tesis ini mengkaji kesan dua pembolehubah makroekonomi sebagai perantara hubungan antara tiga nisbah kewangan dan pulangan saham dalam *Kuala Lumpur Stock Exchange* (KLSE). Pembolehubah-pembolehubah dalam kajian ini adalah kadar bunga (INT) dan bekalan wang (MS) manakala kewangan meliputi nisbah hutang_kepada_ekuiti (DE), dividen sesaham (DPS) dan nisbah segera (QR). Saiz firma dan nilai tempahan ke pasaran dianggap sebagai pembolehubah yang dikawal. Kajian ini menganalisis kesan nisbah kewangan terpilih kepada pulangan saham dan kesan perantaraan INT dan MS terhadap nisbah kewangan dan pulangan saham. Data diperolehi daripada 300 syarikat yang tersenarai di KLSE dari tahun 2003 hingga tahun 2012. Kaedah kuasa dua regresi dengan ralat standard yang teguh, kuasa dua regresi menyeluruh (GLS) dan kesan regresi yang dibetulkan telah digunakan untuk menganalisis data untuk mengawal ketidaknormalan dan heteroskedastisiti. Dapatan mencadangkan bahawa pertambahan untuk nilai hutang firma yang relatif kepada ekuitinya akan menyebabkan pengurangan dalam pulangan saham firma untuk tahun berikutnya. Dapatan ini juga menunjukkan firma-firma yang mempunyai QR dan DPS yang lebih tinggi berkemungkinan besar akan mempunyai pulangan saham yang lebih baik untuk tahun yang seterusnya. Selain itu, dapatan kajian juga menunjukkan hubungan yang negatif diantara INT dan pulangan saham, tetapi tiada sebarang bukti yang menunjukkan impak yang penting kepada MS pada pulangan saham. Hasil kajian ini seterusnya menunjukkan bahawa INT mempunyai hubungan di antara DE dan pulangan saham, tetapi mencadangkan tiada bukti QR sebagai perantara antara DPS dan pulangan saham. Walau bagaimanapun, berdasarkan dapatan tersebut, MS adalah pengantara antara DE, QR dan pulangan saham. Tetapi MS bukan pengantara DPS pulangan saham. Namun demikian, kedua-dua INT dan MS merupakan pembolehubah makroekonomi terpilih yang mempunyai kesan pengantara dengan pembolehubah yang mengukur jangkaan dan pulangan saham. Dapatan kajian ini adalah bermanfaat untuk pelabur dalam negara dan antarabangsa, broker saham, lembaga pengarah, pengurus kewangan dan pembuat polisi.

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LIST OF ABBREVIATIONS

APR	-	Annual Percentage Rate
APT	-	Arbitrage Pricing Theory
ASEAN	-	Association of Southeast Asian Nations
BE/ME	-	Book value of Equity to Market value of Equity
BM	-	Book-to-Market Ratio
CAPM	-	Capital Asset Pricing Model
CPI	-	Consumer Price Index
DE	-	Debt-to-Equity Ratio
DIJA	-	Dow Jones Industrial Average
DMBs	-	Deposit Money Banks
DPS	-	Dividend Per Share
DY	-	Dividend Yield
EBIT	-	Earnings before Interest and Taxes
ECM	-	Error Correction Mechanisms
EPS	-	Earnings Per Share
FDI	-	Foreign Direct Investment
FFR	-	Federal Funds Rate
GARCH	-	Generalized Autoregressive Conditional Heteroscedasticity
GDP	-	Gross Domestic Product
GLS	-	Generalized Least Square
GMM	-	Generalized Method of Moments
GNP	-	Gross National Product
INT	-	Interest Rate
IP	-	Producer Price Index
IRF	-	Impulse Response Function
KLSE	-	Kuala Lumpur Stock Exchange
M&M	-	Modigliani and Miller

MEH	-	Market Efficiency Hypothesis
MS	-	Money Supply
MVE	-	Market Value of Equity
MZM	-	Money Zero
NASDAQ	-	National Association of Securities Dealers Automated Quotations
OLS	-	Ordinary Least Square
PER	-	Price Earnings Ratio
QR	-	Quick Ratio
RGDP	-	Real Gross Domestic Product
ROA	-	Return on Assets
ROI	-	Return on Investment
S&P	-	Standard & Poor's
SARS	-	Severe Acute Respiratory Syndrome
SR	-	Stock Return
TA	-	Total Assets
TD/MV	-	Total Debt to Market Value
VDC	-	Variance Decomposition Production Index
VECM	-	Vector Error Correction Model
VIF	-	Variance Inflation Factor

CHAPTER 1

INTRODUCTION

1.1 An Overview of the Malaysian Economy and Stock Market

Malaysia's economic growth has been relatively robust since the country's independence in 1957. In the past six decades, there have been four major economic crises and all of which were externally induced: the oil crisis in 1973; the global economic slowdown in the mid-1980s; the Asian Financial Crisis in 1997/98; and the Global Financial Crisis in 2008. Overall, the country's average annual growth rate has been in the range of 5 to 10 per cent. There have also been significant structural changes during the past five decades. The role of agriculture has declined whilst that of manufacturing has increased. The country's per capita income has increased six-fold during this period. These transformations have taken place in a mixed-economy setting in which both the market and the state have played important roles. A key aspect of the state's role in Malaysia's growth story has been development planning (Cassey Lee & Chew-Ging, 2017).

Development planning has been practiced in Malaysia since the 1950s. Since then, the goals, practices and institutions of development planning in the country have evolved. The changes have taken place within the context of structural change in Malaysia's economy and society. The interaction between development planning and these elements over time has been fairly complex. The medium-term plans (each covering five years) and long-term plans (ten to twenty years) have been drawn up based on the developmental needs of the country and subject to domestic constraints of economic, social, as well as political. The implementation of these development

plans has transformed the country's economy and society (Cassey Lee & Chew-Ging, 2017).

The period of this study starts from the year 2003 which is under 8th Malaysia Plan (MP) until 2012 that is under the 10th MP. Moreover, the 11th MP started in 2016 so the 8th, 9th, 10th and 11th MP are briefly discussed in this section.

Table 1.1: Malaysia Plans from 8th to 11th

Long-term Plan	Short-term Plan
2001-2010 National Vision Policy (NVP)	2001-2005 8th Malaysia Plan
	2006-2010 9th Malaysia Plan
2011-2020 New Economic Model (NEM)	2011-2015 10th Malaysia Plan
	2016-2020 11th Malaysia Plan

The 8th MP started as shown in Table 1.1 started in 2001 and ended in 2005 with the goals of OPP3 and 2001-2010 Knowledge-based economy. The Third Outline Perspective Plan (OPP3), which constitutes the second decade of development under Vision 2020, focuses on building a resilient and competitive nation. The 2001 Knowledge-based economy master plan was the blueprint to migrate Malaysia from a production-based economy to a knowledge-based economy under the OPP3. There are many definitions of a K-based economy, all revolving around the notion of an economy based on the production, distribution and utilization of knowledge, which

constitutes the primary engine of growth and wealth creation in the economy. For Malaysia's purpose, it is proposed that a knowledge-based economy be defined as an economy in which knowledge, creativity and innovation play an ever-increasing and important role in generating and sustaining growth. This MP faced the challenge of the National Vision Policy (NVP). National Vision Policy was an extension policy of National Development Policy under the cover of 8th and 9th Malaysia Plan. It was a 10 years policy which established during year 2001 and ended by 2010 to fulfill the Third Outline Perspective Plan (OPP3) of Malaysia. Besides, it also was under the second phase of Vision 2020 to continue strengthen the basic transformation of Malaysia to a fully developed nation.

The 9th MP started in 2006 and ended in 2010 with the goals of value chain, human capital and socio-economic inequities. This MP faced the challenges of global financial crisis of 2008 and general election in 2008 and the national mission of 2006-2010. The national mission of 2006-2020 is a framework for the country's development agenda which outlined the key steps to take in fifteen years. The national mission aims to concentrate the country's efforts on priority areas which will ultimately lead to achieving Vision 2020. These priority areas encompass the nation's global competitiveness, human capital development, national integration, ethnic relations, distribution of income and wealth and the quality of life.

The period of the 10th MP was from 2011 to 2015 and its goals were Government Transformation Program, New Economic Model (NEM) and Economic Transformation Program. The NEM provided the economic policy framework to transform the Malaysian economy from a middle-income to advanced economy by the year 2020. The challenges in this MP were high competition for FDI and Weak private investment.

Lastly the period of the 11th MP is from 2016 to 2020 with the goals of inclusiveness, well-being, infrastructures and green growth. This MP has the challenges of fiscal constraints, deindustrialization and the Malaysian national development strategy. The Eleventh Malaysia Plan, 2016–20 (11th MP) was launched in May 2015. Overall, the contents of the 11th MP document were not organized along

sectoral lines, even though some of the strategy papers supporting the Plan were sectoral in nature. Compared to the 10th MP, the 11th MP had a greater "people focus" with specific emphases on inclusiveness, well-being and human capital development. The strategies for infrastructure sector were also presented in a separate chapter in the 11th MP. Overall, the 11th MP contained more details on some of the programs to be implemented including the agencies involved, though without any details on financial allocations. The 11th MP came to reaffirm the government's commitment to a vision of growth founded on welfare. The (2011-2020) National Transformation Policy maintains the focus on people by means of a New Economic Model aimed at a sustainable and inclusive economy of high income.

Economic growth is affected by various factors and stock market is one of them. Janor *et al.* (2005) studied the Malaysian stock market as a predictor of the economic activity in Malaysia and they found that Malaysian stock market led changes in economic activities. Studying the relationship between stock returns and macroeconomic variables differs based on the economic status of the country (developed, emerging or developing), the variables used as the independent variables, the timeframe, the methodology as well as the type of stock used to measure the returns. All these variables considered to be emphasized as the policy instruments by the government in order to stabilize stock return. Thus, there is need to determine what the factors are that affect the performance of the stock market because Malaysia is undergoing a transformation in its economic system (Fahmi, *et al.*, 2017). Based on an empirical analysis by Anwar and Sun (2011) on Malaysian stock market for the period 1970–2007, the level of financial development has contributed to the growth of the domestic capital stock in Malaysia.

Stock return is affected by many factors which could be macroeconomic variables, firm characteristics, market sentiment and so on. This study analyzes the influence of macroeconomic variables and firm characteristics in details, but market sentiment is explained briefly here. Market sentiment as one of the influential factors on stock return is the overall attitude of investors toward a particular security or financial market. Market sentiment is the feeling or tone of a market, or its crowd psychology, as revealed through the activity and price movement of the securities

traded in that market. A research by Anusakumar et al,. (2017) examined the link between investor sentiment and stock returns in emerging Asian markets including Malaysia. Two dimensions of sentiment were examined: stock specific sentiment and market wide sentiment. Using panel regression with firm fixed effects, they showed that stock specific sentiment strongly and positively affects stock returns after controlling for firm characteristics.

One of the most important determinants of stock markets as well as KLSE - Kuala Lumpur Stock Exchange- is money supply. Money supply is controlled by government through monetary policy by several ways which treasury bill rate is one of them. An increase in government borrowing through the issuance of treasury bills affects the stock market through investors' re-adjustment of portfolio balances. Low treasury bill rates are expected to stimulate transfers of domestic funds from the money market to the stock market (Pilbeam, 1992). High and persistent fiscal deficits accommodated by the issuance of high yielding but less-risky government instruments like the treasury bill adversely affect the demand for securities being issued by private firms for long-term capital. In this exposition, the impact of the treasury bill rate also affects stock market activity much in the same way as interest on demand and savings deposits (Kyereboah-Coleman & Agyire-Tettey, 2008). This study examines the effect money supply and real interest rate. Discount rate influences money supply but it is not the only influential factor. Reserve ratio, open market operations and federal funds rate are also determinants of money supply. In addition, this study does not analyze the effect of interest rate but the real interest rate which includes the impact of inflation as well. Therefore, even though money supply and real interest rate might be negatively correlated but their effect, but their effect might be slightly different on stock return.

Economic bubbles and crises substantially effect stock markets. According to Azizan and Sulong (2011) Malaysian stock market is related to U.S. stock market. They found that only the stock price and exchange rate of other countries had a relationship with Malaysian stock price after investigating the effect of macroeconomic variables of Asian countries and U.S on Malaysian stock market. Besides, Teng *et al.* (2013) showed that the stock markets of ASEAN-5 are highly

integrated with the U.S. stock market. Since the Malaysian stock market (KLSE) is highly integrated with the U.S. stock market, the United States housing bubble highly affected Malaysian stock market in 2008. The KLCI, which is the main index and market indicator in Malaysia, dropped around 670 points within the period of 14th of January 2008 to 12th of September 2008 which is 45% drop in its value. This was the biggest decline in the KLCI value after the East Asian financial crisis of 1997.

Studying Malaysian stock market is important because investors have special interest in this market as it offers a different pattern of stock price movement from the developed and some other developing economies Rahman *et al.* (2009). The main reasons that distinguish the stock market of Malaysia from other countries are market efficiency and dividend policy. Regarding market efficiency, Neoh (1989) found that the US stock market is more efficient than the Kuala Lumpur Stock Exchange (KLSE). The efficiency measurement in his study was based on the fundamental factor of asset pricing. While the American firms only consider the factors of true value in pricing their shares, the Malaysian firms include other non-fundamental factors such as bonus issues. Unlike most of the developed economies, the stock market of Malaysia seems to be in a weak form of efficiency -past price movements and volume data do not affect stock prices- (Balkiz, 2003; Ibrahim & Abdul Rahman, 2003; Liew *et al.*, 2003; Thong & Kok, 2003). In regard to the dividend policy, a prior study by Mansor and Subramaniam (1992) found that the Malaysian stock market responds to the dividend announcements, but such effect did not hold in a later research by (Yong *et al.* 2003). This might suggest that the dividend signaling effect for the stock market of Malaysia is sensitive to a different economic variable. The dividend signaling model unlike Malaysia, holds for almost all of the developed countries (Aharony & Swary, 1980; Bajaj & Vijh, 1990; Denis, Denis, & Sarin, 1994; Eades, 1982; Kwan, 1981; Lang & Litzenberger, 1989; Woolridge, 1982; Yoon & Starks, 1995).

1.2 Background of Study

The background of this study dates back to 1953 when Kendall and Hill (1953) observed that stock prices seemed to wander randomly over time. Numerous studies later examined the effective factors, including interest rates, book-to-market ratio, dividend yield, and earnings-price ratio (e.g., Fama and Schwert 1977; Campbell, 1987; Fama & French, 1988; Smitu P Kothari & Shanken, 1997). Afterwards, Malkiel (1973) explained the Random Walk Theory, which theorizes that stock prices follow no predictable pattern. The Random Walk Theory is, however, consistent with the efficient market hypothesis, which confirms that markets constantly correct prices based on new information. However, the theory is valid only if the market is efficient, and therefore, stocks are not undervalued or overvalued at any particular moment. Since the assumption of Random Walk Theory (an efficient market) is not fulfilled, share price might not fluctuate randomly. Consequently, as previous studies indicated, stock return could be influenced by several macroeconomic and financial ratios in both the short and long term. Therefore, this study, along with similar research, tries to find the influential factors on stock return.

Later, Modigliani and Miller (1958) proposed their revolutionary capital structure irrelevance theory as a basis for modern thinking on capital structure. The basic theorem states that, under certain assumptions -no tax, no transaction cost, no bankruptcy cost, equivalence in borrowing costs for both companies and investors, symmetry of market information, no effect of debt on a company's earnings before interest and tax- the value of a firm is unaffected by how the firm is financed. However, they included the effect of tax and bankruptcy costs in their additional papers**.** Their next proposition which is called "Modigliani and Miller's Tradeoff Theory of Leverage" assumes that there are benefits to leverage within a capital structure up until the optimal capital structure is reached (Ross *et al.*, 2002). The theory recognizes the tax benefit from interest payments, which is because interest paid on debt is tax deductible. Therefore, issuing bonds effectively reduces a company's tax liability, as interest on a bond is tax deductible but interest on a dividend is not. Moreover, the actual rate of interest companies pay on the issued bond is less than the nominal rate of interest because of the tax savings.

In other words, the tradeoff theory states that the market value of a company is calculated using its earning power and the risk of its underlying assets and is independent of the way it finances investments or distributes dividends. There are three methods a firm can choose to finance: borrowing, spending profits (versus handing them out to shareholders in the form of dividends), and straight issuance of shares. While complicated, the theorem in its simplest form is based on the idea that with certain assumptions in place, there is no difference between a firm financing itself with debt or equity.

The tradeoff theory has dominated thinking about capital structure for a long time, but it has some shortcomings. Perhaps the most obvious is that many large and highly profitable firms use little debt. This is the opposite of what is expected from the tradeoff theory. Under the tradeoff theory, these are the firms that should use the most debt because there is little risk of bankruptcy and the value of the tax shield is substantial.

The pecking-order theory by Myers (1984) is an alternative to the tradeoff theory. This theory argued that equity is a less preferred means to raise capital because when managers issue new equity, investors believe that managers think that the firm is overvalued. Managers are taking advantage of this over-evaluation, and, as a result, investors will place a lower value to the new equity issuance. A key element in the pecking-order theory is that firms prefer to use internal financing whenever possible. A simple reason is that selling securities to raise cash can be expensive, so it makes sense to avoid doing so if possible. If a firm is very profitable, it might never need external financing, so it would end up with little to no debt. According to this theory, companies should have a pecking order. They should use internal financing first, then only issue debt and, if necessary, equity should be sold as a last resort.

Researchers have not reached a definitive conclusion on whether the tradeoff theory or the pecking-order theory is correct, but there are still a few observations that could be made. The tradeoff theory applies more to long-run financial goals or strategies. The issues of tax shields and financial distress costs are plainly important in that context. The pecking-order theory is more concerned with the short-term,

tactical issue of raising external funds to finance investments. Both theories are useful ways of understanding corporate use of debt. For example, it is probably the case that firms have long-run, target capital structures, but it is also probably true that they will deviate from those long-run targets as needed to avoid issuing new equity

An alternative to the M&M theory regarding dividend policies is the bird-in-hand theory proposed by Gordon and Lintner (1963). This theory states that investors are indifferent to whether their returns from holding a stock arise from dividends or capital gains. Under this theory, stocks with high dividend payouts are sought by investors and, consequently, command a higher market price. The bird-in-hand theory postulates that investors prefer dividends from a stock to potential capital gains because of the inherent uncertainty of the latter. Based on the proverb "a bird in the hand is worth two in the bush," the bird-in-hand theory states investors prefer the certainty of dividend payments to the possibility of substantially higher future capital gains.

Numerous studies have been conducted in order to find the most influential micro or macroeconomic variables on stock return (I. Ibrahim & Bala, 2017; Idris & Bala, 2015; Ramadan, 2015; Shabib-ul-hasan & Muddassir, 2015; Stefano, 2015; Surow, 2014). Some characteristics like dividend in developed countries have shown a strong ability in forecasting stock returns (Aharony & Swary, 1980; Bajaj & Vijh, 1990; Denis *et al.*, 1994; Eades, 1982; Lang & Litzenberger, 1989; Woolridge, 1982; Yoon & Starks, 1995). The effect of macroeconomic variables on the stock market has been well documented for industrialized economies (Chen *et al.*, 2005; Fama, 1981; Maysami & Koh, 2000; Mukherjee & Naka, 1995). However, the findings for developing countries are still inconclusive. As stated by Rahman *et al.* (2009) variation in the stock prices are affected by the changes in macroeconomic performance in the developed markets, but results are indecisive for the emerging markets.

Past empirical studies that have investigated the relationship between micro and/or macroeconomic variables and stock return have shown contradictory results. For example, Al-Shubiri (2010) studied the impact of microeconomic and macroeconomic variables on the Amman Stock Exchange for the period of 2005 -

2008. Based on the findings of his study, dividend payout percentage was the only effective variable on stock price of the Amman Stock Exchange. Idris & Bala (2015) studied the effect of firms' specific characteristics -market capitalization, debt-to-equity ratio and earnings per share- on stock return in Nigeria and found debt-to-equity ratio as the only influential variable. Moreover, Samarakoon (2009) found that the portfolios formed on the basis of size had no significant relationship on returns in the Sri Lankan stock market. Conversely, a study on Indian companies by Senthilkumar (2009) showed that when small size firms earned higher returns than the large sized firms. Sari and Hutagaol (2009) conducted a study in Indonesia on the influence of capital structure, business risk, and the market risk. The results of their research showed that the capital structure, which is measured by debt-to-equity ratio, and stock return are highly and positively related. However, in another study carried out by Ahmad *et al.* (2012)on the effect of capital structure on firm performance, there was no significant impact of short-term, long-term, or total debt on firm performance.

Idris and Bala (2015) specified that so far, there is no consensus as to whether a single or combination of variables best explain stock market returns. According to Dadashinasab (2015), conflicting results might be because of using different methodologies, studying different scopes, or lack of moderating or mediating variables. Moreover, Singh *et al.* (2011) noted that investors have a better chance to develop profitable investment strategies if they include macroeconomic variables in their decision making.

1.3 Problem Statement

Malaysian stock market has received the highest foreign investment in the region compared to Indonesia, Thailand, Philippines and Vietnam. Despite the significantly high interest in this stock market by investors and shareholders, there is not enough information to lower the risk of investment in this market. The existing studies on the determinants of stock return in Malaysia show contradicting results (Idris & Bala, 2015). Based on Dadashinasab (2015), conflicting results might be because of using different methodologies or lack of moderating or mediating variables.

Therefore, this study focuses on Malaysian stock market which according to Ho *et al.* (2011) has received a high attention from investors in the last three decades. Three financial ratios that show contradicting results in the previous research have been selected as independent variables. Two macroeconomic variables that can be controlled by policy makers have been selected as moderating variables in this research.

Some characteristics in developed countries have shown a strong ability in forecasting stock returns. According to Idris and Bala (2015), the explanatory power of variable(s) on stock market returns might depend on the country and period of study. The effect of macroeconomic variables on the stock market has been well documented for industrialized economies (Chen *et al.*, 2005; Fama, 1981; Maysami & Koh, 2000; Mukherjee & Naka, 1995). But, the findings for developing countries are still inconclusive. As stated by Rahman *et al.* (2009) the variations in the stock prices are affected by the changes in macroeconomic performance in the developed markets such as USA and Japan, but results are indecisive for the developing countries like Malaysia.

Emerging markets, as mentioned by Cohen (2002), have on average higher stock return than developed countries such as the European Union, Japan, and the United States. Based on another study conducted by Lim (2009), there is rapid growth and low correlations between emerging markets in the region of South-East Asia. The low correlations between the markets in this region offers lower portfolio risk for international investors. Guidi and Gupta (2011) stated that during the 2000s, ASEAN equity markets have experienced a rapid growth in the number of listed companies, capitalization and liquidity. These make their stock markets interesting for both domestic and international investors seeking new opportunities to diversify their portfolio. Moreover, Ho *et al.* (2011) stated in their research that investors in the last three decades have paid more attention to ASEAN-5 markets, especially Malaysia and Singapore. Therefore, the Malaysian stock market is selected to be studies in this research.

According to Chung and Ariff (2016) and Urbanovsky (2016), Friedman's proposition has yet received unanimous empirical support. Friedman (1983) stated that increase in money supply should lead to liquidity surges -to credit expansion. Moreover, based on a research by Singh *et al.* (2011) investors have a better chance of developing profitable investment strategies if they include the impact of macroeconomic variables in their decision making. This is because macroeconomic variables could directly and indirectly affect stock return. However, even though many studies have found significant influence of macroeconomic variables and financial ratios on stock market, the findings are not conclusive. According to a research by Idris and Bala (2015) there is no consensus as to which a single or combination of variables best explains stock market returns. This introduces a gap of knowledge to be filled by researchers through including other variables and/or moderators as well as control for country and economic condition.

1.3.1 **The Impact of Financial Ratios on the Stock Return in Malaysia**

The relationships between financial ratios and stock return have been investigated in a considerable number of studies and various results have been presented. Studies on the impact of financial ratios on stock return in developing countries are limited compared to developed countries and have shown contradicting results. Recent studies regarding the impact of financial ratios on firm performance and stock return in developing countries are (Hunjra et al, 2014; I. Ibrahim & Bala, 2017; Idris & Bala, 2015; Ramadan, 2015; Shabib-ul-hasan & Muddassir, 2015; Stefano, 2015; Surow, 2014).

As stated in the background of the study, the previous research on the impact of financial ratios and stock return have shown inconsistent results. For instance, Al-Shubiri (2010) studied the impact of microeconomic and macroeconomic variables - Net Asset Value per Share (NAVPS), Dividend percentage (DIV), Earnings per Share (EPS), Lending interest rate (INT), Inflation rate (INF), Gross Domestic Product (GDP)- on the Amman Stock Exchange for the period of 2005-2008. According to the findings of his study, dividend payout percentage was the only influential variable on

stock price of the Amman Stock Exchange. However, Idris and Bala (2015) studied the effect of market capitalization, debt-to-equity ratio and earnings per Share on stock return in Nigeria and found debt-to-equity ratio as the only influential variable on stock return in Nigeria and found debt-to-equity ratio as the only influential variable. Moreover, Samarakoon (2009) found that the portfolios formed on the basis of size had no significant relationship on returns in the Sri Lankan stock market. Conversely, a study on Indian companies by Senthilkumar (2009) showed that when portfolios formed on the basis of size, the same behavior was observed as in the developed stock markets. Small size firms earned a higher return than the larger sized firms. Sari and Hutagaol (2009) conducted a study in Indonesia on the influence of capital structure, business risk, and the market risk. The results of their research showed that the capital structure, which is measured by debt-to-equity ratio, and stock return are highly and positively related. However, Ahmad *et al.* (2012) found no significant impact of short-term, long-term, or total debt on firm performance in their research. This study has chosen debt-to-equity ratio, dividend per share, and quick ratio. because they have contradictory results in developing countries.

According to Dadashinasab (2015), conflicting results might be because of using different methodologies, having different scopes, or lack of moderating or mediating variables. Therefore, this study uses moderators and different methodology in examining the relationship between the selected financial ratios (debt-to-equity ratio, dividend per share, and quick ratio) and stock return. In addition, based on Basiruddin (2011), Ordinary Least Square (OLS) regression may not be an efficient estimator as some of the assumptions are not fulfilled. Therefore, to avoid methodological problems, this study uses the least square regression with robust standard error, Generalized Least Square (GLS), and Fixed Effect regressions to analyze the data.

This study intended to examine the relationship between financial ratios (debt-to-equity ratio, dividend per share, and quick ratio) and stock return in Malaysia. As mentioned in the above discussion, studies show conflicting results on the impact of these ratios on stock return. Therefore, they have been selected in this study to analyze their impact on stock return while adding control variables and try three different

regression estimators to avoid methodological problems. In addition, since based the previous research conflicting results might be because of lack of moderator or mediator, two macroeconomic variables have been selected as moderators which are explained in section 1.3.2.

1.3.2 The Moderating Impact of Macroeconomic Variables on the Relationship between Financial Ratios and Stock Return in Malaysia

Studies on the relationship between macroeconomic variables and stock return in developed countries have been well developed. But, in recent years, research has focused on developing economies as stock markets in these countries offer higher return (Auzairy at al., 2011; Cohen, 2002; Guidi & Gupta, 2011; Lim, 2009). The following are notable studies on developing countries including Malaysia: (Al-Shubiri, 2010; Auzairy *et al.*, 2011; M. H.; Granger, Huangb, & Yang, 2000; Mansor H Ibrahim & Aziz, 2003; Maysami & Sim, 2001; Mugableh, 2015; Singh *et al.*, 2011).

According to Idris and Bala (2015) there is no agreement among researchers on a single or a combination of variables that best explain stock returns. Moreover, Chung and Ariff (2016) and Urbanovský (2016) mentioned in their studies that Friedman's proposition on the impact of money supply has yet received unanimous empirical support. Based on Friedman's proposition money supply increases should lead to liquidity surges-to credit expansion. In addition, based on Singh *et al.* (2011) if investors include macroeconomic variables in their decision making, they will have a better chance to develop profitable investment strategies. According to Dadashinasab (2015), reaching contradictory results might be because of studying in different economic conditions (according to Modigliani and Miller's capital structure theory) or maybe due to the period or scope of study or lack of mediating or moderating variables.

This study analyzes the effect of moderating variables because of the following reasons. First, there are conflicting results on relationship between financial ratios and stock return which according to Dadashinasab (2015) might be because of lack of a moderator. Secondly, based on the Modigliani and Miller's capital structure theory,

the impact of capital structure on firm performance could be influenced by economic condition. Therefore, this study selected two macroeconomic variables that represent the economic condition to analyze their effect on the relationship between the selected financial ratios and stock return.

Although there is a considerable number of studies on the effect of macroeconomic variables on stock return, as of the author's best knowledge, there is no research on the moderating effect of macroeconomic variables on the relationship between financial ratios and stock return. Therefore, based on the above discussion, this study intended to examine whether macroeconomic variables influence the relationship between financial ratios and stock return in Malaysia.

Therefore, this study included macroeconomic variables, utilized moderators, and used different estimators -generalized least square and fixed effect regression to fill the mentioned gaps. The financial ratios in this study are debt-to-equity ratio, dividend per share and quick ratio, and the macroeconomic variables are interest rate and money supply.

1.4 Purpose of the Study

The purpose of this study is to investigate the effect of three financial ratios on the stock return in Malaysia and the role of macroeconomic variables as moderating variables on this relationship.

The selected financial ratios are debt-to-equity ratio (DE), dividend per share (DPS), and quick ratio (QR). These variables have been selected because they have shown contradictory results in the studies on developing countries. DE ratio can affect stock return because changing the amount of debt affects the cost of debt and risk of bankruptcy which in turn influences the demand for the stock and consequently its price and return. Based on the bird-in-hand theory, DPS can affect stock return as investors prefer return through dividends rather than uncertainty of capital gain through changes in stock price. QR can influence stock return because a high QR gives

the investors an assurance about the firm's ability to payout its debt. This can lead to higher demand for the stock and consequently higher price and return.

The selected macroeconomic variables are money supply and (real) interest rate. Money supply has been selected because it can be increased or decreased through monetary policy by policy makers. Therefore, policy makers could use the results of this study for economic expansion through stock market. Increasing money supply could increase investment because of raising the amount money in circulation. This affects the demand for investment in stock market and consequently the stock return. The amount of money in circulation can also change the impact of financial ratios on stock return through influencing the risk of bankruptcy. Real interest rate has been selected in order to consider not only nominal interest rate but also inflation rate. Interest rate can influence the effect of financial ratios on stock return through influencing the cost of debt and risk of bankruptcy.

1.5 Research Questions of the Study

Based on the problem statement, the following research questions are raised:

1. Do financial ratios affect stock return in Malaysia?
2. Does interest rate moderate the relationship between financial ratios and stock return in Malaysia?
3. Does money supply moderate the relationship between financial ratios and stock return in Malaysia?

1.6 Objectives of the Study

This research is designed to achieve the following objectives:

1. To examine the effect of financial ratios on stock return in Malaysia.

2. To investigate the moderating effect of interest rate on the relationship between financial ratios and stock return in Malaysia.
3. To investigate the moderating effect of money supply on the relationship between financial ratios and stock return in Malaysia.

1.7 Scope of the Study

This study aims to examine the impact of three financial ratios -DE (debt-to-equity ratio), DPS (dividend per share), and QR (quick ratio)- on stock return in Malaysia. It also aims to investigate the moderating impact of two macroeconomic variables -INT (interest rate) and MS (money supply)- on this relationship.

The scope of this study is Malaysia because of the following reasons. Cohen (2001) stated that emerging markets -including Malaysia- on average have a higher stock return than developed countries consisting the European Union, Japan and the United States. Based on another study conducted by Lim (2009), Rapid growth and low correlations between emerging markets in the South-East Asian region -especially ASEAN-5- can offer higher returns and lower portfolio risk for international investors. Guidi & Gupta (2011) remarked the rapid pace of economic growth of South-East Asian countries during the 2000s, as well as the large inflows of FDI. In addition, based on by Ho *et al.* (2011) in the last three decades, investors have paid more attention to ASEAN-5 markets, especially Singapore and Malaysia. Rahman *et al.* (2009) mentioned that the stock market of Malaysia is of special interest because it may trigger a different pattern of stock price movement from the developed or other developing countries. Therefore, the Malaysian stock market have been selected as the scope of this research.

All the firms listed in the Kuala Lumpur Stock Exchange (KLSE) are the population of this study. According to Bursa Malaysia the number of companies that were listed in KLSE in 2003 -the base year in this study- is 906 firms. The sample size in this study is 300 firms which were selected based on the availability of their data in

Datastream. The period of this study is 10 years from 2003 to 2012. Secondary data has been collected from Datastream, annual financial reports and world bank.

Table 1.2: Sectors and sample size

Sector	Sample	Sector	Sample
Trading & Service	65	REIT	4
Technology	11	Finance	12
Properties	38	Consumer Product	37
Plantation	20	Construction	19
Mining	1	IPC	2
Industrial Product	89	Hotels	2

Table 1.2 shows the number of samples in each sector that have been used in this study.

1.8 Significance of Study

Relationships between financial ratios and stock return in developed countries have been investigated in a considerable number of studies and they have presented various results. However, studies on the impact of financial ratios on stock return in developing countries are limited compared to developed countries and they show contradicting results. There have been some studies regarding the impact of financial ratios on firm performance and stock return in developing countries. (Ahmad *et al.*, 2013; Ahmad & Wajid, 2013; Z. Ahmad *et al.*, 2012a; Al-Shubiri, 2010; Aldin *et al.*, 2012; Altug *et al.*, 2012; Chambers *et al.*, 2013; Chang *et al.*, 2010; Gitman & Zutter, 2012a; Hunjra *et al.*, 2014; I. Ibrahim & Bala, 2017; Idris & Bala, 2015; Parrino *et al.*, 2011; Ramadan, 2015; Shabib-ul-hasan & Muddassir, 2015; Shafana *et al.*, 2013; Stefano, 2015; Surow, 2014).

Similarly, studies on the relationship between macroeconomic variables and stock return in developing countries are less than industrialized countries. However,

in recent years, researchers have focused more on developing economies. Some of the notable studies on developing countries, including Malaysia are as follow: (Ali, 2011; Auzairy *et al.*, 2011; Mugableh, 2015; Ray, 2012; Seng, 2012; Singh *et al.*, 2011; Vejzagic & Zarafat, 2013).

Although there are a considerable number of studies on the effect of micro and macroeconomic variables on stock return, as of the author's best knowledge, there is no research on the effect of financial ratios on stock return moderated by macroeconomic variables. The conflicting results from previous research could be because of different methodologies, scopes, or lack of moderating or mediating variables in the relationship between financial ratios and stock return.

On the other hand, based on (Singh *et al.*, 2011), investors have a better chance to develop profitable investment strategies if they include macroeconomic variables in their decision making. Afterward, Chung and Ariff (2016) and Urbanovský (2016) specified that Friedman's proposition -(Friedman, 1983)- of "increasing money supply should lead to liquidity surges" has received unanimous empirical support.

Therefore, this study -examining the relationship between financial ratios and stock return by the moderating role of macroeconomic variables- contributes to the body of knowledge and consequently responds to the identified research gap in this field.

The methodological contribution of the present study is using several regression estimations. The regression estimators include the least square regression with robust standard error, Generalized Least Square (GLS) and Fixed Effect regression. Using these regression estimator is because OLS regression may not be an efficient estimator when some of the assumptions are not fulfilled (Basiruddin, 2011). Moreover, according to Ibrahim and Aziz (2003), the dynamic responses of the stock price to changes in macroeconomic variables, especially its lagged responses to real economic activity, suggest inefficiency in the Malaysian equity market. Therefore, this study considered the stock return of the subsequent year as a dependent variable and

tested the direct effect of the microeconomic and moderating effect of macroeconomic variables on stock return.

Findings of this study provide meaningful insights to policy makers, managers, and investors. The results may help the regulatory bodies to better understand the stock market behavior in Malaysia towards achieving their desired monetary goals. Moreover, by knowing the moderating role of macroeconomic variables, both the personal and corporate investors can proactively plan their investments based on the changes in monetary policy.

1.9 Method of Study

This study examines the effect of the three selected financial ratios -debt-to-equity ratio, dividend per share, and quick ratio- on stock return in the context of Malaysia, as well as the moderating impact of the two selected macroeconomic variables -money supply and interest rate- on their relationships. The sample size in this study is 300 firms selected from the listed companies in the Kuala Lumpur Stock Exchange (KLSE). The period of the study is 10 years from 2003 to 2012.

This study uses secondary data, which was collected from 3 main sources, including DataStream International, financial annual reports, and the World Bank databank. The two sources used to collect data pertaining to financial ratios and stock return were the Datastream and financial annual reports. The source used to procure macroeconomic data was the World Bank databank.

To analyze the data, the statistical software STATA 13.0 was used. The data analysis includes descriptive statistics, the correlation matrix, multivariate regression, and robustness tests.

Two types of regression techniques were employed to investigate the influence of the independent variables on the dependent variable and role of the moderating variable. First, multiple regression was employed to examine the effect of DE, DPS,

and QR on stock return. Second, moderated multiple regression was used to explore the moderating impact of the selected macroeconomic variables (MS and INT) on the relationship between selected financial ratios and stock return (Baron & Kenny, 1986; Hayes & Matthes, 2009; Kincheloe *et al.*, 2011).

Several tests were performed after multivariate regression analysis. The purpose of these additional tests was to give reasonable assurance that the main findings were robust to the various model specifications. The robustness tests included tests for multicollinearity and heteroscedasticity, various regression estimators such as least square regression with robust standard errors, generalized least squares regression (GLS), and fixed effect regression, as well as testing for additional control variables (Basiruddin, 2011).

1.10 Outline of the Study

This thesis consists of five chapters.

Chapter 1 mainly includes the background of the study, problem statement, significance, and scope of this study along with the method of study. This chapter starts with the background of study and an overview of the Malaysian economy. Later, the problem statement is explained and, based on the problem statement, the purpose, objective, and questions of this study are presented. Finally, the significance and scope of study are discussed, followed by the method of study.

Chapter 2 discusses the related literatures in three main sections, followed by explaining the related theories and proposed hypotheses. The first section focuses on studies on the dependent variable of this research, which is stock return. The second section reviews the literature on financial ratios and their impact on stock return. The third section reviews the studies on macroeconomic variables and their relationship with firm performance and stock return. Afterward, theories that are related to this study are reviewed and, finally, conceptual frameworks and hypotheses are presented.

Chapter 3 describes the research process and research methodology that have been used in this study. Detailed explanations are presented regarding the variables of the study, measurement methods, and data analysis methods.

Chapter 4 presents and explains the results of the data analyses of this study. The descriptive statistics and correlation matrix results are presented, followed by the regression analyses results. Findings of the regression analyses are presented in the following three sections:

Analysis I: Impact of financial ratios on stock return.
Analysis II: Impact of interest rate as a moderating variable on the relationship between financial ratios and stock return.
Analysis III: Impact of money supply as a moderating variable on the relationship between financial ratios and stock return.

Chapter 5 presents the discussions and conclusions of this study. This chapter consists of several sections, starting with the recapitulation of the study aims and objectives, followed by a summary of findings and discussion of results based on the empirical examinations of the study's conceptual framework. Finally, explications of theoretical and empirical contributions of this study are explained, followed by a description of the limitations of the study and recommendations for future research.

1.11 Definitions of Terms

This section briefly explains the variables of this study. DE, DPS, and QR are the independent variables, and TA and BM are the control variables. The moderating variables are MS and INT and the dependent variable is SR.

1.11.1 **Debt-to-Equity Ratio (DE)**

The debt-to-equity ratio (D/E) is a financial ratio indicating the relative proportion of shareholders' equity and debt used to finance a company's assets (Peterson & Fabozzi, 1999). In other words, D/E is defined as a measure of a company's financial leverage, known as gearing or leverage ratio. This ratio is calculated by dividing a company's total liabilities by shareholders' equity and it shows the proportion of debt to equity that a firm is using to finance its assets. A high D/E ratio shows that the firm has been aggressive in financing its growth by using debt.

1.11.2 **Dividend per Share (DPS)**

The dividend per share (DPS) -also known as dividend yield, or dividend price ratio of a share- is the dividend per share divided by the price per share (Cohen, 2002). Since the number one goal of a company is to return value to its shareholders, analyzing DPS is important for shareholders and investors. Shareholders' value is driven by company's profits and the amount of money it pays out in dividends.

1.11.3 **Quick Ratio (QR)**

Quick ratio measures the ability of a company to use its near cash or quick assets to extinguish or retire its current liabilities immediately. Quick assets include those current assets that presumably can be quickly converted to cash at close to their book values. Unlike current ratio, inventory is excluded from the sum of assets in the quick ratio (Tracy & Tracy, 2004). This ratio is a measurement for how well a company can meet its short-term liabilities. QR is more conservative than another liquidity measurement known as current ratio. QR provides a more rigorous valuation of a firm's ability to pay its current liabilities since it eliminates all but the most liquid assets from current assets.

1.11.4 **Total Assets (TA)**

In financial accounting, an asset is an economic resource. Anything tangible or intangible that can be owned or controlled to produce value and that is held by a company to produce positive economic value is an asset. Simply stated, assets represent value of ownership that can be converted into cash (although cash itself is also considered an asset) (Sullivan, 2003).

1.11.5 **Book-to-Market Ratio (BM)**

The book-to-market ratio is a ratio used to find the value of a company by comparing the book value of a firm to its market value. Book value is calculated by looking at the firm's historical cost or accounting value. Market value is determined in the stock market through its market capitalization.

1.11.6 **Interest Rate (INT)**

Interest rate is the amount of interest due per period as a proportion of the amount lent, deposited, or borrowed (called the principal sum). The total interest on an amount lent or borrowed depends on the principal sum, the interest rate, the compounding frequency, and the length of time over which it is lent, deposited, or borrowed. This research, as some of the similar studies (W. Huang *et al.*, 2016; Omran, 2003), examined the effect of real interest rate. Real interest rate is an interest rate that has been adjusted to remove the effects of inflation to reflect the real cost of funds to the borrower and the real yield to the lender or to an investor.

1.11.7 **Money Supply (MS)**

Money supply (or money stock) is the total amount of monetary assets available in an economy at a specific time. There are several ways to define money but standard measures usually include currency in circulation and demand deposits (DeFusco, Johnson, & Zorn, 1990). In this study similar to other research, a standard measure including currency in circulation and demand deposits -known as broad money (M2)- is selected as representative of money supply. Malaysia Money Supply M2 includes M1 plus short-term time deposits in banks. M1 includes cash, checking deposits. Money Supply M2 in Malaysia is averaged at 568348.27 MYR Million from 1970 until 2018, reached an all-time high of 1771046.87 MYR Million in April of 2018 and a record low of 4122.30 MYR Million in December of 1970.

1.11.8 **Stock Return (SR)**

Stock return is defined as the capital gain or loss as a result of investing in the stock market (Jones & Neuberger, 2000). Stock return is received through trading in the secondary market in the form of capital gains (changes in stock price) and dividends (Hällefors, 2013; Idris & Bala, 2017)

1.12 Summary

This chapter consists of the background of the study, the problem statement, significance, and scope of this study along with the method of study. This chapter starts with the background of the study and overview of the Malaysian economy. Later, the problem statement is explained and is accompanied by supporting theories and literature, research gap, and contribution of this study. Based on the problem statement, the purpose, objectives, and questions of this study are presented. Finally, the significance and scope of the study are discussed, followed by the method of study.

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