RISK AND RETURN RELATIONSHIP IN MALAYSIAN FINANCE SECTOR: EMPIRICAL EVIDENCE FROM CAPM

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RISK AND RETURN RELATIONSHIP IN MALAYSIAN FINANCE SECTOR: EMPIRICAL EVIDENCE FROM CAPM

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A dissertation submitted in partial fulfillment of the requirements for the degree of Corporate Master in Business Administration

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2012
I certify that I have supervised and read this study and in my opinion it conforms to acceptable standards of scholarly presentation and is fully adequate in scope and quality as a research paper for the degree of Corporate Master in Business Administration.

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This research paper was submitted to the Faculty of Economics and Business, UNIMAS and is accepted as partial fulfillment of the requirements for the degree of Corporate Master in Business Administration.

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STATEMENT OF ORIGINALITY

The work described in this Research Paper, entitled
"RISK AND RETURN RELATIONSHIP IN MALAYSIAN
FINANCE SECTOR:
EMPIRICAL EVIDENCE FROM CAPM"
is to the best of the author’s knowledge that of the author except
where due reference is made.

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ABSTRACT

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By

WONG WANG LING

This study examines the applicability of Capital Assets Pricing Model (CAPM) in explaining the risk and return relationship of the Malaysian stock market. The analysis of monthly stock market closing indexes from January 2005 to December 2010 using linear regression method was carried out on the standard CAPM model with constant beta. The results revealed that the standard CAPM model is statistically significant. Test results indicate that this model demonstrated excess return of the stock is depending on systematic market risk. This study examined a conditional relationship between risk and returns during market’s up and down. The study also found that linear regression indicates moderate explanatory power of beta for the excess return.
ABSTRAK

HUBUNGAN RISIKO DAN PULANGAN SEKTOR KEWANGAN 
MALAYSIA: 
BUKTI EMPIRIK DARIPADA CAPM

Oleh

WONG WANG LING

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On another note, I would like to express my deepest gratitude and warmest thanks to my family and friends for all the encouragement they have given tirelessly. Finally, I thank those who have contributed and assisted me in many other ways, directly and indirectly, towards the completion of this research.
TABLE OF CONTENTS

List of Tables
List of Figures

CHAPTER ONE: INTRODUCTION

1.0 Introduction 1
1.1 Background of Malaysian Stock Market 2
1.2 Capital Assets Pricing Model (CAPM) 8
1.3 Causes of Mortgage Crisis 8
    1.3.1 Low Interest Rate 9
    1.3.2 Agency Problem 9
    1.3.3 Subprime Lending 10
    1.3.4 Housing Bubble 11
    1.3.5 The Bubble Burst 11
1.4 Economy Overview before the Crisis 12
    1.4.1 Malaysia 12
    1.4.2 United States 14
1.5 Impact to Financial Sector in Malaysia 15
    1.5.1 Foreign Exchange Rate 15
    1.5.2 The Banking System 16
1.6 Financial Sector Stock Indexes 16
1.7 Problem Statement 24

vii
1.8 Objectives of the study

1.8.1 General Objective
1.8.2 Specific Objectives

1.9 Significance of the Study

1.10 Scope of the Study

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction
2.1 Reviews on the Developed Countries
2.2 Reviews on the Developing Countries

CHAPTER THREE: METHODOLOGY

3.0 Introduction
3.1 Theoretical Framework
3.2 Research Design
3.3 Types and Sources of Data
3.4 Data Analysis
   3.4.1 Estimation of Systematic Risk, Beta
   3.4.2 Estimation of Market Risk Premium of the Model
   3.4.3 Testing the Significance of the Model
CHAPTER FOUR: EMPIRICAL FINDINGS

4.0 Introduction 46
4.1 Results and Discussions 46

CHAPTER FIVE: CONCLUSION

5.0 Introduction 50
5.1 Summary of Findings 50
5.2 Policy Implications 51
5.3 Limitations of the Study 52
5.4 Recommendation for Future Study 53

REFERENCES


LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1.1</td>
<td>Kuala Lumpur Composite Index, 2007-2009 (July)</td>
<td>7</td>
</tr>
<tr>
<td>Table 1.2</td>
<td>Malaysia's Trade Openness</td>
<td>13</td>
</tr>
<tr>
<td>Table 2.1</td>
<td>Summary of the Review on Developed Countries</td>
<td>34-36</td>
</tr>
<tr>
<td>Table 2.2</td>
<td>Summary of the Review on Developing Countries</td>
<td>40-41</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Result for CAPM Model with KLCI as Proxy</td>
<td>47</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Result for CAPM Model with KLCI Before Subprime Mortgage Crisis</td>
<td>48</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>Result for CAPM Model with KLCI After Subprime Mortgage Crisis</td>
<td>49</td>
</tr>
</tbody>
</table>
# LIST OF FIGURES

| Figure 1.1 | KLSE Performance as Indicated by KLCI | 6 |
| Figure 1.2 | KLSE Performance as Indicated by Finance Index | 6 |
| Figure 1.3 | AMMB Composite Index from January 2005 to December 2010 | 17 |
| Figure 1.4 | CIMB Composite Index from January 2005 to December 2010 | 18 |
| Figure 1.5 | HLB Composite Index from January 2005 to December 2010 | 19 |
| Figure 1.6 | HLFG Composite Index from January 2005 to December 2010 | 20 |
| Figure 1.7 | MBB Composite Index from January 2005 to December 2010 | 21 |
| Figure 1.8 | PBB Composite Index from January 2005 to December 2010 | 22 |
| Figure 1.9 | RHB Composite Index from January 2005 to December 2010 | 23 |
CHAPTER ONE

INTRODUCTION

1.0 Introduction

Equity market, also known as the stock market, is one of the most important areas of market economy, because it provides access to one of the vital areas in the ownership of the company and thus this affects the company's future performance, potential revenue, capital and investors in the company.

The function of stock market is to allow the firms that require capital to provide for individuals or those firms which seek investment opportunities. These investment demands and opportunities are the catalyst for good stock market growth. Stock market is used to implement privatization programs; where they play an important role in the development of emerging economies (Lee, 1998). Malaysian stock market provides a wide range of unique and attractive investment opportunities. The government has played an increasingly important role in ensuring regulated honest and fair trade. This is critical to ensure a solid stock market foundation is in place to attract more funds into the stock market, which will contribute to economic growth and ultimately national wealth.

However, the stock market environment in Malaysian is rather dynamic and turbulent. Investors are constantly faced with difficulties to determine the appropriate investment decisions that will ensure the best return on investment. A large number of investors prioritize their investment decisions based on the financial
performance of listed companies. Common presumption is that a stock is performing when it records a higher than expected return. This is not necessarily the case. Therefore a thorough understanding of the source of stock market risk is useful, for reasons such as risk management, asset allocation and compliance with regulatory framework for the implementation and development of financial market activities.

1.1 Background of Malaysian Stock Market

Bursa Malaysia Berhad plays an important role in the global stock market. It has a history of almost 80 years. Institutionalized in 1930 as the private Singapore Stockbrokers' Association, this was the first association sanctioned for securities trading in Malaysia. In 1937, the association was renamed the Malayan Stockbrokers' Association. However, the association did not publicly traded shares yet.

In 1960, public trading of shares was inaugurated for public Malaysian market. It was then called the Malayan Stock Exchange. Malayan Stock Exchange was the predecessor of the modern Malayan securities market. In 1964, Malayan Stock Exchange was then renamed to the Stock Exchange of Malaysia.

In 1965, when Singapore seceded from Malaysia, the stock market in Malaysia was divided into two and operations continued as the Stock Exchange of Malaysia and Singapore (SEMS). In 1973, the exchange was split into Stock Exchange of Singapore, and Kuala Lumpur Stock Exchange Board (KLSEB), following the

\[1\text{ Information from http://www.bursamalaysia.com.}\]
separation of the Malayan and Singapore currencies. In 1976, the operations of KLSEB were taken over by Kuala Lumpur Stock Exchange which was incorporated in the same year. In 1994, KLSEB was then renamed Kuala Lumpur Stock Exchange (KLSE).

In 2004, the KLSE stock market was converted from a non-profitable organization which was limited by the guarantee of its membership, to an entity limited by its shares. It was then called Bursa Malaysia Berhad. The conversion was to comply with the Demutualization Act. At that time, the Malaysia stock market exchanges had a market capitalization of US$189 billion. The securities exchange part of the business was transferred to a wholly-owned subsidiary, Bursa Securities. In 2005, Bursa Malaysia was publicly listed on the Main Board of Bursa Malaysia Securities Berhad.

In 2006, the main index, which was called the Kuala Lumpur Composite Index (KLCI), passed the 1,000 milestone. In June 2007, KLCI also held a market capitalization of US$307 billion, after which the market operations were divided into 3 parts, namely; Securities Exchange, Derivatives Exchange, and Offshore Exchange.

After dividing the market operations, larger companies were listed on the Bursa Malaysia Securities Main Board, medium sized companies on the Second Board, and high growth and technology companies on the Malaysian Exchange of Securities Dealing and Automated Quotation (MESDAQ) market. Besides that, there was also a separate board for offshore companies.
For futures and options contracts, they were traded on the Derivatives Exchange, operated by Bursa Derivatives. All of these capital markets were regulated by various Acts of the Parliament. The network of holding companies was also developed and comprehensive market information products and services were distributed. KLCI was the main index for Bursa Malaysia with which its market capitalization stood at US$307 billion at the end of June 2007. Therefore, KLCI was acting as the barometer for Malaysian local stock market and represented the financial market trends in Malaysia.

At an earlier time, the KLCI used to be the main financial market index in Malaysia. Now, it is considered among the major three indices together with the rest of the two which are FMB30 and FMBEMAS. The official currency of Malaysia is Malaysian Ringgit with the currency code MYR. The fluctuation of exchange rate of Ringgit gives a clear idea of the financial condition of the country in different times. These can be more significantly sighted from the fluctuation of the exchange rate with US$. From 1995 to 1997, Malaysia Ringgit was being traded as a float currency at MYR 2.50 per US$. However, the rate dropped to MYR 3.80 per US$ at the end of 1997 due to East Asian financial crisis and then fluctuated between MYR 3.80 to MYR 4.40 at the beginning of 1998. During the period, Malaysia Ringgit recorded a loss of 50% in its value.

In order to have a Malaysian financial institution, Bank Negara Malaysia was formed as the central bank of Malaysia. It was and is designated the sole authority to issue and distribute coins and bank notes in Malaysia. For the commercial banks in
Malaysia, CIMB Group is the one Universal Bank in Malaysia, along with nine other major commercial banks in Malaysia; which are: 

- Affin Bank Berhad
- RHB Bank Berhad
- EON Bank Berhad
- CIMB Bank Berhad
- AmBank Berhad
- Hong Leong Bank Berhad
- Public Bank Berhad
- Alliance Bank Berhad
- Malayan Banking Berhad (Maybank)

As for the economies, Malaysia is a small and relatively open body. At the same time, the competitiveness is ranked well in global market. For the purchasing power parity, Malaysia is ranked the 30th largest economy in the world. In 2010, the gross domestic product (GDP) in Malaysia was estimated to be $414 billion. All of these are due to the open and growing market of the country which largely drives the financial scenario of Malaysia.

The performance trend of the KLSE from January 2005 to December 2010 as measured by KLCI is as shown in Figure 1.1. The major downturn of the market occurred in the periods of August-October 2007, May-July 2008, October 2008-April 2009, and May-July 2010.

---

2 Reported by Malaysia Financial Market dated 26 March 2012.
The performance of the Finance sector as indicated by Finance Index (FI) from January 2005 to December 2010 is as shown in Figure 1.2. The sector was bearish during August-October 2007, May-July 2008, October 2008-April 2009 and April-July 2010.
Malaysia stock market has a significant number of foreign participants. During crisis, the reversal of portfolio capital flow due to their repatriation from Bursa Malaysia had brought significant impacts to the stock market. Table 1.1 shows that the Kuala Lumpur Composite Index (KLCI) had fallen by 37.07% from 1,393 points in January 2008 to 876 points in December 2008. This indicated a strong correlation between changes in net portfolio equity flows and stock prices in Malaysia.3

The currency and capital markets have remained steady over the first two quarters of 2009. The financial sector also remained strong in Malaysia despite the collapse in exports, fall in oil prices and a contraction in GDP over the first half year of 2009.

Table 1.1: Kuala Lumpur Composite Index, 2007-2009 (July)

<table>
<thead>
<tr>
<th>Periods</th>
<th>Composite Index 2007</th>
<th>% Changes</th>
<th>Composite Index 2008</th>
<th>% Changes</th>
<th>Composite Index 2009</th>
<th>% Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan.</td>
<td>1,189.35</td>
<td>0.00</td>
<td>1,393.25</td>
<td>-3.58</td>
<td>884.45</td>
<td>0.88</td>
</tr>
<tr>
<td>Feb.</td>
<td>1,196.45</td>
<td>0.60</td>
<td>1,357.40</td>
<td>-2.57</td>
<td>890.67</td>
<td>0.70</td>
</tr>
<tr>
<td>Mar.</td>
<td>1,246.87</td>
<td>4.21</td>
<td>1,247.52</td>
<td>-8.09</td>
<td>872.55</td>
<td>-2.03</td>
</tr>
<tr>
<td>Apr.</td>
<td>1,322.25</td>
<td>6.05</td>
<td>1,279.86</td>
<td>2.59</td>
<td>990.74</td>
<td>13.55</td>
</tr>
<tr>
<td>May.</td>
<td>1,346.89</td>
<td>1.86</td>
<td>1,276.10</td>
<td>0.00</td>
<td>1,044.11</td>
<td>5.39</td>
</tr>
<tr>
<td>Jun.</td>
<td>1,354.38</td>
<td>0.56</td>
<td>1,186.57</td>
<td>-7.02</td>
<td>1,075.24</td>
<td>2.98</td>
</tr>
<tr>
<td>Jul.</td>
<td>1,373.71</td>
<td>1.43</td>
<td>1,163.09</td>
<td>-1.98</td>
<td>1,174.90</td>
<td>9.27</td>
</tr>
<tr>
<td>Aug.</td>
<td>1,273.93</td>
<td>-7.26</td>
<td>1,100.50</td>
<td>-5.38</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sept.</td>
<td>1,336.30</td>
<td>4.90</td>
<td>1,018.68</td>
<td>-7.43</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oct.</td>
<td>1,413.65</td>
<td>5.79</td>
<td>863.61</td>
<td>-15.22</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nov.</td>
<td>1,396.98</td>
<td>-1.18</td>
<td>866.14</td>
<td>0.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dec.</td>
<td>1,445.03</td>
<td>3.44</td>
<td>876.75</td>
<td>1.22</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


1.2 Capital Assets Pricing Model (CAPM)

The CAPM\(^4\) developed by Sharpe (1964) and Lintner (1965) links the investor's expected return on a stock to the market risk. Most of the investor failed to grasp the principle of risk and return and are taking risk beyond their capabilities. Some investors pursued higher return without realizing the higher risk associated and lose badly when bad times come.

Apart from the Sharpe-Lintner model, one of the important CAPM version was by Black (1972). Black relaxes the assumption that there are risk-free assets, but allows unlimited short selling. The general idea of CAPM is to equip the investors with the knowledge to choose stocks that will deliver returns which compensate the risk associated with these stocks. With such knowledge, investors can time the selection of stocks holdings during bullish and bearish market so that when bad times eventually come, they would be able to remain sustainable.

1.3 Causes of Mortgage Crisis\(^5\)

There are a number of theories regarding what led to the mortgage crisis. Many experts and economists believe it came about through combination of a number of factors in which subprime lending played a major part.

\(^4\)The 1964 paper has contributed to Sharpe receiving the Nobel Prize in 1990.
\(^5\)The source from major description of this section is retrieved from about.com US economy.
1.3.1 *Low Interest Rate*

In response to the crash of dot-com bubble in 2000 and the subsequent recession which began in 2001, Fed implemented an expansionary monetary policy by cutting the short term interest rates from 6.5% to 1% to encourage more people to borrow and to reduce the default risk in loan payment. The monetary policy transmission had effectively boosted U.S. economies but it led to other agency problems, which eventually ended up with subprime lending and housing price bubble.

1.3.2 *Agency Problem*

The subprime mortgage market was based on a so-called originate-to-distribute business model, in which the mortgage was originated by a separate party, typically a mortgage broker and then distributed to an investor as an underlying asset in a security. The principal-agent problem occurred because the mortgage originator or broker did not make proper evaluation during the selection process but rather just simply granting an approval. Since the mortgage brokers do not lend their own money, there is no direct correlation between loan performance and compensation for them. Brokers also have financial incentive for selling complex products because they earn higher commissions on them. Therefore, in order to qualify them to get more mortgage incentives, the mortgage brokers always encouraged households to take on mortgage outside their affordability and conducted a lax regulation to disclose and even to commit fraud by falsifying information on mortgage application.
Nevertheless, the commercial and investment bank who was earning large fees by underwriting mortgage-backed securities and structured credit products also had weak incentives to make sure that the ultimate holders of the securities would be paid off. The credit rating agencies that were evaluating these securities also were subject to conflicts of interest that they were earning fee from rating them and also from advising clients on how to structure these securities to get the highest ratings. The integrity of these rating was thus more likely to be compromised. Thereby, the worse asymmetric information in the financial system increased the severity of adverse selection and moral hazard problem.

1.3.3 Subprime Lending

Subprime Lending was a major factor in the increase of home ownership rates and demand for housing during the bubble years. Some homeowners took advantage of the increased property values of their home to refinance their homes with lower interest rates and take out second mortgage against the added value for consumer spending.

The number of subprime loans rose as rising real estate values led to lenders taking more risks. Some experts believed that Wall Street encouraged this type of behavior by bundling the loans into securities that were sold to pension funds and other institutional investors seeking higher returns.
1.3.4 Housing Bubble

The current mortgage meltdown actually began with the bursting of the U.S. housing bubble in 2001 and reached its peak in 2005. A housing bubble is an economic bubble that occurs in local or global real estate market. The development of subprime mortgage market was lauded by economists and politicians alike because it led to 'democratization of credit' and helped raise U.S. home ownership rates to the highest level in history.

The house price boom which stimulated the growth of the subprime market meant that the subprime borrower could refinance their houses with an even larger loan when their house appreciated in value. Subprime borrowers were also unlikely to default because they can simply sell their house to payoff the loan. The growth of the subprime mortgage market, in turn, increased the demand for houses which further fueled the boom in housing prices.

1.3.5 The Bubble Burst

The bubble burst happened due to two factors namely, increase of interest rate and decline in house value. Between year 2004 and 2006, Fed raised interest rates 17 times from 1% to 5.25%. The main reason was because the U.S. economy has started to recover and there were signs that inflation was starting to pick up. In order to curb inflation and slow down the borrowing, the Fed increased the interest rate.
As a result, the demand of houses dropped which led to decline of house value and increase of interest rate. This led to many subprime borrowers being pressured to make payment and discovering their mortgages value were actually above their houses worth. Knowing this, the borrowers rather default and surrender their houses to bank. In the end, the defaults on mortgage shot up drastically, which eventually led to over one million mortgages in foreclosure and the phenomena was thence coined "the bubble burst".

1.4 Economy Overview before the Crisis

1.4.1 Malaysia

From year 2000 to 2006, the GDP growth rates in most of ASEAN countries had returned to the status as it was before ASEAN financial crisis in 1997. Malaysia had achieved an average real growth rate of 5.42% during the same period, which further increased to 6.18% in 2007. The growth was mainly due to the increase of international trade with developed nations. According to statistics from MATRADE in 2007, Malaysia's major trading partners were U.S., Singapore, Japan, China and Thailand. Hence, the spillover problem in the subprime market of U.S. had directly impacted the balance of trade in Malaysia. When U.S. consumption falls, the Malaysians exports also suffered.

Malaysia has a high volume of trade with international markets. Table 1.2 shows the degree of openness for Malaysia from year 2001 to 2008. The openness ratio increased from 1.72 in year 2001 to 2.24 in year 2008. From year 2004 to 2008, the degree of openness was two times greater than the size of economy. Therefore, apart