

THE RELATIONSHIP OF MACRO FACTORS AND DIFFERENT
INVESTMENT ASSETS CLASS DURING FINANCIAL CRISIS

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DEDICATION

To my beloved family and best friend

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ABSTRACT

In Malaysia there are many investment assets for investors to choose. However, investors lack knowledge and guidance to determine the right time to invest and the selection of asset. The investment market are influenced by the local, regional and world economic cycles. The issue that need to be addressed is to measure investment performance in Malaysia. Thus, there is a need for investors to know when and what to choose from the investment market. This research investigates the performance of Different Investment Assets Classes (DIAC) during financial crisis. The aim of this thesis is to assess the investment performance of DIAC and how macro economic factors are affecting their performance. Adopting the adjusted rate of return as a basis of performance measurement, the performance of DIAC was analysed during two regional and global economic crisis namely the Asian Financial Crisis (AFC) and Global Financial Crisis (GFC) using two sub period panel data. The first period is between December 1977 – December 2003 and the second period is from January 2004 – December 2011. Data on returns and risk for various DIAC such as Bonds, Share, Plantation, Industrial, Properties, Financial and Cash are acquired through Data Stream. Yearly returns and risk of the different asset class investment was tabulated and a data base for asset returns were created. The analysis of Risk adjusted showed that all DIAC were affected by both economic crises. However, among all DIAC, Bonds is the safest investment followed by Plantation, Industrial and Finance while the most risky assets are Shares and Properties. This suggests that macro economic factors have an impact on DIAC performances. In determining the relationship between DIAC and selected macroeconomic variables a correlation analysis was carried out during both economic crisis. The cause and effect analysis were carried out to assess the type of relationship between macro economic factors and return of DIAC. The result reveals that GDP and DIAC performance have two ways effect. This suggests that the changes in GDP are an important factor in determining the performance of DIAC.

ASTRAK

Terdapat pelbagai pilihan aset pelaburan di Malaysia. Namun begitu, pelabur kurang pengetahuan dan panduan dalam menentukan masa dan jenis pelaburan yang sesuai untuk melabur. Inikernapasaran pelaburan ekonomisientiasaberubah mengikut keadaan ekonomitempatan, serantaudanduniasertai jugamempengaruhiprestasi pelaburan. Isu yang ingindijelaskan adalah bagaimana untuk mengukur prestasi pelaburan di Malaysia. Oleh yang demikian, adalah perlubagipelaburmengetahui masa dan pelaburanapa yang sesuai untuk dilabur. Kajian ini menilai prestasi Pelaburan Asset Berbagi Berbeza Jenis (DIAC) semasa krisis kewangan. Tujuan penyelidikan adalah untuk menilai prestasi pelaburan DIAC dan bagaimana faktor-faktorekonomimakromempengaruhiprestasi pelaburan tersebut. Analisis keatas pulangan dalam duakrisisekonomiserantaudan global iaitu Krisis Kewangan Asia (AFC) dan Krisis Kewangan Global (GFC) menggunakan dua tempoh sub panel. Pertama adalah antara Disember 1977 - Disember 2003 dan tempoh yang kedua ialah dari Januari 2004 - Disember 2011. Data keatas pulangan dan risikobagi DIAC seperti Bon, Saham, Peladangan, Industri, Harta Tanah, Kewangan dan Tunaidiperolehmelalui *Data Stream* dimanadatapulangan tahunandanrisikopelaburandikumpul dalam satu pengkalan data. Analisis Risikodiselaraskanmenunjukkankesemua DIAC dipengaruhi olehkeduadukrisisekonomitersebut. Walaubagaimanapun prestasi dari Bon merupakan pelaburan yang paling selamat diikuti dengan Perladangan, Industri dan, Kewangan manakala aset yang paling berisiko adalah Saham dan Harta Tanah. Inimencadangkan bahawafaktor-faktorekonomimakromemberikesan kepada DIAC. Analisis korelasi dijalankan untuk menentukan hubungan DIAC dan makroekonomisemasakeduadukrisisekonomi. Walaubagaimanapun, untuk menilaisebab dan akibatdaripadafaktor-faktorekonomimakro, ujian Granger

telah digunakan. Menggunakan perisian E-Views, analisis uji Granger yang dijalankan menunjukkan bahwa KDNK dan prestasi DIAC mempunyai hubungan dua hala. Ini menunjukkan bahwa perubahan dalam KDNK adalah faktor penting dalam menentukan prestasi DIAC.

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LIST OF ABBREVIATION

NAPIC	-	National
GDP	-	Gross Domestic Product
AFC	-	Asian Financial Crisis
GFC	-	Global Financial Crisis
VAR	-	Vector Auto Regression
KLCI	-	Kuala Lumpur Composite Index
DIAC	-	Different Investment Asset Classes

CHAPTER 1

INTRODUCTION

1.1 Research Background

In today's world, the investment markets are being influenced by various economic factor and conditions. These economic factors are not only able to affect the internal investments but it also affects the global investment market. During 1997, 1998 and 2009, the world was hit by two economy financial crises. The first crisis was the Asian Financial Crisis and the second was the Global Financial Crisis. These crises have showered their impact towards the investment market of Malaysia as well. As a result, Malaysia has gone through various phase of difficulties in order to compete with other countries and to stabilize their investment market as well as economic condition (World Economic Forum, WEF, 2009, 2010; RCA, 2010; Transparency International, 2009; CIA, 2010; and JLL, 2009).

Results showed that the effect of economic crisis has decrease the involvement of investors hence, Malaysia faced trouble to rise and stabilize the

investment market. In an attempt to the next stage of recovering from economic crisis, Malaysia has developed and introduced an investment friendly policy to encourage Foreign Investment (FI) to the country. Through this policy, the Malaysian government has introduced 2-stimulus packages. Whereby through these economic measures packages the government intended to put together and stimulate a floundering economy where property investment can significantly contributes to the positive growth of investment market. Following to this, in the year of 2009, Malaysia contributed \$10.5 billion or 1.6% of the Asia market capitalization of property securities companies (Macquarie, 2009). In addition, Malaysian government also introduced The Real Estate Investment Trusts (REITs) in August 2005 with the aim to stimulate and improve the investment in the country. Malaysian REITs has comprehensively contributes 0.3% of the global market and 2.4% of the Asian market. According to JLL (2009), this scenario has help Malaysia to achieve the 17th position in overall world REITs market.

In accordance to that, compared to the other Asian countries, the investment market of Malaysia has shown strong and rapid growth in the year of 2009 in accordance with the global financial crisis (JLL, 2010). The Table 1.1 below exhibit the key performance indicator that significantly influence the investment market in Asian countries as Malaysia, China, Hong Kong, Taiwan, Japan, Philippines, Singapore, Thailand and Indonesia. Among the key performance indicator referred as influencing the investment market of Asian countries are namely the Gross Development Rate (GDP), short-term investment interest rate, CPI, unemployment rate, real private consumption and industrial production.

Table 1.1: Key Performance Indicators in Asian Countries 2010

	GDP (%)	Short-Term Interest Rate (%)	CPI (%)	Unemployment Rate (%)	Real Private Consumption	Industrial Production
Malaysia	6.9	2.6	1.7	3.4	6.1	7.8
China	10.3	5.3	2.9	4.2	8.5	15.3
Hong Kong	5.5	0.3	2.2	4.3	4.9	NA
Taiwan	8.4	0.7	0.9	5.3	2.1	21.7
Japan	2.7	0.3	-0.8	4.8	1.8	19.1
Philippines	6.7	3.9	4.1	7.3	0.4	19.0
Singapore	14.5	0.4	2.6	2.5	6.6	22.1
Thailand	7.8	1.2	3.4	1.1	4.9	13.7
Indonesia	6.0	6.9	5.1	7.8	4.7	3.7
World	3.8	2.8	2.7	8.4	2.5	8.3

Sources: (JLL,2010)

The investors always seek for better opportunities for their investment. The reason for these investors to invest in certain asset classes depends on various factors. According to Muzammil Khan and et al., (2011), diversification between different investment asset classes is one of the best features for investor because it has provided major benefits to the investors in terms of risk management.

Skidmore (1999) highlighted that different asset classes are a group of securities that exhibit similar characteristics and behave similarly in the market place and consequently they are subjected to the similar laws and regulations. The three examples of the main asset classes are equities (stocks), fixed-income (bonds) and cash equivalents

which also known as money market instruments. This asset classes has led to further diversification of investment in Malaysia. There are many benefits provided by these alternative asset classes as well as significantly raise the potential return.

The benefits are accordingly, providing lack of correlation with other types of investments may help increase or stabilize portfolio return. Part of sound portfolio management is diversifying investments so that if one type of investment is performing poorly, another may be doing well. In recent years, both institutional and individual investors have increasingly begun to explore alternative assets as a way of trying to increase returns and diversify risk. In a global economy, traditional asset classes such as stock and bonds are increasingly linked. However, in many cases, an alternative asset's performance is often highly dependent on the qualities of the individual investment, as opposed to being highly correlated to an overall market. Many alternative investments attempt to achieve their returns not from the activity of the market but by using unique investing strategies to exploit market inefficiencies where the markets have not perceived. While alternative assets classes offer potential for returns that are not highly correlated with other markets, their unique properties also mean that they can involve a high degree of risk. As a result, an alternative asset can provide an additional layer of diversification and complement to the more traditional asset classes. However, diversification alone cannot guarantee a profit or ensure against a loss.

Generally, this study aim to focus on the relationship among the leading different investment assets classes and the macro economic factors in Malaysia during financial crisis. The macro economy factors included in this study are namely, Gross Domestic Product, Unemployment Rate and Money supply. In addition to that, there are seven different investment asset classes have been selected for the sake of this study. They are; Share, Plantation, Industrial, Bonds, Financer, Properties and Cash. To extract the result of co integration among the seven leading investment assets classes and the macro economic factors, the data of monthly index values from December 1997 until December 2011 were taken. It is important to emphasize that, all the indices used for this study are denominated in local currencies value.

1.2 Problem Statement

According to World Economic Forum, WEF (2009), during the Asian Financial Crisis, Malaysia is the first country in Asia to recover from the turmoil. When the AFC and GFC attacked the world, it was one of the factors that influence the whole DIAC in Malaysia. Consequently, 1999-2011 is the most unique period to be investigated in terms of the relationship between MF and DIAC.

Being one of the transparent property markets in the world (JLL, 2010), major international property investors have put Malaysia on the investment radar as an attractive place to invest. The political stability and recent trade liberalization policy are some of the factors that cause Malaysia to become an investment friendly country among the investors (WEF, 2009, 2010; RCA 2010; Transparency International, 2009; CIA, 2010 and JLL, 2009).

Although, Malaysia is one of the countries that can survive from both Asian and Global financial crisis (WEF, 2009) still Malaysia should be more alert in economic changes especially in the property investment sector since it is the largest contributor to Gross Domestic Product (GDP). According to NAPIC (2010), the investment of Malaysia contributes over 30% to Gross Domestic Product (GDP) in the year of 2010. Although the Global Financial Crisis is still in the recovery phase, past performance is no guarantee to the future performance. Indeed, this crisis has significantly affected the Malaysian investment assets especially property market. Recently, Asia has shown a remarkable growth in terms of investment value (WEF, 2009). In order to attract international investors to invest in the Malaysian property market, investors will monitor the performance of Malaysian investment market from three to ten years ahead. The investment performance is the contributing factor which will be the sandstone for investors to invest and select asset. The ability to predict the volatilities of future is

important to investigate and understand the prospect performance of the investment market.

The economic cycle of investment market are affected by local and global factors. Early signs of detection and its forecast will greatly affect investor's behaviour. Prediction of economy cycle can help investor to strategies in locating investment and diversification. In this situation of unpredictable economic cycle changes, investors should have their own strategies to select their investment classes. The main factors investors always consider in selecting investment classes are the return and risk of the investment. Investors from any country will go for the investment that has the higher return and low risk. Additionally, the investors also need to see the performance of investment, especially the past and future performance of different asset classes going to be invest in. According to Edward and Leiw, (1999) investing in different asset classes are the safest and strategic investment compared to investing in one asset class because each investment classes are carrying some level of risk.

The effect of globalization has increased strategic economic relations among asset classes and flow of information among stock markets has forced the international or local investors to rethink their decisions on diversified portfolio investment. However, investor should always be aware of the macroeconomic factor that effecting investment asset classes as well as they are also significant factor to be considered. Therefore, co integration has become a vital area for research in order to understand price adjustment mechanism in different investment asset classes and macroeconomic factor in Malaysia.

Hereby, it is apparent to mention that the research of the investment market in Malaysia is increasing, but limited, if compared to other countries. There are many opportunities to explore the Malaysian investment market, yet there is no evidence to show that researches had been taken on relationship and causality of Malaysian different investment asset classes. Therefore, this study intended to investigate the relationship of different investment asset classes in Malaysia with the selected macro factors during AFC and GFC.

1.3 Research Questions

The problem statements above suggest to answer the following research questions;

- i) How does the performance of different investment asset classes in Malaysia since 1997/98 until 2011?
- ii) Does macro factors have a causality effect on the different investment asset classes?

1.4 Objectives

This research has two main objectives to be conducted along the lines of the above mention problems. They are;

- 1.4.1 To assess performance of different investment asset classes in Malaysia from 1997 until 2011.
- 1.4.2 To analyse the relationship of macro factors and different investment assets class during the financial crisis.

1.5 Research Methodology

This research contains of four phases that were conducted, as follows:

1.5.1 Literature Review (Phase 1)

This phase comprised the introduction about the issues and problem occurred in real market. In addition, the objectives, scope, importance and methodology of the study were thoroughly discussed in each section. All data and information used for this phase were obtained from the secondary data such as journal econometrics, journal financial economic, article, news, property market report and other references.

1.5.2 Data Collection (Phase 2)

Data from this study was derived from the monthly returns of different investment asset classes in Malaysia from the year of December 1997 until the year of December 2011. These data was obtained from DataStream which taken from Kuala Lumpur Composite Index (KLCI), Malaysian Government Securities (Bonds), Kuala Lumpur Stock Exchange Properties (Properties), Malaysia Treasury Bill Discount Rate (Cash) and Kuala Lumpur Stock Exchange Plantation (Plantation). While, macroeconomic factors such as GDP, unemployment rate and Money supply in Malaysia related data was collected from Department of Statistic and NAPIC.

1.5.3 Data Analysis (Phase 3)

In this research, Risk Adjusted Returns and Descriptive Analysis were used to assess various returns on share, bonds, plantation, financial, industrial, property and cash series from the year of December 1997 until the year of December 2011. Performance analyses have been carried out using local currency value in order to control currency risk for hedging strategies. The period of December 1997 to December 2011 were divided into two sub-periods namely as December 1997 till December 2003 and January 2004 till December 2011 to assess the performance of different investment asset classes in Malaysia after the Asian and Global Financial Crisis. Next, the data have been analysed by using the Granger causality test. Granger causality test was conducted in order to analyses the influence of macroeconomic factor on the different investment asset classes in Malaysia. Eviews software was used to run the data. The result of the analyzed data has been used to achieve the objectives of this study.

1.5.4 Discussion and Conclusion (Phase 4)

In the fourth phase, overall discussion and conclusion of the study were derived. The discussion will be based on the analysis and findings that undertaken in the analysis chapter. Following the discussion, recommendation has been outlined at the end of this research. Finally, the conclusion from the study was formed.

1.6 Research Limitation

This research was only focusing and analyses the investment classes of Malaysia. Data from the year of December 1997 until the year of December 2011 were used. In addition to that, this research will also focus on Risk Adjusted Return performance on different investment asset classes in Malaysia. The data has been analysed using Granger Causality and co-integration analysis to see the performance since the year of 1997 till 2011. Finally, the macro factors that affecting investment classes and the relationship of those factors with each investment classes were thoroughly discussed.

1.7 Significant of Research

The research will provide useful ideas and reference to various people who either directly or involves in Malaysia's investment market. The advantages of this research is to understand the relationship between the macroeconomic factors and different investment asset classes of Malaysia. The output is to identify the most significant macro factor with different investment asset classes on investment market in Malaysia. The research is integrating knowledge in science and mathematical versus property investment in Malaysia. It has been done by co-integration and forecasting the investment movement. The output is expected to help the fund managers and investors either in local or international level to be used as the reference in decision-making process. This research is also showing the position of investment in Malaysia.

Additionally, this research is significant in contributing input and knowledge for academic purposes especially for the property management students where it can serve as their references for investment studies.

1.8 Research Methodology

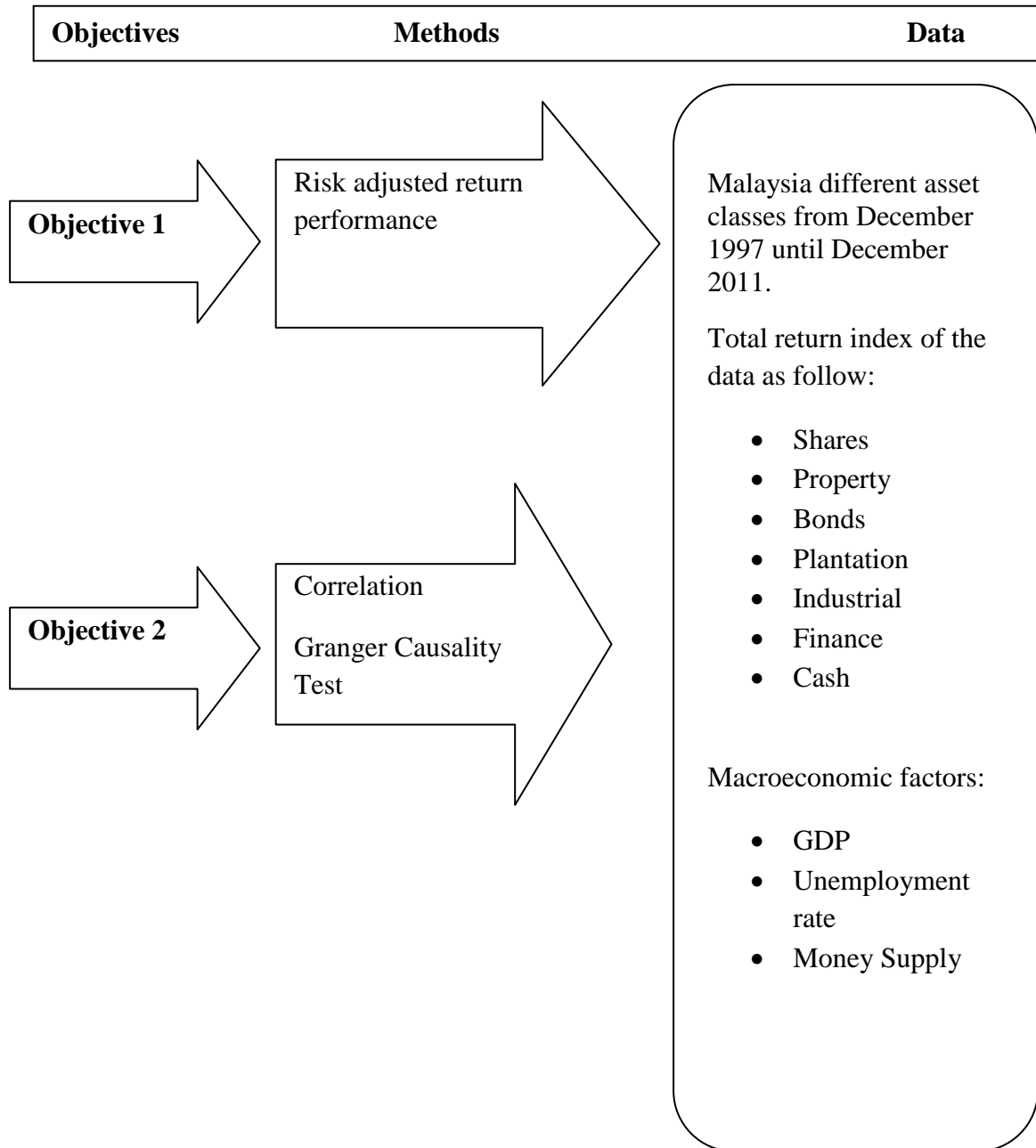


Figure 1.1: Research methodology framework

1.9 Structure of the Research

This study is divided into six major chapters. They are;

1.9.1 Chapter One : Introduction

Chapter 1 focuses on research objectives, problem statement, significant of study, scope and limitation, study methodology as well as chapter organization. Furthermore, a review on the study area is going to be explained in this chapter.

1.9.2 Chapter Two: Literature Review

Chapter 2 is focusing on the concept of macro economy definition, investment market, economy cycle and definition of performance, granger causality, and macroeconomic variables. The literature review highlights on the important relationship between asset classes and macroeconomic factors. In the previous literature, the investment performance and granger causality test had been explained and discussed.

1.9.3 Chapter Three: Research Methodology

In Chapter 3, detailed explanation will be given regarding the methodology that has been used in this study including data collection and the method used to achieve the objectives of this study. This chapter also include a specified explanation on literature review and the study area. Moreover, the analysis methodology that has been used in this study will be explained.

1.9.4 Chapter Four: Analysis

In Chapter 4, the research analysis will be discussed in detailed. All data and information which have been obtained through data collection have been analysed using the Risk Adjusted Return performance as well as Granger causality test. The correlation analysis was used to analyse the relationship between macro factors and asset classes. Co-integration Analysis was also used to analysed the impact of macro factors on investment asset classes.

1.9.5 Chapter Five: Discussion and Conclusion

In this chapter, the findings from analysis has been discussed thoroughly and specifically. Risk Adjusted Return performance and Granger Causality Test will be fully explained. Additionally, the findings has been related with other environment factors

such as politician and government policies to provide better understanding about the behaviour of economic cycle in Malaysia. As Chapter 5 is the final chapter of this research, conclusion has been made based on the findings and consequently, relevant recommendations will be lined up in order to solve the problems that occurred and also for future research.

1.10 Summary

This research is assessing the performance of Malaysia's different investment asset classes. Over the past 15 years, Malaysia investment market had shown significant economic development although it was hit by two financial crises during the year of 1997, 1998 and 2009. These crises had major impact across the investment market including local as well as global financial market. The main contribution in this research is to highlight the performance risk adjusted and diversification benefits as well as causality of different investment asset classes over December 1997 until December 2011 in Malaysia.

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