A STUDY OF MACRO ECONOMY IN DETERMINING THE COMMERCIAL PROPERTY MARKET

SIM BOON HUN

A project report submitted in partial fulfillment of the requirements for the award of the degree of Master of Science (Property Management)

Faculty of Geoinformation Science And Engineering
University Technology of Malaysia

DECEMBER 2005

DEDICATION

"To my beloved father and mother, sisters and Ms Khoo"

ACKNOWLEDGEMENT

The years I have spent at Faculty of Geoinformation Science & Engineering taught me many valuable lessons, mainly through the interaction with lecturers who gave advices and guided me.

I am thankful to my supervisor, Prof. Rosdi Ab Rahman for his insightful comments and assistance on completion of this master's project report. The same also goes to the lecturer who have contributed in this report, especially Dr. Nor Abidah.

A word of thanks are also forwarded to Pusat Sumber of Property Management department, PSZ, JPPH, Central bank and etcs for their co-operation in assisting me to obtain the valuables data.

To the input of Eu As Properties, especially Mr. Cheah and Mr. Tan, thanks a lot for the understanding and flexibility in allowing me to take leave while in the completing this master project report.

My fellow course mates, colleagues and all my friends, thank you all for the assistance rendered in so many occasions. Miss Khoo, the person whom I am to be specified as her supporting and help all the time this thesis's progression.

My parents, whose support and encouragement was always there when I needed. Without their support and encouragement, indeed this project report are unable to be completed.

ABSTRAK

Adalah tidak boleh dinafikan bahawa implikasi pembolehubah makro ekonomi memberi pengaruh yang mendalam terhadap prestasi harta tanah serta urusniaga harta tanah komersial. Ini memberikan inspirasi terhadap keperluan untuk menjalankan satu kaedah penyelidikan, dimana penganalisaan pembolehubah makro ekonomi tersebut dapat ditentukan, terutamanya dalam penentuan prestasi harta tanah komersial,dan bilangan urus niaganya. Dengan ini, kajian ini memberi manfaat yang besar dalam pelbagai penyelidikan yang dijalankan di Malaysia. Tujuan penyelidikan ini adalah untuk menghasilkan hipotesis yang membolehkan pelbagai pembolehubah makro ekonomi di Malaysia diuji dalam satu jangka masa. Seterusnya, pelbagai jenis tren dihasilkan demi pengujian kualitatif. Disamping itu, pelbagai kaedah penganalisaan seperti analisis korelasi dan regresi turut dijalankan untuk pengujian secara kuantitatif. Penilaian yang dijalankan adalah berdasarkan kepada nisbah bagi setiap pemboleh ubah makroekonomi, dan ia seterusnya digabungkan sebagai satu model yang bertujuan untuk perjangkaan bilangan urus niaga hartanah komersial. Penemuan dalam kajian ini menunjukkan terdapatnya kewujudan beberapa tren yang mempengaruhi perkembangan urus niaga harta tanah komersial. Antara beberapa pemboleh ubah makro ekonomi yang memberi impak berkesan terhadap makro economi adalah Keluaran Dalam Negara Kasar (KDNK), kadar pinjaman dasar (pada krisis ekonomi 1997), simpanan nasional serta pinjaman bank yang memberi pinjaman kepada sektor harta tanah. Penemuan dalam kajian ini secara langsung mencadangkan bahawa pengawalan pemboleh ubah makro ekonomi, akan berupaya meminimumkan kegagalan dalam pelbagai pembangunan dan pembinaan projek baru, dan seterusnya meningkatkan prestasi pasaran terutamanya dalam permintaan harta tanah komersial.

ABSTRACT

The influence of macroeconomic variables toward real estate performance, as well as it effects on commercial property transaction is inevitable. As a result, the relationship propagates for this study in the endevor to understand and explain the influence of these macroeconomic variables. This study is set out to ascertain the commercial property performance, especially in its transaction volume. Hopefully, it will serve as a complement to other related studies carried out. The main purpose of this study is to develop a hypothesis for projecting trends of property transactions. It will be based upon an analysis of the relationship between key macroeconomic variables and property transaction. Several analytical methods such as correlation and regression analysis were carried out. Evaluation based on proportion of each macroeconomic variable was determined, and ultimately combined as a complete model to predict in a more acceptable manner. In this finding, it obviously showed that the existence of several trends were aimed to affect the commercial property transaction volume. As presented in this research, some of the macroeconomic variables varies in the way they influence the market. They significant ones include Gross Domestic Product, Base Lending Rate (During the economic crisis in year 1997), national saving and bank loan allocated to the property sector. In a significant way, this finding suggests that by monitoring the macroeconomic variables, the commercial property market performance is predictable, especially in its demands on the market. More Important, it will also contribute towards a sustainable development of new projects in the coming future.

TABLE OF CONTENTS

| CHAPTER | | TITLE | PAGE |
|---------|------|---------------------------|-------|
| | THE | SIS STATUS DECLARATION | |
| | SUPI | ERVISOR'S DECLARATION | |
| | DEC | LARATION ON COOPERATION & | |
| | CER | TIFICATION OF EXAMINATION | |
| | TITL | LE PAGE | i |
| | DEC | LARATION PAGE | ii |
| | DED | ICATION PAGE | iii |
| | ACK | NOWLEDGEMENT | iv |
| | ABS | ГКАК | V |
| | ABS | ГКАСТ | vi |
| | TAB | LE OF CONTENTS | vii |
| | LIST | OF TABLES | xii |
| | LIST | OF FIGURES | xvi |
| | LIST | OF SYMBOLS | xviii |
| 1 | INTR | RODUCTION | |
| | 1.1 | Introduction | 1 |
| | 1.2 | Problem Statement | 4 |
| | 1.3 | Research Objective | 4 |
| | 1.4 | Scope Of Study | 5 |
| | 1.5 | The Importance Of Study | 5 |
| | 1.6 | Methodology | 6 |
| | 1.7 | Limitation Of Study | 8 |

| | 1.8 | Assun | nption | 9 |
|---|------|--------|-----------------------------------|----|
| | 1.9 | Outlin | ne Of Report | 9 |
| 2 | LITE | ERATUI | RE REVIEW | |
| | 2.1 | Introd | uction | 10 |
| | 2.2 | Suppl | y and Demand | 10 |
| | | 2.2.1 | The Law Of Demand | 10 |
| | | 2.2.2 | Effective Demand | 11 |
| | | 2.2.3 | Other Thing Being Equa1 | 11 |
| | | 2.2.4 | The Work Of The Law Of Demand | 12 |
| | | 2.2.5 | Market Equilibrium | 13 |
| | 2.3 | The F | unction Of Government In Macro | |
| | | Econo | omy | 14 |
| | | 2.3.1 | Provision of Public Goods | 14 |
| | | 2.3.2 | Transfer of Income | 15 |
| | | 2.3.3 | Regulation Of Private Businesses | 16 |
| | | 2.3.4 | Administration of Justice | 16 |
| | | 2.3.5 | Overlapping Functions | 17 |
| | 2.4 | A Sim | ple Economy | 18 |
| | | 2.4.1 | Stocks and Flows | 19 |
| | | 2.4.2 | National Income And Product | 19 |
| | | 2.4.3 | Saving and Investment | 20 |
| | | 2.4.4 | Aggregate Supply and Demand | 21 |
| | 2.5 | Measu | uring National Income And Product | 22 |
| | | 2.5.1 | Gross National Product | 22 |
| | | | 2.5.1.1 Consumption | 23 |
| | | | 2.5.1.2 Investment | 24 |
| | | | 2.5.1.3 Government Purchase | 25 |
| | | | 2.5.1.4 Net Exports | 25 |
| | | 2.5.2 | Gross Versus Net National Product | 26 |

| | | 2.5.3 | National Income | 27 |
|---|-------|---------|-------------------------------------|----|
| | | 2.5.4 | The Relationship between | |
| | | | National Income and GNP | 28 |
| | | 2.5.5 | Personal Income | 30 |
| | 2.6 | Real E | state Cycle | 31 |
| | | 2.6.1 | The Concept | 31 |
| | | 2.6.2 | Characteristic of Real Estate Cycle | 32 |
| | | 2.6.3 | Real Estate Cycle - Regional And | |
| | | | Global | 34 |
| | | 2.6.4 | The "Malaysian Cycle" | 34 |
| | | 2.6.5 | The Dynamic Of Real Estate Cycle | 35 |
| | 2.7 | Correla | ation And Regression | 39 |
| | | 2.7.1 | Correlation Coefficient | 39 |
| | | 2.7.2 | Looking At Data: Scatter Diagrams | 40 |
| | | 2.7.3 | Calculation Of The Correlation | |
| | | | Coefficient | 43 |
| | | 2.7.4 | Significance Test | 45 |
| | | 2.7.5 | Spearman Rank Correlation | 49 |
| | | 2.7.6 | The Regression Equation | 50 |
| | | 2.7.7 | More advanced methods | 56 |
| | 2.8 | Summa | ary | 56 |
| 3 | COM | MERCI | AL PROPERTY TRANSACTION | |
| | TREN | D AND | ANALYSIS OF FACTOR | |
| | INFLU | JENCE | CD . | |
| | | | | |
| | 3.1 | Introdu | action | 57 |
| | 3.2 | Numbe | er Of Commercial Property | |
| | | Transa | ction & Price Range | 57 |
| | 3.3 | Numbe | er Of All Type Property Transaction | |
| | | & Perc | entage Of Commercial Property | 62 |
| | | | | |

| | 3.4 | Annual Percentage Change In Number Of | |
|---|------|--|-----|
| | | Property Transaction | 66 |
| | 3.5 | Value Of Commercial Property Transaction | 70 |
| | 3.6 | Value Of All Type Properties Transacted | |
| | | And Percentage Of Commercial Property | 74 |
| | 3.7 | Annual Percentage Change In Value Of | |
| | | Property Transaction | 78 |
| | 3.8 | Quarterly Percentage Change In Number | |
| | | Of Commercial Property Transaction | 82 |
| | 3.9 | Quarterly Percentage Change In Value Of | |
| | | Commercial Property Transaction | 83 |
| | 3.10 | Analysis Of Commercial Property | |
| | | Transaction By Graph | 84 |
| | 3.11 | Others Graph (Plot From The Data | |
| | | Obtained) | 89 |
| | 3.12 | Summary | 94 |
| 4 | ANA | LYSIS IN DETERMINATION OF | |
| | MAC | CRO ECONOMIC FACTORS | |
| | 4.1 | Introduction | 96 |
| | 4.2 | Macroeconomic Data To Be Examined | 96 |
| | 4.3 | Base Lending Rate | 99 |
| | | 4.3.1 Base Lending Rate 1997-2003 | |
| | | Monthly (%) | 99 |
| | | 4.3.2 Base Lending Rate 1997-2003 | |
| | | Quarterly (%) | 99 |
| | | 4.3.3 Analysis Of BLR | 100 |
| | 4.4 | Gross Domestic Product | 103 |

| | | 4.4.1 | Gross Domestic Product (GDP) | |
|---|------|--------|------------------------------|-----|
| | | | 1997-2003 (At Current Price) | |
| | | | Quarterly | 103 |
| | | 4.4.2 | Analysis Of GDP | 104 |
| | 4.5 | Natio | nal Saving | 108 |
| | | 4.5.1 | National Saving Outstanding | |
| | | | 1997-2003 Quarterly | 109 |
| | | 4.5.2 | Analysis Of National Saving | 109 |
| | 4.6 | Bank | Loan To Commercial Property | |
| | | Sector | r | 113 |
| | | 4.6.1 | Bank Loan To Commercial | |
| | | | Property Sector 1997-2003 | |
| | | | Quarterly | 113 |
| | | 4.6.2 | Analysis Of Bank Loan | 114 |
| | 4.7 | Mode | 1 | 117 |
| | 4.8 | Sumn | nary | 120 |
| 5 | CON | CLUSI | ON AND RECOMMENDATION | |
| | 5.1 | Econo | omy Crisis | 122 |
| | 5.2 | Findir | ng | 123 |
| | 5.3 | Recor | mmendation | 126 |
| | 5.4 | Gain 1 | From This Study | 126 |
| | REFI | ERENC | CES | 127 |

LIST OF TABLES

| TAB | LE NO. TITLE | PAGE |
|-----|---|------|
| 2.1 | Nominal Gross National Product By Type Of | |
| | Expenditure(In RM Million) | 23 |
| 2.2 | Nominal National Income (in RM Million) | 28 |
| 2.3 | Relation Of National Income To GDP (RM Million) | 30 |
| 2.4 | National Income And Personal Income (RM Million) | 31 |
| 2.5 | Correlation between height and pulmonary anatomical | |
| | dead space in 15 children | 42 |
| 2.6 | Distribution of t (two tailed) | 46 |
| 2.7 | Derivation of Spearman rank correlation from data | |
| | of table 2.5 | 49 |
| 3.1 | Number of commercial property transaction in 1997 | 58 |
| 3.2 | Number of commercial property transaction in 1998 | 58 |
| 3.3 | Number of commercial property transaction in 1999 | 59 |
| 3.4 | Number of commercial property transaction in 2000 | 59 |
| 3.5 | Number of commercial property transaction in 2001 | 60 |
| 3.6 | Number of commercial property transaction in 2002 | 60 |
| 3.7 | Number of commercial property transaction in 2003 | 61 |
| 3.8 | Number of all type property transacted and percentage | |
| | of commercial property 1997 | 62 |
| 3.9 | Number of all type property transacted and percentage | |
| | of commercial property 1998 | 63 |

| 3.10 | Number of all type property transacted and percentage | |
|------|---|----|
| | of commercial property 1999 | 63 |
| 3.11 | Number of all type property transacted and percentage | |
| | of commercial property 2000 | 64 |
| 3.12 | Number of all type property transacted and percentage | |
| | of commercial property 2001 | 64 |
| 3.13 | Number of all type property transacted and percentage | |
| | of commercial property 2002 | 65 |
| 3.14 | Number of all type property transacted and percentage | |
| | of commercial property 2002 | 65 |
| 3.15 | Annual percentage change in number of property transaction | |
| | 1997 | 67 |
| 3.16 | Annual percentage change in number of property transaction | |
| | 1998 | 67 |
| 3.17 | Annual percentage change in number of property transaction | |
| | 1999 | 68 |
| 3.18 | Annual percentage change in number of property transaction | |
| | 2000 | 68 |
| 3.19 | Annual percentage change in number of property transaction | |
| | 2001 | 69 |
| 3.20 | Annual percentage change in number of property transaction | |
| | 2002 | 69 |
| 3.21 | Annual percentage change in number of property transaction | |
| | 2003 | 70 |
| 3.22 | Value of commercial property transactions (RM Million) 1997 | 71 |
| 3.23 | Value of commercial property transactions (RM Million) 1998 | 71 |
| 3.24 | Value of commercial property transactions (RM Million) 1999 | 72 |
| 3.25 | Value of commercial property transactions (RM Million) 2000 | 72 |
| 3.26 | Value of commercial property transactions (RM Million) 2001 | 73 |
| 3.27 | Value of commercial property transactions (RM Million) 2002 | 73 |
| 3.28 | Value of commercial property transactions (RM Million) 2003 | 74 |

| 3.29 | Value of all type properties transacted (RM Million) and | |
|------|---|----|
| | percentage of commercial property (%) 1997 | 75 |
| 3.30 | Value of all type properties transacted (RM Million) and | |
| | percentage of commercial property (%) 1998 | 75 |
| 3.31 | Value of all type properties transacted (RM Million) and | |
| | percentage of commercial property (%) 1999 | 76 |
| 3.32 | Value of all type properties transacted (RM Million) and | |
| | percentage of commercial property (%) 2000 | 76 |
| 3.33 | Value of all type properties transacted (RM Million) and | |
| | percentage of commercial property (%) 2001 | 77 |
| 3.34 | Value of all type properties transacted (RM Million) and | |
| | percentage of commercial property (%) 2002 | 77 |
| 3.35 | Value of all type properties transacted (RM Million) and | |
| | percentage of commercial property (%) 2003 | 78 |
| 3.36 | Annual percentage change in value of property transaction | |
| | 1997 | 79 |
| 3.37 | Annual percentage change in value of property transaction | |
| | 1998 | 79 |
| 3.38 | Annual percentage change in value of property transaction | |
| | 1999 | 80 |
| 3.39 | Annual percentage change in value of property transaction | |
| | 2000 | 80 |
| 3.40 | Annual percentage change in value of property transaction | |
| | 2001 | 81 |
| 3.41 | Annual percentage change in value of property transaction | |
| | 2002 | 81 |
| 3.42 | Annual percentage change in value of property transaction | |
| | 2003 | 82 |
| 3.43 | Quarterly percentage change in number of commercial | |
| | property transaction (%) | 83 |

| 3.44 | Quarterly percentage change in value of commercial | | | |
|------|---|-----|--|--|
| | property transaction | 84 | | |
| 4.1 | Base Lending Rate 1997-2003 monthly (%) | 99 | | |
| 4.2 | Base Lending Rate 1997-2003 quarterly (%) | 100 | | |
| 4.3 | Number of commercial property transaction vs BLR | | | |
| | only in 97 Q1 until 99 Q4 | 102 | | |
| 4.4 | Gross Domestic Product (GDP) 1997-2003 (at current | | | |
| | price) quarterly (RM Million) | 104 | | |
| 4.5 | Number of commercial property transaction vs GDP in | | | |
| | 00 Q1 until 03 Q4 | 107 | | |
| 4.6 | National saving outstanding 1997-2003 by quarterly | | | |
| | (RM Million) | 109 | | |
| 4.7 | Number of commercial property transaction vs national | | | |
| | saving in 97 Q1 until 03 Q4 | 112 | | |
| 4.8 | Bank loan to commercial property sector 1997-2003 | | | |
| | quarterly (RM Million) | 114 | | |

LIST OF FIGURES

| FIG | FIGURE NO. TITLE | |
|-----|--|----|
| 1.1 | Methodology study flow chart | 7 |
| 2.1 | Idealised Real Estate Cycles | 33 |
| 2.2 | Correlation illustrated | 40 |
| 2.3 | Scatter diagram of relation in 15 children between | |
| | height and pulmonary anatomical dead space | 43 |
| 2.4 | Regression line drawn on scatter diagram relating height | |
| | and pulmonary anatomical dead space in 15 children | 53 |
| 3.1 | Number of commercial property transaction | 85 |
| 3.2 | Percentage share of commercial property transaction | 86 |
| 3.3 | Annual percentage change of commercial property | |
| | transaction (compared with same quarter) | 87 |
| 3.4 | Quarterly percentage change of commercial property | |
| | transaction | 87 |
| 3.5 | Value of commercial properties transaction (RM Million) | 89 |
| 3.6 | Percentage share for value of commercial property | |
| | transaction | 89 |
| 3.7 | Annual percentage change for value of commercial | |
| | property transaction (compared with same quarter) | 90 |
| 3.8 | Quarterly percentage change for value of commercial | |
| | property transaction | 90 |
| 3.9 | Number of all type properties transaction | 91 |

| 3.10 | Annual percentage change of all type properties | |
|------|--|-----|
| | transaction (compared with same quarter) | 91 |
| 3.11 | Quarterly percentage change of all type properties | |
| | transaction | 92 |
| 3.12 | Value of all type properties transaction | 92 |
| 3.13 | Annual percentage change for value of all type | |
| | properties transaction (compared with same quarter) | 93 |
| 3.14 | Quarterly percentage change for value of all type | |
| | properties transaction | 93 |
| 4.1 | Graph number of commercial property transacted vs | |
| | Base Lending Rate 1997-2003 quarterly (%) | 101 |
| 4.2 | Graph percentage of commercial property transaction | |
| | vs percentage change of Base Lending Rate 1997-2003 | |
| | quarterly (%) | 101 |
| 4.3 | Number of commercial property transacted vs GDP | 105 |
| 4.4 | Percentage change of commercial property transaction | |
| | vs percentage change of GDP | 106 |
| 4.5 | Number of commercial properties transaction vs | |
| | national saving | 110 |
| 4.6 | Percentage change of commercial property transacted | |
| | vs percentage change of national saving | 110 |
| 4.7 | Percentage change of commercial property transacted | |
| | vs percentage change of bank loan to commercial | |
| | property | 115 |
| 4.8 | Percentage change of commercial property transacted | |
| | vs percentage change of bank loan | 116 |

xviii

LIST OF SYMBOLS

NEP - New Economy Policy

% - Percent

GDP - Gross Domestic Product

MNEAC - National Economic Action Council

RM - Ringgit Malaysia

CDRC - Corporate Debt Restructuring Committee

VCD - Video Compact Disk

GNP - Gross National Product

NNP - Net National Product

U.K - United Kingdom

NEP - National Economic Plan

BLR - Base Lending Rate

SPSS - Statistical Packages for Social Science

CHAPTER I

INTRODUCTION

1.1 Introduction

The New Economic Policy (NEP) to restructure the Malaysian economy introduced in the 1970s had a positive effect on improving the property market sector. Acting as a catalyst to help the recovery of the property market sector, provisions in the NEP allowed active participation by both foreign and local property investors. The periods from early 1990s until mid-1997 showed a growth of 8.0 percent per annum.

In late 1997, the rate of economic slowdown accelerated due to the financial crisis in the Far East. In 1998, the gross domestic product (GDP) indicated a negative rate of growth of between 2.8 to 6.8 percent while the economic growth had fallen to about 7.4 percent. This negative growth rate indicated that Malaysia was facing a financial meltdown in the economy and property market as a whole.

According to Bank Negara Malaysia (1998), the Malaysian Gross Domestic Product showed a decrease of 6.1 percent in 1997 that influenced a drop of 26.5 percent of aggregate demand. As a result, inflation rate rose to 5.3 percent whereas employment rate dropped by 3.4 percent. It was even more drastic when the foreign

exchange rate dropped by 40 percent and the construction sector also dropped by 24.5 percent in 1998 (Bank Negara Malaysia Annual Report, 1998).

However, due to the government's relentless effort to improve the economic situation, the GDP grew by about 5 percent in 2001.

More specifically, the government has taken steps to regulate the formal measures either financially or fiscally by establishing the National Economic Action Council (NEAC) in 1999 to propose plans in improving the economy institutionally. Steps taken by NEAC including the proposal to stabilize the value of the Ringgit Malaysia (RM), to reestablish confidence of the market, to stabilize the financial of the market, to strengthening the fundamentals of economy, to continue the socio-economic and equinity agenda and to improve the weakened sectors within the economy.

By doing so, the NEAC has taken radical approaches such as to improve the credit control in the foreign exchange in order to stabilize the ringgit. In addition, the Central Bank has imposed control on foreign capital to restrict the outflow. Moreover, the Central Bank has injected about RM34 billion into the banking sector in order to improve the low interest rate in 1997.

In 1998, the government established `Danaharta', the Asset Management Fund Agency, to take over non-performing loans from the banking system. At the same time, the capital of management fund agency was set up to inject funds into the banking system. Apart from these measures, the Corporate Debt Restructuring Committee (CDRC) was set up to restructure the banking system.

The government took steps to improve the property slump in the property sector by establishing the National Property Information Centre (NAPIC) to provide up-to-date and accurate information on property. Among its purposes, the NAPIC was established to avoid the occurrences of oversupply in the property market.

Therefore, the economic measures such as fiscal and legal exemptions, incentives and restrictions also affect land development and property investment decisions. In early 1984, for example, a restriction on foreign land ownership was imposed on the National Land Code (1965) due to an influx of overseas purchasers in certain urban areas (The Star Metro, 16 August, 2002). The restriction was imposed on certain types of property and a levy was chargeable for certain residential property. However, the restrictions were repealed in 1987 during the recession and, were amended again in 1991 when the economy recovered.

Due to the financial crisis in mid-1997, the levies on residential properties were lifted again to boost the confidence of foreign and local investors in the property market (Property Market Report, 1998).

Similarly, as observed in the period from 1991 to mid-1997, the lending regulations have played an important role in pushing up the cost of borrowing for land developers and property borrowers. The aim was to restrict land development activities and to avoid an oversupply of properties in the market.

The control on credit facilities and financial crisis were responsible for the slowing down of construction activities since mid-1997 (Property Market Report, 1998). The government reviewed the existing financial and legal conditions imposed on land developers and provided incentives to improve the property sector despite the economic recession (Property Market Report, 1999).

As a result, these measures indicated positive signs of economic growth and a recovery of the property sectors in 2000. This highlights the relationship between economic indicators and real estate development activities.

1.2 Problem Statement

It seems obvious that researches concerning real estates in this country are scarcely done by individuals, except those done by government departments, such as JPPH, NAPIC and departments of Real Estate Management in local universities.

In this study, therefore the investigation focused on market research on profitoriented companies that is, developers and Real Estate agents. These companies often overlook the effect and the consequences of the whole market economy on the real estate market. There is also a lack of detailed analysis of the situation in the annual reports from Bank Negara (Annual Report) or JPPH (Property Market Report). Thus this research was undertaken to provide a more detailed analysis of the situation in the report from government departments.

1.3 Research Objective

The following are the objectives of this study

- 1. to establish the relationship between macro economy and real estate market and to understand how several factors mutually influenced these two sectors
- 2. to determine the macroeconomic variables that will most influence the commercial property market
- 3. to create an "ideal" model by combining several macroeconomic factors which determined commercial property transaction

1.4 Scope Of Study

In order to achieve the research objectives, this study focused on providing in-depth understanding of the property market situation. The scope of the study is as follows:

- 1. the research focused on recognizing the factors that will most affect the real estate market in Malaysia. This is done by combining several macroeconomic variables.
- 2. several macroeconomic variables from 1997-2003 (7 years) were determined and examined.
- 3. data used in this study were mainly those collected in Malaysia in the period from 1997 through to 2003.

1.5 The Importance of Study

The aim of the study was to reinforce the market study of the real estate market, which is seldom done by the Malaysian government. Therefore, findings from this research would give a better understanding of the current real estate market situation.

Newspaper journalists, real estate agents and developers do conduct their own market research on real estate and the economy and their relationship with the macroeconomic performance. However, insufficient and undefined data variables and research without the use of appropriate tools such as hedonic and regression models might have rendered their research findings inconclusive. In addition, these studies depended mostly on researches in or findings from developed countries. Since the situation in each county varies, too much dependence on these findings will not assist us in evaluating or observing our own situation and environment.

This study also aimed to assist developers, investors and purchasers in predicting the most appropriate time to enter the real estate market. Macro economic situation plays an important role in real estate marketing strategies. Any changes in macro economic situation will result in a significant effect on real estate performance.

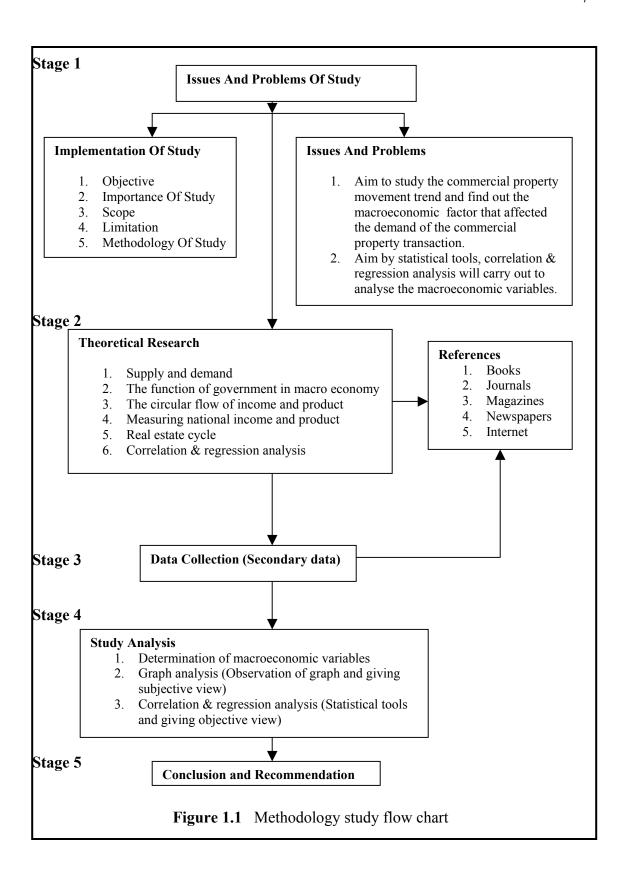
It is hoped that findings from this study will increase the awareness among Malaysians of the factors that affect Malaysia's real estate scenario. Since the purchase of real estate has been the largest form of investment/expenditure from most Malaysians, it is hoped that this study would provide a detailed source of reference for their decisions on real estate investments/expenditure.

1.5 Methodology

This study involved analysis of secondary data on several macro economic variables such as mortgage interest rate, gross domestic products, population size, income per capita, average property price and average age of population and other variables.

Data for the research were mostly obtained from the internet, property market report, data published by the Ministry of Finance, Department of Statistics Malaysia, Bank Negara, newspaper archives, journals, book and other sources.

Data were collected, compiled and analysed. Correlation and regression models (non-linear models) were used to analyse the data. Conclusions and summary of the factors that affect the commercial property transaction were drawn from the findings and generated equations.



1.7 The Limitation Of Study

The limitations of the study are as follows

- 1. selection of the most influential macro economic variables on the real estate situation had to be done to reduce the difficulty level of the research
- 2. various types of properties (besides commercial property) were not discussed in this study, such as residential, industrial, land and others were considered as "other properties"
- 3. since the supply is determined by developers, only the demand for property was analysed
- 4. data for this research was limited to those from 1997-2003 only. It is recommended that to obtain a more comprehensive overview of the situation data from 1957 should be analysed.

1.8 Assumption

The assumptions of the study included the following

- 1. All data acquired from secondary resources were considered true.
- 2. The variables excluded in this study were considered unimportant and thus have no effect upon the real estate market.
- 3. Malaysia was considered as a whole body of research, that is, no subdividing into different states was done for this study.

1.9 Outline Of Report

Chapter one (1) describes the Problem Statement, Research Objective, Scope of study, limitation of study and assumptions of study. Literature review in chapter two (2)describes the macro economy, and also real estate cycle. Commercial property transaction trend and analysis of factor influencing transaction in chapter three (3) provides the data for analyses. For a subjective view, factors that influence the movement of the commercial property transaction is determined. Analysis in determination of macro economic factors known as in chapter four (4) discusses the macro economic factors that influence the commercial property transaction by applying the Correlation and Regression analysis. Then, the equation was generated when the relation between number of commercial property transacted and the macro economy variables was made. Finally, the model used to forecast the number of commercial property transaction between years 2004 to 2006 was created. Finally, conclusion and recommendation in chapter five (5) provides an overall summary of this research and some recommendations.

.

REFERENCES

- Adair, A., et.al. (1995). "Property Investment In Peripheral Regions." *Journal of Property Finance*, **6 (2)**. 43-55.
- Chow, G. (1999). "Optimal Portfolios in Good Times and Bad." *Financial Analysts Journal*.
- Pong, Y.W. (2000). "Kesan Penyelidikan Pasaran Kepada Kejayaan Jualan Bagi Produk Perumahan." Universiti Teknologi Malaysia: Master Thesis.
- Abdul Hamid bin Hj. Mar Iman (1998). "Macroeconomics Analyses of Real Estate." 1st Edition. Universiti Teknologi Malaysia: Jabatan Pengurusan Harta Tanah.
- Abdul Hamid bin Hj. Mar Iman (2002). "Kaedah Penyelidikan untuk Pelajar Harta Tanah" 3rd Edition. Universiti Teknologi Malaysia: Jabatan Pengurusan Harta Tanah.
- Abdul Hamid bin Hj. Mar Iman (2002). "An Introduction to Property Marketing." 1st Edition. Universiti Teknologi Malaysia: Jabatan Pengurusan Harta Tanah.
- Dolan, E.G. (1992). "Basic Economics." Second Edition. USA: The Dryden Press.
- Hutchinson, N.E. (1994). "Housing as an Investment? A Comparison of Returns from Housing with Other Type of Investment." *Journal of Property Finance*, **5 (2)**.

Loo, C.B. (2002). "Pemeliharaan Bangunan Warisan, Kajian Kes: Bandaraya George Town, Pulau Pinang." Universiti Teknologi Malaysia: Master Thesis.

Montes, M. F. (1998). "The Currency Crisis in Southeast Asia." Institute of Southeast Asian Studies.

NAPIC (1997). Property Market Report 1997. Bangi: Penerbitan NAPIC.

NAPIC (1998). Property Market Report 1998. Bangi: Penerbitan NAPIC.

NAPIC (1999). Property Market Report 1999. Bangi: Penerbitan NAPIC.

NAPIC (2000). Property Market Report 2000. Bangi: Penerbitan NAPIC.

NAPIC (2001). Property Market Report 2001. Bangi: Penerbitan NAPIC.

NAPIC (2002). Property Market Report 2002. Bangi: Penerbitan NAPIC.

NAPIC (2003). Property Market Report 2003. Bangi: Penerbitan NAPIC.

Oxford University (1978). "The Oxford English Dictionary." Oxford University Press.

Mohd Salleh Abu and Zaidatun Tasir Salleh (2001). "Analisis Data Berkomputer SPSS 10.0 for Windows." 1st Edition. Kuala Lumpur: Venton.

Wahyu Kurniawan Bayangkara (1999). "Shopping Center Trade Area Analysis In The Jakarta Central Business District." Universiti Teknologi Malaysia: Master Thesis.

Zahari bin Yusoff and Nasir bin Daud. (2001). "House Price: Evidences from a Malaysia Case Study." National Institute of Valuation Malaysia (INSPEN).