



الجامعة الإسلامية العالمية ماليزيا  
INTERNATIONAL ISLAMIC UNIVERSITY MALAYSIA  
بِوَسِيْلَتِي اِسْلَامٌ اَنْبَارٌ اِيْجَسِبُ اَمْلِيْنَ

HOUSING PROPERTY MARKET AND ECONOMIC  
CYCLE IN MALAYSIA:  
Implication for House Pricing and Investment Decisions

WANG LEONG SENG  
(G 9814021)

MBA PROJECT PAPER

Submitted to the Management Center  
International Islamic University Malaysia

In Partial Fulfillment of the Requirements  
for the degree of Master of Business Administration

June 2001

## **ABSTRACT**

This paper aims to examine and determine the relationship between the general economic cycle and the housing property market cycles in Malaysia. The understanding of this relationship will help in pricing the residential property and will also facilitate in investment decision in various growth states and the various types of residential properties. This relationship will also facilitate in forecasting future housing prices. The study found that, in general, economic indices have a very close relationship with the housing market. In terms of forecasting, the study has concluded that one year lagged economic indices provide good prediction of house prices. With these findings, this paper may help to convince investors and house buyers that market volatility is predictable to certain extent and hence house price movement may be detected in advance.

**APPROVAL**

**CANDIDATE'S NAME :**

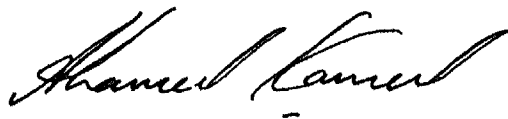
WANG LEONG SENG (G 9814021)

**TITLE OF PROJECT PAPER :**

**HOUSING PROPERTY MARKET AND ECONOMIC  
CYCLE IN MALAYSIA:  
Implication for House Pricing and Investment Decisions**

The undersigned certifies that the above candidate has fulfilled the conditions of the project paper prepared in partial fulfillment of the requirement for the degree of Master of Business Administration (MBA)

Supervisor,



---

DR. AHAMED KAMEEL MYDIN MEERA

Date: 28 June 2001

## **ACKNOWLEDGEMENT**

First and foremost, I would like to take this precious opportunity to extend my sincere appreciation and gratitude to my supervisor, Dr. Ahamed Kameel Mydin Meera for his inspiring guidance, invaluable advice, great understanding and considerations and intellectual suggestions throughout the preparation and finally completion of this paper.

My most cordial thanks also goes to all the other lecturers from the Management Center for their constructive comments, lively encouragement and guidance in preparing the framework of this paper. My deepest appreciation to my course-mates, friends for their constant encouragement and moral support.

Lastly, I would like to express my utmost gratitude to my beloved family, especially to my wife, Tet Wan, for her continuous moral support and understanding throughout the two and a half years of MBA programme in IIUM and also for looking after our baby boy, Hong Jing.

Wang Leong Seng

June 2001

# TABLE OF CONTENTS

	Pages
<b>List Of Tables</b>	
<b>List of Figures</b>	
<b>1.0 INTRODUCTION</b>	<b>1</b>
1.1 The period of 1989-1997	1
1.2 Regional Economic Crisis	4
<b>2.0 BACKGROUND OF STUDY AND LITERATURE REVIEW</b>	<b>5</b>
2.1 Objective and Scope	5
2.2 Literature Review	6
<b>3.0 AN OVERVIEW OF HOUSING MARKET</b>	<b>9</b>
3.1 Characteristics of Housing Market	9
3.2 Fluctuation in Housing Market	12
3.3 Malaysian Housing Market Cycles	15
3.3.1 The Actual Price Trend	15
3.3.2 Malaysia House Price Index (MHPI) and Notable Events (1988-2000)	18
3.3.3 The Government Role During Economic Crisis	23
<b>4.0 EMPIRICAL STUDY</b>	<b>26</b>
4.1 Methodology	26
4.2 Variables and Indicators	29
4.3 Data Collection	33
4.4 Result and Interpretations	34
4.4.1 Part I: Trend Analysis	34
4.4.2 Part II: Regression Analysis	40

## TABLE OF CONTENTS

	Pages
A. Multi Regression Analysis	40
B. Stepwise Regression Analysis	43
4.4.3 Part III: Forecasting Model	58
5.0 CONCLUSION	75
6.0 REFERENCES	
7.0 APPENDICES	
Appendix A-1 :	Various House Price Index By Different Locations
Appendix A-2 :	Various House Price Index By Different House Types
Appendix B-1 :	Per Capita Income Index (PCII)
Appendix B-2 :	Money Supply (M1)
Appendix B-3 :	Loan To Broad Property Sectors
Appendix B-4 :	Average Rental Rate for Single & Double Storey Houses at Selected Growth Locations
Appendix B-5 :	Average Yearly Kuala Lumpur Composite Index
Appendix B-6 :	Base Landing Rate of Commercial Bank (BLR)
Appendix B-7 :	Gross Domestic Product
Appendix C :	Output of Multiple Regression Analysis for MHPI versus Current Independent Variables
Appendix D :	Output of Stepwise Regression Analysis for Various House Price Indices versus Current Independent Variables
Appendix E :	Output of Stepwise Regression Analysis for Various House Price Indices versus Lagged Independent Variables

## **List of Tables**

	<b>Pages</b>
Table 1: Gross Domestic Product Growth Rate (1980 – 1997)	2
Table 2: Economic Sector as Percentage of GDP (1980 – 1997)	3
Table 3: Volume and Value of Transaction by Sectors (1992 – 1997)	3
Table 4: Key Economic Indicators of Malaysia (1990 – 1997)	4
Table 5: The Malaysian House Price Index	23
Table 6: Matrix of Correlation Among MHPI and Four Different Locations HPI	37
Table 7: Matrix of Correlation Among MHPI and Four Different Types HPI	37
Table 8: Multiple Regression Analysis Result for MHPI	42
Table 9: Matrix of Correlation Among MHPI and the Predictors	42
Table 10: Stepwise Regression Analysis Summary Result	43
Table 11: Stepwise Regression Forecast Analysis Summary Result	60

## List of Figures

	Pages
Figure 1: Price Trend – Single Storey Terrace Houses (1980-1999)	16
Figure 2: Price Trend – Double Storey Terrace Houses (1980-1999)	17
Figure 3: Trend Analysis – Various House Price Indices (Locations)	38
Figure 4: Trend Analysis – Various House Price Indices (Types)	39
Figure 5: Malaysian House Price Index (Actual v Model)	49
Figure 6: Kuala Lumpur House Price Index (Actual v Model)	50
Figure 7: Selangor House Price Index (Actual v Model)	51
Figure 8: Pulau Pinang House Price Index (Actual v Model)	52
Figure 9: Johor House Price Index (Actual v Model)	53
Figure 10: Terrace House Price Index (Actual v Model)	54
Figure 11: Semi-Detached House Price Index (Actual v Model)	55
Figure 12: Detached House Price Index (Actual v Model)	56
Figure 13: High Rise House Price Index (Actual v Model)	57
Figure 14: Malaysian House Price Index (Actual v Forecast)	66
Figure 15: Kuala Lumpur House Price Index (Actual v Forecast)	67
Figure 16: Selangor House Price Index (Actual v Forecast)	68
Figure 17: Pulau Pinang House Price Index (Actual v Forecast)	69
Figure 18: Johor House Price Index (Actual v Forecast)	70
Figure 19: Terrace House Price Index (Actual v Forecast)	71
Figure 20: Semi-Detached House Price Index (Actual v Forecast)	72
Figure 21: Detached House Price Index (Actual v Forecast)	73
Figure 22: High Rise House Price Index (Actual v Forecast)	74



## 1.0 INTRODUCTION

Coming out from the May 13, 1969 riots, the Malaysian property market recovered and was stable until 1973. During 1973 and 1976, the property sector boomed soon after the global inflation following the rapid increase in petroleum price and a buoyant stock market. Thereafter the property sector was consolidated and stable for the next two years (1976-1978). This was followed by another property boom from 1979 to 1983 due to the relaxation of housing loan eligibility and more liberal lending policy by the banking institution. During the year 1984 to 1987 as the economy was badly affected by the onset of a world recession.

### 1.1 The period of 1989-1997

Over the last decade, before the economic downturn and credit crunch, Malaysia's economic development and performance were principally characterized by high growth. The Gross Domestic Product (GDP) has achieved an average growth rate of 9.2% per annum (Table 1) for the period between 1989 to 1997 as compare to the average growth of 5.4% per annum (Table 1) over the period 1980 to 1988.

For the same period, Malaysian economy has become less dependent on agriculture sector, which has decreased from 23% in 1980 to 11.8% in 1997 (Table 2). On the other hand, property and construction sector has become increasingly significant in term of its contribution to the GDP. Although the

total contribution of this sector was only 4.1% (in 1997) (Table 2), the multiplier effect and the spin off industries it created was tremendous. The growth rate of this sector for the period of 1990-1997 at between 12-13% was matching the high-growth manufacturing sector (13-14%) (Usilappan, 1998).

Statistical evidence has shown that the total value of property transaction is an important part of the economy (Usilappan, 1998). For instant, in year 1997, the total transaction value has reached RM53.12 billion (Table 3), which was, on a comparative basis 21.5% of the GDP. The growth of property transactions was remarkable from 190,939 transactions (RM21.45 billion) in 1992 to 275,328 transactions (RM53.12 billion) by 1997 (Table 3). Looking closer into property sector, it shows that about 62-65% of all transactions were from residential properties which contribute about 40-47% in terms of value. During the same period, the residential property price has experienced an unprecedented growth mainly fueled by the low interest rate, low unemployment rates (Table 4) and the overall steady growth in the economy (Table 1).

Table 1: Gross Domestic Product Growth Rate (1980-1997)

Year	GDP Growth (%)	Year	GDP Growth (%)
1980	7.4	1989	9.1
1981	6.9	1990	9.0
1982	5.9	1991	9.5
1983	6.3	1992	8.9
1984	7.8	1993	9.9
1985	-1.1	1994	9.2
1986	1.2	1995	9.8
1987	5.4	1996	10.0
1988	8.9	1997	7.3
Average	5.4	Average	9.2

Source: Economic Reports

Table 2: Economic Sector as Percentage of GDP

	1980	1990	1991	1992	1993	1994	1995	1996	1997
GDP (RM Billion)	61.33	79.43	86.302	93.072	100.838	109.915	120.272	130.621	140.684
Agriculture (%)	23.0	18.7	17.2	16.0	5.8	14.9	13.9	12.2	11.8
Construction (%)	5.0	26.9	3.8	3.9	4.0	4.1	4.4	4.8	4.1
Manufacturing (%)	20.0	26.9	28.2	29.3	30.1	31.4	33.1	35.5	35.4
Finance, Insurance & Real Estate (%)	8.0	9.8	10.1	10.4	10.6	10.9	10.0	11.7	11.8

Source: Bank Negara Annual Reports

Table 3: Volume and Value of Transactions By Sectors (1992-1997)

		1992	1993	1994	1995	1996	1997
Residential	Unit %	125,279 (65.6)	130,946 (65.5)	140,530 (64.6)	156,913 (62.3)	170,016 (62.8)	175,682 (63.8)
	Value* %	10.19 (47.5%)	10.79 (45.7)	12.65 (42.5)	15.81 (39.7)	18.75 (38.3)	21.61 (40.7)
Commercial	Unit %	14,858 (7.8)	15,993 (8.0)	19,797 (9.1)	21,804 (8.7)	20,489 (7.6)	21,801 (7.9)
	Value* %	3.88 (18.1)	4.64 (19.7)	6.49 (21.9)	6.86 (17.2)	7.05 (14.4)	8.73 (16.4)
Industrial	Unit %	4,752 (2.5)	6,299 (3.2)	7,220 (3.3)	10,248 (4.1)	9,271 (3.4)	9,426 (3.4)
	Value* %	2.20 (10.3)	2.78 (11.8)	3.30 (11.1)	4.5 (11.3)	7.12 (14.5)	6.32 (11.9)
Agriculture	Unit %	39,242 (20.6)	40,587 (20.3)	41,845 (19.2)	49,764 (19.8)	52,338 (19.3)	51,402 (18.7)
	Value* %	3.07 (14.3)	3.41 (14.4)	3.61 (12.1)	5.35 (13.4)	6.30 (12.9)	6.08 (11.5)
Others	Unit %	6,808 (3.5)	5,992 (3.0)	8,154 (3.7)	13,162 (5.2)	18,434 (6.8)	17,017 (6.2)
	Value* %	2.11 (9.8)	1.99 (8.4)	3.68 (12.4)	7.33 (18.4)	9.78 (20.0)	10.38 (19.5)
TOTAL	Unit %	190,939 (100)	199,817 (100)	217,546 (100)	251,891 (100)	270,548 (100)	275,328 (100)
	Value* %	21.45 (100)	23.61 (100)	29.73 (100)	39.85 (100)	48.99 (100)	53.12 (100)

Key: \* in RM Billion

Source: Property Market Reports

Table 4: Key Economic Indicators of Malaysia 1990-1997

	1990	1991	1992	1993	1994	1995	1996	1997
Per Capita National Income Index	100.0	122.3	135.7	146.2	161.5	181.2	200.0	220.8
Inflation Rate (% per annum)	3.1	4.4	4.7	3.6	3.8	3.5	3.6	2.6
Unemployment Rate (5 per annum)	6.0	4.3	3.9	3.0	2.9	2.8	2.8	2.5
Base Lending Rate	7.50	9.00	9.50	8.50	6.76	8.2	9.25	10.4

Source: Property Market Reports & Bank Negara Annual Report

## 1.2 Regional Economic Crisis

During the year 1997 and 1998, the sentiment in the broad property market has become tentative following the currency and stock market crisis besetting the country. The attack on Ringgit and its subsequent loss in terms of exchange rates against the major currencies of the world has been followed by the crash of the stock market and the Kuala Lumpur Composite Index has dropped from a high of 1300 to a low of 320 points (Mahathir, 2000). These have sent great signals to the property market. For the whole year of 1997, although the property market was generally active, the appreciation of volume and value of transaction was marginal (Property Market Report, 1997). Towards the end of 1997 and the first quarter of 1998 the volume and value of property transaction has actually decreased (Property Market Report, 1998). Property prices have started to fall during this period. However due to the time lag factor in property market, the actual effect of the crisis was only seen during the end of 1998.

It is against the above economic background of Malaysian economy and residential property cycle, this paper will be based on for discussion. The

relationship between the residential property price and the economic well being shall be explored and analyzed.

## **2.0 BACKGROUND OF STUDY & LITERATURE REVIEW**

### **2.1 Objective and Scope**

The objectives of this paper are to examine and determine the relationship between the economic cycles with the housing market cycles in Malaysia for the purpose of helping in pricing residential property and to facilitate investment decision for various growth states and types of residential properties. The scope of study shall be for the eleven years period beginning 1988 and ended 1999.

The paper shall be divided into three main sections. The first section analyse the nature of housing property market. The second section gives an overview of the trend of residential property market and investigates its linkage to the Malaysian economy, financial cycles and the role of government in this sector. The third section analyse the empirical evidence of such relationship by using statistical methods to compare the time variation of the various economic and financial indices with the housing price indices and subsequently to develop forecasting statistical models to help in achieving the aforesaid objectives.

## **2.2 Literature Review**

A review of previous literature shows various types of relationship between the housing market cycle and the macroeconomic factors and the business cycles. Ang (1998), examined private house prices of Singapore and their relationship with several macro-economic factors. She has concluded that the increase of income has increased the demand and subsequently the private house price. On the other hand, housing loan interest rate has a negative relationship with the house price. The increase of interest rate will increase the cost of purchase price and opportunity cost and therefore reduce the demand. The price will slide down in such situation.

On the contrary, another study conducted by Phang (1997) using regression models has concluded that interest rates, income growth rates and the supply of housing have not not played a statistically significant role in the determination of private housing prices in Singapore between 1975 and 1994. Instead, he found that private housing prices in Singapore were highly correlated with the prices for public-sector-build housing. Moreover, the timing of government policies relating to the use of compulsory saving for private housing finance purposes, the liberalization of rules on public housing ownership criterion as well as for housing finance had a significant impact on private housing prices.

Capozza (1996) has reported a study done by the University of Michigan Business School who has developed a model for predicting long term housing

appreciation rates. In the study, a two step technique was adopted. The first step explains the observed rent-to-price ratios using economic variables such as income, construction costs, and property taxes; demographic variables such as population and population growth; and building characteristics such as property and number of rooms. The second step, which is used to make predictions about long-run housing appreciation rates in a metro area, contains three factors, namely growth rate in income during last decade, and rent-to-price ratios. The model has offer a promising result in predicting differences in appreciation rates with remarkable prescience.

Drake (1993) has in his econometric analysis on United Kingdom house prices, concluded that in the long term, real personal disposable income is the driving force behind fluctuations in UK house prices with private sector housing starts (PSUS) and building society average mortgage rates having more modest influence. In the short term however, it is the lagged changes in both PSUS and UK house price index that drive short-term fluctuations in UK house prices. Spiers (1994) has reported that house prices inflation is related to population and the difference in location in several cities in United State of America. Geraint (1991) using cointegration techniques, estimated the movement of average house prices in the Isle of Man, has concluded that population growth is important determinant of house prices in the Isle of Man than larger economies.

Wheeler et. al. (1993) has studied the relationship between macroeconomic activity and US residential expenditure over the period of 1959 to 1991. They have concluded that macroeconomic variables are relatively unimportant in the determination of residential expenditure in the period following the extensive financial deregulation in the early 1980s. Sacramento et. al. (1998) examines the effect of sustained property tax delinquency on the sales price of houses. The results show a decrease in sales price is associated with increase in the tax delinquency rate.

Clayton (1996) has examined the real estate investment risk and its implication for real estate valuation. Using vector autoregressive forecast model, the paper has concluded that real estate return is partly predictable and is strongly related to general economic conditions.



### 3.0 AN OVERVIEW OF HOUSING MARKET

#### 3.1 Characteristics of Housing Market

Housing property can be regarded as a commodity.

*'It is fixed in geographic space, it changes hands infrequently, it is a commodity which we can not do without, and it is a form of stored wealth which is subject to speculative activities in the market... In addition, it has various forms of value to the user and above all it is the point from which the user relates to every other aspect of urban scene'*  
(Orford, 1999)

Housing is a human basic requirement and the most important and peculiar of commodities. Unlike most other commodities, it is a complex package of goods and services that extends well beyond the shelter provided by the dwelling itself. Housing is also a primary determinant of personal security, autonomy, comfort, well being and status, and the ownership of housing itself structures access to other scarce resources, such as occupational, educational, medical, financial and leisure facilities. Housing may also be termed as one of the most long-life of all durable goods (Muth,1989).

Unlike the securities market the housing property and the broad property market is classified as the secondary sector which depend on the primary economy such as the manufacturing and agriculture sectors but it is a

significant contributor towards sustaining the economic growth. Comparatively, in terms of investment, the housing property and the broad property market are considered opposite to the securities market. This is mainly due to the fact that unlike the securities market, the housing property market does not have a central exchange and the information of transaction volume and value are not available to the buyers or investors promptly. In other words property market is considered imperfect. This imperfect characteristic of housing property market is mainly due to the lacking of availability of efficient and reliable source of market information in an organized and timely manner. Any person who intends to invest in residential property would have to rely on certain market indicators which are scattered, obtained through daily news paper, property market reports as well as personal data collection which may not be organized in nature. The imperfection in this market has increased during the booming period over the past decade. This is because despite the improvements of the information technology, the growth in the demand of houses is in tandem with the rapid growth of real income and prosperity of the nation, while the stock or supply of such properties is relatively inelastic.

The above phenomenon is particularly obvious in the growth region like Kuala Lumpur, Selangor, Pulau Pinang and Johor Bahru. During such period, the housing market is actually in a state of disequilibrium which is not only caused by the market factors but further exacerbated by other endogenous and exogenous economic variables as well as regulatory frameworks.

significant contributor towards sustaining the economic growth. Comparatively, in terms of investment, the housing property and the broad property market are considered opposite to the securities market. This is mainly due to the fact that unlike the securities market, the housing property market does not have a central exchange and the information of transaction volume and value are not available to the buyers or investors promptly. In other words property market is considered imperfect. This imperfect characteristic of housing property market is mainly due to the lacking of availability of efficient and reliable source of market information in an organized and timely manner. Any person who intends to invest in residential property would have to rely on certain market indicators which are scattered, obtained through daily news paper, property market reports as well as personal data collection which may not be organized in nature. The imperfection in this market has increased during the booming period over the past decade. This is because despite the improvements of the information technology, the growth in the demand of houses is in tandem with the rapid growth of real income and prosperity of the nation, while the stock or supply of such properties is relatively inelastic.

The above phenomenon is particularly obvious in the growth region like Kuala Lumpur, Selangor, Pulau Pinang and Johor Bahru. During such period, the housing market is actually in a state of disequilibrium which is not only caused by the market factors but further exacerbated by other endogenous and exogenous economic variables as well as regulatory frameworks.

Another characteristic of the housing market is its localized nature and is further divided into terrace, semi detached, detached and high rise properties. Furthermore the market can also be classified in terms of its investment interest such as freeholds or leaseholds as well as physical condition and other legal interest. Due to this fixed, immobile and location based characteristic, the local demand and supply are important factors in determining the price and rental value. This characteristic also leads to the fact that the products are not standardized. The housing market is also an inelastic one, and if more money is chasing for a limited supply the price will go up.

Buying house is a not straight forward process and the transaction cost of housing property or other types of property is high as it involves professional services in sales and purchase agreement, stamp duty, valuation and legal search. The capital commitment for such exercise is also huge as the property price involved is normally large and most probably the greatest investment for an individual or a family. Furthermore the buyer must be able to pay the difference between the purchase price and the mortgage before the housing loan is released to the seller. On the other hand, as mentioned earlier, the reliable market information is not readily available, a prudent investor or house buyer will find himself going through tedious investigation and research on the location, physical as well as legal aspects of the prospective property for the purpose of decision making. Such fact finding and investigation would normally time consuming and involve high cost if consultancy is engaged. Due to the high cost involvement the liquidity of investment in housing

property is low as compared to other types of investment vehicles and therefore speculative activities are less.

House ownership is seen as a hedge against inflation (Lim, 2000). Since independence, one of the salient characteristics of Malaysian economy and the housing sector is the prevalence of price increases. The price of resale houses normally increase when the resale of other type of goods normally decreases in monetary value. This is evident in the price trend in established location in growth areas (Table 1). There are two primary reasons that explain why house price appreciate in value over time. One reason has to do with the fact that real estate has slower rates of depreciation. While other goods depreciate over time and through use, real estate have a longer economic life than most of other goods and therefore enjoying a much slower depreciation. Moreover, since inflation has been higher than of depreciation of real property, resale prices had tended to increase. Housing investment are thus described as an excellent hedge against inflation.

### **3.2 Fluctuation in Housing Market**

There are four types of fluctuations (Mendenhall, 1996)) that normally affect the real estate market and specifically the housing market. They include:

a. Random fluctuations.

These are short-term irregular changes in business activity and are difficult or impossible to forecast because of they have no pattern. As an example, the Highland Tower incident, which caused a temporary setback to the condominium sector, especially those built on hill slopes. Since then however, people's confidence in purchasing such properties has rebounded in the later years. Therefore random fluctuations do not usually affect the underlying conditions of any industry.

b. Seasonal fluctuations

Seasonal fluctuations are regular and reasonably predictable. As an example, popular housing launching periods are in the months immediately following the major festivals and when bonuses and early pay cheques are released.

c. Secular trends

These trends represent the underlying economic conditions that may influence generations. The construction of North-South Highway, which opened up much of the West coast of Peninsular Malaysia and stimulated the additional development, is an example of an investment outlet that is creating a long wave of prosperity. More recent long waves are suburban housing developments and the light rapid transits,

and the accompanying investments. Investment is therefore a stimulant to further spending and is able to create multiplier effects.

d. Business cycles

The business cycle is a fluctuation that affects the entire economy. It is divided into four major phases, namely expansion, recession, contraction and revival. Business cycles are caused by monetary and fiscal policies, interest rates, investment levels and psychological factors such as investor confidence. For instant, interest rates will stimulate or depress business investment. These cycles are less predictable and have more severe impact on housing market than seasonal fluctuations.

Of all the four types of fluctuations, the business cycle posses the most concern to policy makers, economist, entrepreneurs and indeed those in real estate because it disrupts normal economic and development patterns. During the regional economic crisis for example, one of the first sectors to experience the effects of declines in consumer and investor was real estate. Few individuals were keen to commit themselves to long term obligation as they were unsure of their future ability to pay. Housing is also one of the first sectors to be hurt when interest rates started to rise because it heavily relied on long term debt financing. Furthermore, higher interest rates had threatened further

increase in cost of construction for developers as they had borrowed quite heavily for construction.

The most difficult part to read in a business cycle is the length of each phase within the cycle. Hence it is important for investors and developers to remember that at the peak of a cycle when sentiment is bullish, extra caution must be exercised and conservative stance needs to be adopted. On the contrary, towards the bottom-out stage, lower construction cost and purchase price would present the most opportune time to either build or buy.

### **3.3 Malaysian Housing Market Cycles**

#### **3.3.1 The Actual Price Trend**

A review of the actual price trend of single and double storey terrace houses in the growth regions for the pass two decades (Figure 1 and 2) shows a steady upward curve, superimposed on which are a series of booms and busts. During 1980's the price increment was rather gradual but during the 1990's the increment was quit remarkable. Even though the are in the general up trends, a closer examination of these price trends have shown that a cyclical trend did exist. During 1980's the recession period of 1986-1987 has press down effect on these properties' price. Thereafter the price level has recovered together with the recovery of Malaysian economy during late 1980's and early 1990's. During the boom period of