

THE MACROECONOMIC FACTORS AFFECTING  
HOUSING DEMAND IN MALAYSIA

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## DEDICATION

This thesis is dedicated to:

The sake of Allah, my Creator and my Master,

My great teacher and messenger, Mohammed (May Allah bless and grant him),

who taught us the purpose of life,

The great martyrs, the symbol of sacrifice;

My great parents, who never stop giving of themselves in countless ways,

My dearest wife, Emma, who leads me through the valley of darkness with light of hope and support,

My beloved brothers and sisters; who stands by me when things look bleak,

My beloved kids: Dhia, and Hana, whom I always love unconditionally,

To all my family, the symbol of love and giving,

My friends who encourage and support me,

My homeland Kuching, the warmest womb;

All the people in my life who touch my heart, I dedicate this research

In loving memory of my Mak,

Fatimah binti Chee

I do this for you. Wish you were here.

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## ABSTRACT

In 2020, the surplus of houses and serviced apartments reached a record high of 53,171 units, according to the recent NAPIC statistics. Meanwhile, housing transaction volume decreased on average by 20.6% between 2011 and 2015 and 2016 and 2020. This illustrates a pattern whereby there are more supplies than demands. The objectives of this study is to identify the government policies and measures to minimizing housing overhang and measure the relationship between macroeconomic variables and the housing demand. The first objective finds that government policies and initiatives in minimising property overhang can be categorised into financing policies, levy and taxation exemption, affordable housing policies and government housing finance assistance programme. From the second objective, it was identified the trend in the Malaysian housing demand is related to changes in the gross domestic product (GDP), population, inflation rate, house price index (HPI), interest rate and consumer price index (CPI). The housing transaction data (representing the demand) were collected from Valuation and Property Services Department of the Ministry of Finance Malaysia from 1990 to 2020. Third objective achieved by MRA shows that three macroeconomics factors, gross domestic product (GDP), population and interest rate are significantly influencing housing demand from 1990 to 2020. The research results indicates that increasing GDP is necessary to increase housing demand in Malaysia, that interest rates must be carefully managed to match the current economic environment, and that population growth is crucial to a developing economy. According to these findings, the study strongly advises the government that more SME and FDI should be attracted to the country in order to increase job opportunities and disposable income for the populace. By regulating interest rates, BNM is a significant factor in preserving the housing market. In order to reduce the housing overhang, the government has also implemented a number of strategies and policies but to no avail. The finding is useful for speculators, investors, and buyers to understand which factors to consider when making a housing investment decision and serve as a guide for the government in stabilizing Malaysia's housing market.

## ABSTRAK

Pada tahun 2020, rumah dan pangapuri khidmat siap dibina tidak terjual mencatatkan rekod tertinggi iaitu sebanyak 53,171 unit. Manakala jumlah transaksi kediaman menurun secara purata sebanyak 20.6% antara 2011 dan 2015 dan 2016 dan 2020. Ini menggambarkan bahawa berlaku lebih penawaran daripada permintaan perumahan. Objektif kajian ini adalah untuk mengenal pasti dasar kerajaan serta langkah yang telah diambil untuk meminimumkan perumahan tidak terjual dan mengukur hubungkait antara pembolehubah makroekonomi dengan permintaan perumahan. Objektif pertama mendapati bahawa dasar dan inisiatif kerajaan dalam meminimumkan hartanah tidak terjual boleh dikategorikan kepada dasar pembiayaan, pengecualian levi dan cukai, dasar rumah mampu milik dan program bantuan kewangan perumahan kerajaan. Daripada objektif kedua, telah dikenalpasti trend permintaan perumahan Malaysia adalah berkaitan dengan perubahan dalam keluaran dalam negara kasar (KDNK), jumlah penduduk, kadar inflasi, indeks harga rumah (IHR), kadar faedah pinjaman dan indeks harga pengguna (IHP). Data transaksi perumahan (mewakili permintaan) telah dikumpul daripada Jabatan Penilaian dan Perkhidmatan Harta. Objektif ketiga yang dicapai oleh MRA menunjukkan bahawa tiga faktor makroekonomi, iaitu KDNK, jumlah penduduk dan kadar faedah pinjaman mempengaruhi permintaan perumahan dari tahun 1990 hingga 2020. Hasil penyelidikan mendapati, peningkatan KDNK adalah penting untuk meningkatkan permintaan perumahan di Malaysia, kadar faedah mesti diurus dengan teliti agar seiring dengan persekitaran ekonomi semasa, dan pertumbuhan penduduk adalah penting kepada pembangunan ekonomi. Kajian ini menyarankan kepada pihak kerajaan untuk menggalakkan lebih banyak PKS dan FDI di negara ini bagi meningkatkan peluang pekerjaan dan pendapatan boleh belanja penduduk. BNM perlu mengawal selia kadar faedah bersesuaian dengan iklim ekonomi semasa. Jumlah perumahan yang tidak terjual tetap meningkat meskipun pelbagai strategi dan dasar yang telah dilaksanakan oleh pihak kerajaan. Penemuan ini bermanfaat kepada spekulator, pelabur dan pembeli untuk memahami faktor yang perlu dipertimbangkan semasa membuat keputusan pelaburan perumahan dan menjadi panduan kepada kerajaan dalam menstabilkan permintaan perumahan Malaysia.

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## LIST OF ABBREVIATIONS

BNM	-	Bank Negara Malaysia
DOSM	-	Department of Statistics Malaysia
JPPH	-	Jabatan Penilaian dan Perkhidmatan Harta
LHDN/IRB	-	Lembaga Hasil Dalam Negeri
MOF	-	Ministry of Finance
NAPIC	-	National Property Information Centre
PRISM	-	Property Information System
SPSS	-	Statistical Package for the Social Sciences

# CHAPTER 1

## INTRODUCTION

### 1.1 Research Background

Malaysia is experiencing significant property overhang as a result of oversupply versus demand, particularly in prime locations such as Kuala Lumpur, Selangor, and Johor (Chee, 2021). Figure 1.1 depicts the volume of overhang residential and serviced apartments in Malaysia by state for the year 2020.

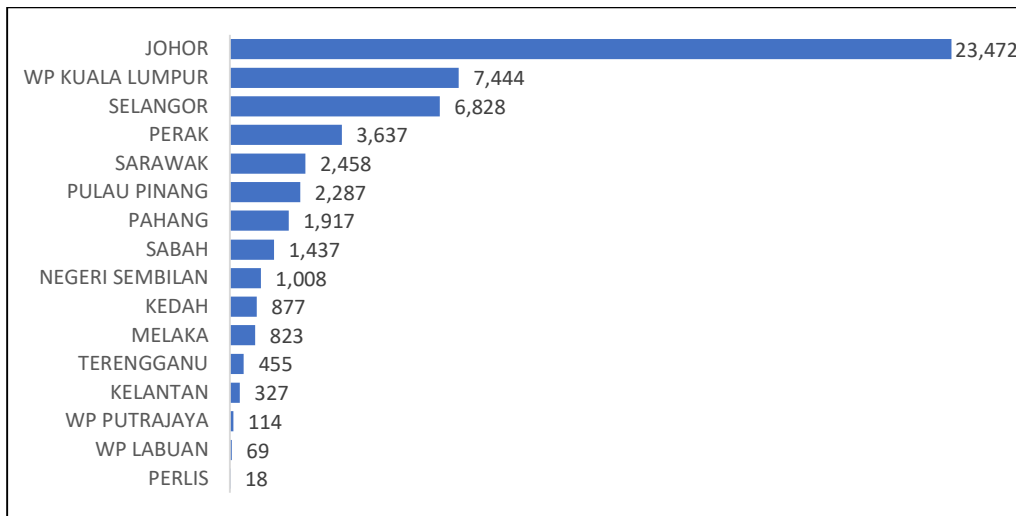


Figure 1.1: Volume of overhang residential and serviced apartment by state 2020

Source: Property Market Status Report 2020, NAPIC.

Contrary to what is generally believed, the overhang is not the result of a brief economic slowdown. Property overhang, in conjunction with other factors such as the house price index (HPI), transaction volume/value, and sales performance, is commonly used as a tracker to determine the state of a housing market. Despite a number of government initiatives throughout the years, the problem of property overhang worsens (Chee, 2021).

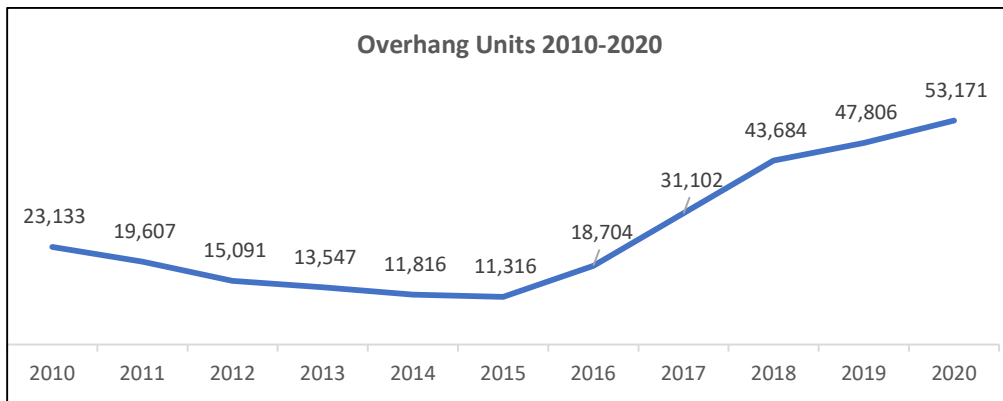


Figure 1.2: Volume of overhang residential and service apartment, 2010 - 2020

Source: Property Market Status Report 2020, NAPIC.

Even though residential property overhang (oversupply of completed houses), which includes both landed and high-rise properties, has been declining for three years in a row – from 32,313 units in 2018 to 30,664 units in 2019 and 29,565 units in 2020 – the situation is in fact worsening if the commercial titled dwelling taken into account. According to the latest NAPIC statistics in 2020, the excess of residential and serviced apartment reached an all-time high of 53,171 units. The situation is exacerbated by the fact that serviced apartment units account for 44% of the total housing overhang (NAPIC, 2021). Figure 1.3 shows the percentage of overhang between residential and service apartment in 2020.

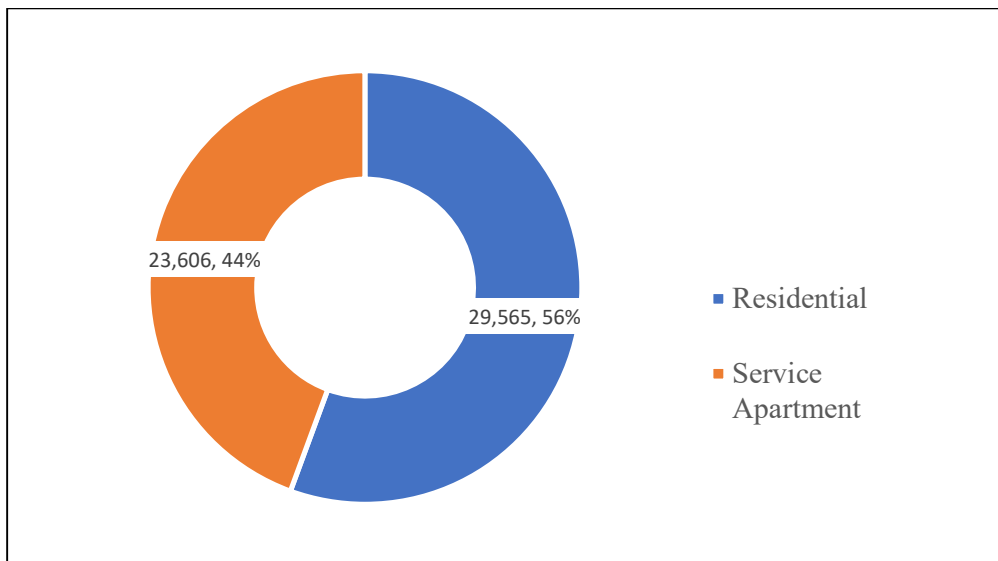


Figure 1.3: Percentage of overhang between residential and service apartment 2020

Source: Property Market Status Report 2020, NAPIC.



Most buyers hold the opinion that it is a result of the development of exorbitantly priced housing that is out of the reach of the average person. This is especially true in Johor state, where the introduction of luxury serviced apartments has gained popularity since 2016. Prices and volume are far above average for the country as a result of the establishment of the Iskandar Region International Zone, which encouraged developers to target foreign customers (Chee Hung. F., 2021). Given the significant number of unsold units currently being built and those that have not yet started construction, Ng (2020) calls the current state of affairs "worrying." The growth of Malaysia's economy could be impacted if the issue is not solved.

“Property market is very important to every country since it guarantees the activity of structures and institutions that are necessary and vital for living and work; also, it makes strong and multiple impact on total economic development of the country” (Golob et al., 2012). The property market is a network of market participants who offer and exchange properties by transferring the right to own and use that property under certain market conditions. A network of communicating vessels connects the property market to the business and social environments. Stagnation in one of the segments, as well as a lack of communication between sectors, have a negative impact on the system's remaining components. The property market, as a recipient of signals generated in the market environment, also generates signals that affect the environment. This results in mutual feedback, and changes in those signals have a strong impact on both the property market and its environment. This process is inextricably linked to time: in every unit of time, several types, and strengths of signals, as well as diverse responses of the property market and its environment, are encountered. As a result of the preceding, the real estate market is an open system capable of exchanging signals with other open systems. It is also a dynamic system, which means its evolution through time may be quantitatively defined (Belej & Cellmer, 2014).

Property market is driving by a number of economic factors, which can be broadly categorised into two categories, namely macroeconomic and microeconomic factors. Ligita et al. (2014) has listed macroeconomic and microeconomic factors influencing property market. Housing credit, labour force, real interest rates, , stock market index purchasing power parity (PPP) per capita, real wage, unemployment, and

population are among the factors affecting the Lithuanian housing market. In Hong Kong, housing prices are determined by physical housing attributes associated with an apartment, such as living area, better view or a larger flat, sea view, higher floor level, other area, lot size, quality, and proximity to a transport station or natural beauty,. Housing prices in China are determined by distance to nearest subway station, floor area ratio, square metres of floor area, complex size in land area, distance to city centre, green space ratio, and other factors.

However, an imbalance in these micro and macroeconomic factors can cause a mismatch in supply and demand, resulting in an oversupply of overpriced property. Malaysian house prices are 4.8 times the average annual income of Malaysian households in 2016. This is higher than the 3.0 house price to income ratio set by Demographia International's multiple median methodologies and recommended by the World Bank. The price increase is having an impact on the housing sector. As a result, property mismatch occurs, resulting in an overhang in affordable housing. (Adzhar et al, 2021).

To resolve the mismatch in housing supply and demand, the government through its agencies, can introduce monetary initiatives and policies. At global level, the increase in property prices have caused the China's currency to depreciate. This has urged the government of China to adopt a rigid credit policy, enhancing the structure of property market, and reinforce the supervisions on local companies to stabilize the China's currency (Liu and Hu, 2016). Bank Negara Malaysia (BNM) is in charge of controlling lending rates in Malaysia. Therefore the BNM is capable of developing and implementing monetary policy in order to stabilise Malaysian housing prices.

Balchin (2013) has underlined a few initiatives taken in United States and in Europe to provide affordable housing accordingly to the demand of respected areas. In the United States, affordable housing is defined as housing with a mortgage or rent cost that does not exceed 30% of household income, excluding moderately or severely insufficient units. Some affordable housing is also subsidized housing, which is created and/or administered by government or non-profit organisations and whose provision and/or operating costs are subsidized (in part, directly or indirectly) by the

government. In general, American housing policy has emphasized changing the income mix within supported housing communities and allowing low-income families to migrate to more affluent neighbourhoods utilising tenant-based housing subsidies. European housing policy, on the other hand, has tended to focus on 'area-based programmes' that aim to enhance the quality of entire neighbourhoods rather than the tiny regions where supported housing is concentrated. Local housing plans in the United Kingdom are an example of this policy, which rely on a larger set of data, place a greater emphasis on implementation and strategy, and take the role of competitive and realistic bidding for central government funds more seriously (Balchin, 2013).

From the discussions above, we can summarise that exploring the role of macro-economic factors is necessary in understanding its effect on housing demand. By using several empirical analysis techniques, this study will offer great benefit to property stakeholders, institutional investors, individual investors, academicians, researchers and the public to know which factors is significant to the movement of housing demand. Furthermore, This paper can be used as a guide for the government to improve Malaysia's housing policy.

## **1.2 Research Problem Statement**

As shown in Table 1.1, we can observe that there is a downward trend in residential transaction which interpreted as demand in Malaysia. Between 2011 and 2015, the number of residential transactions was between 236,402 and 270,246 averaging 255,003 per year. However, in 2016 to 2020 it number of transaction dropped to between 194,535 to 213,154 averaging 202,526 transaction per year, a dropped of 20.6% by average. Malaysia residential and commercial-titled dwelling overhang reached an all-time high of 53,171 units in 2020. (NAPIC, 2020). It has been a major issue for the last six years since the establishment of Johor's Iskandar Development Region in 2016 and shows no signs of subsiding. This reveals a trend of which the number of supplies is increasing while the number of demands is decreasing.

Table 1.1: Housing Market Turnover 2010-2020

Year	Total Transaction	Total Marketable Stock	Transaction Turnover
2010	229,682	5,042,776	4.55
2011	272,705	5,176,398	5.27
2012	275,527	5,366,028	5.13
2013	251,066	5,538,239	4.53
2014	251,265	5,765,475	4.36
2015	239,345	5,820,982	4.11
2016	207,373	5,990,589	3.46
2017	200,586	6,160,645	3.26
2018	201,610	6,330,061	3.18
2019	213,154	6,543,312	3.26
2020	194,535	6,696,197	2.91

Source: Elaboration from Property Market Report 2010-2020, NAPIC.

Macroeconomic variables show the general movement of the nations' economy. Inflation, gross domestic product (GDP), population, and interest rate are examples of macroeconomic factors that affects the supply, demand, and price of housing market. The correlation between various macroeconomic factors is extensively researched in the field of macroeconomics. For instance, Wong and Aralas (2019) noted that GDP growth was the most significant factor on housing price. This is because an increase in income may significantly affect the demand for housing. They also noted that an increase in population size might bring a significant effect on the housing market. An increase in population size will lead to an increase in demand for housing and thus raise housing prices.

Based on literature review, a lot of research has been channelled towards the macroeconomic variables influence to housing prices in Malaysia. For instance, a study conducted by Trofimov (2018) has found that residential property price growth is principally driven by strong demographic performance and population growth and is backed by the low interest rate environment and rising consumer prices. Household income and level of GDP do not appear to contribute to property price growth.

Ong (2013) conducted a similar study to investigate the role of macroeconomic variables such as GDP, interest rate, inflation, labour force, RPGT, and population in influencing Malaysian house prices. Only three macroeconomic variables (GDP, population, and RPGT) were found to be significantly and positively correlated with housing prices. According to Ong (2013), the GDP is linked to macroeconomic activity in the housing market, and changes in the GDP have a significant impact on housing prices. She also mentioned that housing prices are proportional to population. Malaysia's population growth raises housing demand and, as a result, raises housing prices.

As previously discussed, despite numerous past studies on the relationship between macroeconomic factors and housing prices, there is a lack of research investigating the relationship between macroeconomic factors and housing demand. Six macroeconomic factors have been selected to provide a clear picture and better understanding of how to boost housing demand while also serving as a source of information for the government in addressing the housing affordability issue.

### **1.3 Research Question**

1. What are the national initiatives and policies to minimise the property overhang?
2. What are the macroeconomics factors influencing the demand of housing in Malaysia?

### **1.4 Research Objective**

This study aims to identify the macroeconomics factors affecting the demand of housing in Malaysia. The objective of this research are as follows:

1. To identify the national initiatives and policies to minimize property overhang.

2. To identify macroeconomics factors influencing housing demand.
3. To determine the significance of macroeconomic factors in influencing the housing demand in Malaysia.

### **1.5 Scope of Research**

The research focused on listing the monetary policies, government intervention or initiatives, global economic/pandemic crisis impact directly on housing demand situation in Malaysia. This research also focusses on the significant macroeconomics factors related to housing demand in Malaysia. Research on the current housing demand was based on the housing transaction data obtained from VIS JPPH database for the year 1990 to 2020.

### **1.6 Significant of the Research**

The national initiatives to minimize property overhang trend identified in present study will improve the awareness among the stakeholders about the government's efforts in safeguarding the property market. The initiatives and policies that have been set will have an impact on the country's economic development. To identify this impact, several economic indicators or macroeconomic factors will be identified. The macroeconomics factors that significant to the demand of housing in Malaysia identified in present study will provide a reference guide to the government in designing relevant strategies and allocating resources to improve the property market situation in the country-

## **1.7 Overview of Research Methodology**

To achieve the first objective, which is to identify the national initiatives and policies to minimize housing overhang, Ishikawa Diagram will be presented to display the national initiatives and policies to minimize property overhang identified in literature review of secondary data including, journal, technical paper, government reports, government policies and act. For second objective, to identify macroeconomics factors influencing the housing demand, will be achieved via literature review and will serve as input for the third objective.

Objective three, to determine the significance of macroeconomic factors in influencing the housing demand in Malaysia, will be achieved by using multiple regression analysis (MRA) which include collecting transactions data that obtained from National Property Information Centre (NAPIC) (to represent housing demand) and secondary data from Department of Statistics Malaysia reports and other investment analysis portal to analyse the performance of the macroeconomic factors which are inflation rate, population, GDP, interest rate, house price index, and consumer price index. Statistical Package for the Social Sciences (SPSS V25) software will be used to conduct MRA. The analysed data is expected to give an insight of which macroeconomics factor has a significant with the situation of housing demand from 1990 to 2020. Figure 1.4 shows the flow of research methodology in present study.

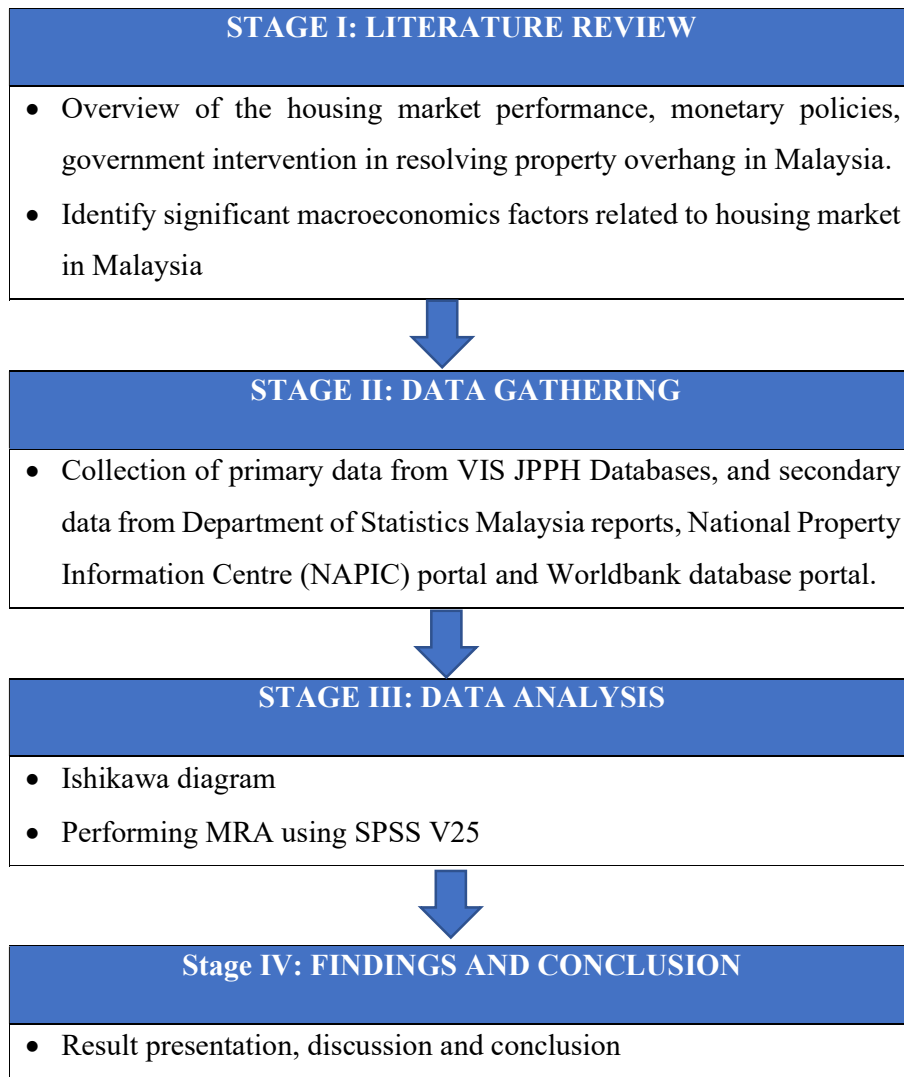


Figure 1.4: Overview of Research Methodology

## 1.8 Organisation of the Chapter

This dissertation consists of six chapters, which are structured as follows:

### (a) Chapter One: Introduction

Chapter one provides an overview of this dissertation which include a background and problem of the study, research questions and objectives, an overview of research methodology as well as the importance of the study.



**(b) Chapter Two: Government Initiatives and Policies in Resolving Property Overhang**

Chapter two provides an overview of the housing market performance, monetary policies, government intervention in resolving property overhang in Malaysia identified in literature review of secondary data including, journal, technical paper, government reports, government policies and act. Ishikawa Diagram will display the summarised the related monetary policies and government intervention.

**(c) Chapter Three: Macroeconomic Factors Affecting Property Market Demand**

Chapter three focuses on the related past research about the macroeconomic factors affecting the property market. It will be necessary to get a fundamental overview of the macroeconomic factors which are inflation rate, population, interest rate, GDP, house price index, and consumer price index and their effect on the housing demand. The identified macroeconomics factors will be testing its significance and effect on housing demand.

**(d) Chapter Four: Research Methodology**

This chapter discusses the research methodology and provides an explanation of the research design. The research hypotheses, data collection procedure and data analysis will be presented in this chapter.

**(e) Chapter Five: Data Analysis and Findings**

Chapter five presents the data analysis and interprets the results of this study. The data analysis techniques selected is multiple regression analysis (MRA). A discussion section was included to discuss the result derived from the statistical analysis.

## **(f) Chapter Six: Conclusion and Recommendations**

The last chapter presents the results of this study. The achievement of objectives, a conclusion, policy implication, as well as the limitations of the study and recommendation of future study are presented.

### **1.9 Summary**

This chapter covered the overview of this study and discussed related information including the research background, problem statement, research questions and research objectives. The organization of the study is also included in this chapter to provide a better understanding of the study's overall structure.

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