Factors Affecting the Price of Housing in Malaysia

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Abstract

The main purpose of this study is to measure the relationship between macroeconomic variables and the housing price. This paper examines empirically whether the increasing trend in the Malaysian housing price is related to changes in the gross domestic product (GDP), population, inflation rate, costs of construction, interest rate and real property gains tax (RPGT). The paper is exploratory in nature. The empirical data were collected from Valuation and Property Services Department of the Ministry of Finance Malaysia from 2001 to 2010. The paper provides empirical results that the gross domestic product (GDP), population and RPGT are the key determinants of housing prices. However, changes in housing prices may not necessarily be influenced by the gross domestic products (GDP), population and RPGT in Malaysia. The general finding of this paper strongly suggests that housing bubbles in the Malaysian residential property market are becoming bigger and stronger. The paper is useful for speculators, investors and buyers to know which factors to account for in housing investment decision. This paper can serve as a guide for the government in stabilizing the residential housing price in Malaysia.

Keywords: housing price, economic variable, GDP, population, inflation rate, cost of construction, interest rate, real property gains tax, Malaysia

JEL Codes: R2, E2, E5, E6
1. Introduction

Malaysia as a developing country has obtained benefits from the development of the housing industry (Jarad, 2010). The Malaysian housing development has continued to fight in spite of various constructions and restrictions (Agus, 1997). The housing industry has been using conventional development methods for many years, because of the increasing demand for better dwellings, the continuous changes in technology, the increase in the construction cost and the tightness of the environmental policies and the concept of innovation, creation and state-of-the-art design, all of which have begun to find their place in the industry (Yusof and Abidin, 2007).

The Government of Malaysia recognizes that housing is a basic need for every citizen. It is also an important component of the urban economy. These have led to the method of policies and programmers aimed at ensuring that all Malaysians have the chance to obtain an appropriate place to stay and other related activities. Housing developments in Malaysia are carried out by both parties, the public sector and the private sector, in terms of low-, medium- and high-cost houses. The Malaysian Government has also established a housing policy that focuses on the involvement of the private sector in housing production and delivery, especially in housing scheme development (Asiah, 1999).

In recent years, rapid economic development has resulted in an increasing demand for residential housing among urban areas in Malaysia. Reviewing the housing prices in Malaysia, the prices have appreciated dramatically whether in major cities or smaller towns and depending on specific location. Over the past ten years, the residential property market in Malaysia has experienced a significant price expansion throughout Malaysia, involving higher rates (Table 1). Most people are wondering such a high annual increases in house prices is totally out of sync with annual income increases in the general population. In fact, most of the people are afraid that they are unable to cope with such a high property prices. So far, even with the housing prices almost hitting the sky, yet the real factors behind the illogical rise are still open to question. Successive governments and policy analysts have identified the lack of adequate and affordable housing as one of the critical problems facing the country. House and land prices are spiraling and even middle class Malaysian are facing difficulties to own a home. Based on the economic theory, house price movements are inherent in the regional demographics and regional economics, such as population, GDP, housing finance, inflation rate, RPGT and cost of construction.

According to the Valuation and Property Services Department (JPPH), the average of all houses’ pricing has continued to increase from year to year from 2000 to 2010. There was an increase of 45% between 2001 and 2010.
As stated in the Seventh Malaysia Plan, Malaysia intended to construct about 800,000 units of housing for the population. In fact, 585,000 units, constituting 73.1 per cent, were planned to be low- and medium-cost houses. Nevertheless, the achievements are somewhat disappointing, with only 20 per cent completed houses reported in spite of numerous incentives and promotions to encourage housing developers to invest in such housing categories (Ismail, 2001).

Moreover, as stated in the Eighth Malaysia Plan, Malaysia will continue to develop affordable and sustainable houses for those with a low and medium income. However, Malaysia is facing a difficult task in accomplishing the target of 600,000–800,000 houses during this period because the conventional building system currently being practised by the construction industry is unable to cope with the huge demand. Therefore, the former system must be replaced by an Industrialized Building System (IBS) that will bring advantages in terms of productivity, indoor quality, durability and cost (Incredible Expanding Mindfuck, 2001).

According to Angie (2009), CIMB research shows that the 5% RPGT “was a shock to us as the Government had suspended RPGT for two and half years from 2007 to give the housing sector a boost and attract foreign purchasers”. The Government encourages citizens to buy or sell houses in the market. Because of that, those who have a higher income or speculators are buying a lot of houses and reselling them. Therefore, the housing prices are increasing year by year. However, the Government reimposed the RPGT on 1 January 2010. Any gain from selling a house within 5 years will be taxed at 5%, so speculators are not encouraged to resell their property within 5 years. However, the result of this strategy is not clear regarding whether it will help influence the housing price to fall. The Government is implementing a number of activities to control the fluctuation of the housing price; however, the effectiveness of those activities implemented by the Government is still open to question. In addition, the housing price can still be influenced by macroeconomic factors, such as the GDP, interest rate, cost of construction, population and inflation rate. These factors can help relevant parties to handle the situation and stabilize the housing prices before the condition become worse. The current situation of the housing environment is reflecting the economic distortion; it is actually not what we call an economic take-off by the real economic growth. Therefore, the property market could result in chaos if it is continuously growing like this.

As a result, this study aims to investigate the factors influencing the housing price in Malaysia. The objectives of the present study are:

--To identify the causes of fluctuation in the housing price from 2001 to 2010;
--To investigate the economic variables that affect the housing price in Malaysia.
2. Housing Price Determinants

The research conducted by Tse (1999) states that the fluctuation in the housing price has significant impacts on the economic conditions of the population and society. Moreover, the demand for housing is increasing in the market. So, the housing price is expected to rise due to the imbalance between buyers and sellers. Therefore, when there are more buyers than sellers, the housing price will increase. This can cause a self-fulfilling speculative price bubble (Levin and Wright, 1997).

2.1 Population

Nowadays, as the population in Malaysia is continuing to increase, people need more houses to live in but the production of housing is slow due to the many laws, regulations and procedures related to the building of houses. The finding by Vermeulen and Van Ommeran (2006) states that “people will move to another area where houses are built, but houses are not necessarily built in the area where people would want to live”. This might be because of job transfers. Normally, people will buy a house in a particular area because they work there or the rental fees are equal to their housing payment per month.

In Malaysia, lack of affordable options to own property forces many Malaysians into the rental market and informal settlements, which is drastically increasing due to population growth and urbanization. In the real economy, perhaps there are a lot more factors that affect housing prices but we cannot deny the facts that one of the significant factors might be growing population.

2.2 Gross Domestic Product

The gross domestic product (GDP) is one of the most popular indicators in macroeconomics used by researchers to represent economic conditions (Maclennan and Pryce, 1996). The GDP is considered a popular indicator because of the relationship between the macroeconomic activity and the housing price (Wheeler and Chowdhury, 1993). The gross domestic product (GDP) is the total market value overall for all final goods and services produced in a country in a particular year. The formula for the GDP is equal to the total consumer, investment and government spending, plus the value of exports minus the value of imports. Base on Hii, Latif and Nasir (1999), fluctuations in the GDP are significantly related to the number of terraced, semi-detached and long houses constructed in Sarawak. According to them, terraces increase when the GDP is growing. Detached housing is found not to have any significant lead relation. That means buyers are not influenced by the GDP when making their buying decision. Conversely, the demand for houses generates housing industry investment and helps the recovery of the GDP growth rate (Qing, 2010). This result is
understandable, because housing investment is part of the GDP. An increase in a part will increase the whole.

2.3 Labour Force

Little research exists on the impact of housing assistance on the labour supply. Two studies (Reingold, 1997; Ong, 1998) examine the impact that the receipt of housing assistance for Aid to Families with Dependent Children (AFDC) recipients has on the tendency of households to work. If a large amount of the labour force is involved in construction, the cost of housing will increase. Besides, construction involving a lot of professional workers with a high level of education, such as engineering, compared with workers who are less educated, will cause the housing price to increase because the cost of building a unit increases. The constructors, without doubt, will charge the cost to the buyers. Therefore, the buyers are forced to buy at a higher price. Building activity is stimulated by higher employment growth (Smith and Tesarek, 1991; Sternlieb and Hughes, 1997). According to Hartzel (1993), there are some disagreements regarding certain regional employment characteristics that play a significant role in investors’ decisions.

2.4 Interest Rate

Bank lending may affect the housing price through various liquidity effects. The housing price is just like the price of any asset. It can be determined by the discounted expected future stream of cash flows. If the financial banks increase the availability of credit, it means that the bank will provide lower lending rates and encourage current and future economic activity. Basically, the better availability of credit will cause the demand for housing to increase when the households are borrowing constrained (Barakova, 2003). The growth in demand will then be reflected in higher housing prices. The relationship between housing prices and household borrowing is two-sided. That is, housing prices may significantly influence household borrowing through various wealth effects. When the housing finance interest rate is low, citizens will be enabled to make some investments, such as buying more houses. The credit cycles have matched the housing price cycles in a number of countries (see e.g. International Monetary Fund, 2000; Bank for International Settlements, 2001).

According to Goodhart and Hofmann (2007), mutually reinforcing boom–bust cycles in housing and credit markets may occur, which enhance the probability of a future financial crisis. However, the two researchers cited suggest that the standards of both house prices and credit from their long-run trends are useful indicators for future investors. Moreover, Goodhart and Hofmann (2007) mention three different ways to influence households’ credit demand through housing wealth. Firstly, households may be facing borrowing constrictions due to the financial market.
imperfections. As a result, if the instructors can offer more securities in the house, households will wish to borrow more; in other words, the households borrow basically according to the capacity of their securities’ net worth. Since the securities value of housing is quite high, an increase in housing wealth opens up the borrowing constraints faced by households. Second, households’ recognized lifetime assets may have a significant influence as a result of changes in housing wealth. An increase in the recognized lifetime assets induces households to spend more today, which will mean smooth consumption over the overall life cycle. Therefore, it will increase the demand for credit. Lastly, the value of bank capital will also have an impact on housing price movements on credit supply. That is, housing estimation increases the value of the dwellings owned by the bank. Besides that, the values of loans are secured by housing loans. Therefore, a fluctuation in the housing price will affect the risk-taking capacity of banks. So, banks are willing to lend more to the public.

In the nutshell, for homeowners, focus on changing interest rates because they have a direct influence on real estate prices. However, interest rates also affect the availability of capital and the demand for investment. These capital flows influence the supply and demand for property and, as a result, they affect property prices.

2.5 Inflation Rate

Zhu (2004) showed the strong and long-lasting link between inflation and housing price. During inflation, most things in the economy will increase their price. However, the cost of the raw material for building a house will increase. According to Kearl (1979), an increase in inflation front loads real payments on a long-term fixed-rate mortgage, and thus reduces the quantity of housing. It must be noted due to the global scenario that increasing money supply causes inflation and house prices to increase.

2.6 Real Property Gains Tax

The effect of the real property gains tax (RPGT) on housing satisfaction is also taken into consideration. The RPGT was suspended in 2007, but the Government’s reimposition of the RPGT in the 2010 budget has caught some by surprise. According to Phun (2010), the RPGT effective from 1 January 2010 means that any gain arising from property disposal within 5 years will be subject to the payment of 5% tax. According to a previous study, Tan (2011) states that the impact of the reimposition of 5% real property gains tax (RPGT) on housing satisfaction is not significant. Therefore, buyers will not take into consideration the 5% RPGT when they want to sell their property within 5 years. It is logical to believe that the 5% RPGT will contribute to lower housing satisfaction among Malaysian homeowners.
Hypotheses developed:

H1: The population in Malaysia has a significant impact on the housing price.
H2: The gross domestic product (GDP) has a significant impact on the housing price in Malaysia.
H3: The interest rate has a significant impact on the housing price in Malaysia.
H4: The labour force has a significant impact on the housing price in Malaysia.
H5: Inflation has a significant impact on the housing price in Malaysia.
H6: The RPGT has a significant impact on the housing price in Malaysia.

Secondary data were obtained from Bursa Malaysia, the Department of Statistics of Malaysia and Datastream. The study sample was identified from a database provided by the Valuation and Property Services Department (JPPH) of the Ministry of Finance Malaysia. This department was established on 1 June 1957. Currently, it has 2,101 members of staff, of whom 260 are professional valuers. The responsibility of the Department has expanded to cover areas of expertise relevant to and related to the real estate industry. The JPPH plays an important role in providing reliable, timely and professional services in the development of the country as an advisor to the Government relating to property and as a consultant to the Government in providing a property consultant service, as well as assisting the Ministry of Finance in the implementation of policies related to property, collecting, publishing and disseminating property information, providing training related to property valuation and carrying out research and development in the field of real estate.

3. Research Variables and Operationalization

This research aims to determine the relationship that exists between macroeconomic variables (GDP, interest rate, inflation, labour force, RPGT and population) and housing prices. The GDP is the total value of goods and services produced within a given period (normally a year) after deducting the cost of goods and services involved in the process of production. Before that, we have to deduct allowances for the consumption of fixed capital as well. The GDP can be considered as valued according to purchasers’ clues.

However, the interest rate is a rate that is an additional charge stemming from borrowing. An interest rate is often expressed as an annual percentage of the principal. The construction cost is expense incurred by a contractor for labour, raw material, equipment, financing from a bank and the services involved in building the house. The labour force is the total number of the people who are employed or seeking a job in Malaysia. The population means the whole number of people in a country. Before performing regression analysis, tolerance and variation inflation factor (VIF) tests, none of these tests detected multi-collinearity among the variables (VIF < 10, 16). Thus, it shows no major problem for regression analysis.

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The regression model can be built as below:

\[ Y = GDP + POP + INT + INF + COC + RPGT + E \]

where

- \( Y \) = Housing Price
- \( GDP \) = Gross Domestic Product
- \( POP \) = Population
- \( INT \) = Interest Rate
- \( INF \) = Inflation
- \( COC \) = Cost of Construction
- \( RPGT \) = Real Property Gains Tax
- \( E \) = Error

4. Result and Discussion

Graph 1 indicates the housing prices in Malaysia from 2001 to 2010. On average, the housing price was around RM139,099 during the year 2000, and increased by around 41 per cent by the year 2010 (RM196,720).

In Table 2, the output contains information that is useful for understanding the descriptive qualities of the data.

The estimated regression equation can be written in a standard format as illustrated below:

\[ Y = -24.191 + 0.172X_1 - 0.004X_2 + 1.937X_3 - 0.004X_4 + 0.002X_5 + 0.002X_6 \]

\[ (-6.438)^* (4.274)^* (-0.675) (7.569)^* (-1.593) (0.653) (3.895)^* \]

\( R^2 = 0.981 \)

\( F \) statistic = 287.093

Figures in parenthesis denote t-statistics

*denotes rejection of the null hypothesis at the 1% level of significance

\( Y = \) housing price
\( X_1 = \ln(\text{GDP}) \)
\( X_2 = \ln(\text{cost of construction}) \)
\( X_3 = \ln(\text{population}) \)
\( X_4 = \text{inflation rate} \)
\( X_5 = \text{interest rate} \)
\( X_6 = \text{RPGT} \)

From Table 3, it is apparent that the gross domestic product (GDP), population and real property gains tax (RPGT) have a significant relationship with the housing price in Malaysia.

The GDP is found to be significantly and positively correlated with the housing price in Malaysia. The increase in the GDP is because of the increase in personal consumption. The result is consistent with research conducted by Qing (2010) showing that housing investment is part of...
the GDP. Therefore, an increase in investment will lead to an increase in the GDP. According to Chioma (2009), there is a causal relationship between the gross domestic product, which can be measured as economic growth, and the consumption expenditure, which grows as a result of the increase in consumption expenditure.

Another finding of this study indicates that the population is significantly and positively correlated with the housing price. This could be due to the fact that when the number of family members increases, they definitely need more houses in which to live. Nowadays, the young generation prefers to work in urban areas, and will buy a house near to the place of work. The demand from citizens will also affect the housing price. When the demand is greater than the supply, it will cause the housing price to increase (Agus, 1997). As we know, building a large number of houses will take a very long time. The constructors might face restrictions on the supply of land in the area, finding a strategy location to build the houses and the type, density and timing of the development (Monk, 1996; Asiah, 1999). Those are the factors that constructors have to take into consideration. For example, there is limited land in Kuala Lumpur and the population is very large. Therefore, they cannot strike a balance between the supply of housing and the demand for housing. The Malaysian housing environment is different from that in some developed countries, as in Malaysia lower-income earners are not provided with social security and they are required to find their own accommodation. Conversely, in the UK, the Government provides housing benefit to those earning a lower income. Therefore, an increase in the population in the UK will not affect the housing price too greatly.

The result also reveals that the RPGT is negatively and significantly associated with the housing price. The finding contradicts the previous study. Normally, when a government increases the tax on certain products, it affects the demand for those products, such as alcohol, foreign cars and so on. This is because citizens have to spend more money to obtain the product and this will create a burden for them. Surprisingly, the Government’s reimposition of the RPGT on 1 January 2010 has not affected the housing price in Malaysia. This is because the 5% RPGT imposed by the Malaysian Government is too little for speculators or high-income citizens. They are willing to pay the additional 5% tax to the Government when they realize the gain from selling a house after deducting all the costs. In addition, they expect the gain from housing price appreciation to be great enough to cover the RPGT and still provide them with an attractive profit.

The finding shows that there is no significant relationship between the interest rate and the housing price. As we know, if everyone is seeking the same thing, buyers or speculators will not care about the interest rate charged by financial banks, as the demand and supply are unbalanced,
particularly during a good economy. This situation is also due to the fact that investors are confident and optimistic about the housing market. From the speculators’ perspective, they might not hold the houses for the long term and they will sell them in the short term. As a result, they might receive the gain more than the cost. From the buyers’ perspective, they are willing to pay more to obtain their desired type of house. Nowadays, constructors try to develop or design a number of houses based on the customer demand, such as a security service, playground and so on. Therefore, it is an undeniable fact that the price of the houses will increase.

5. Conclusion

In this research, 120 samples of data were collected from Bursa Malaysia, the Statistics Department in Malaysia and Datastream. All the macroeconomic variables are on a monthly basis, from 2001 to 2010. The research was conducted to verify the relationship between macroeconomic variables and housing prices in Malaysia. Only three macroeconomic variables (GDP, population and RPGT) were found to be positively and significantly correlated with the housing price. The result is not surprising due to Wheeler and Chowdhury’s (1993) statement that the GDP has a link with the macroeconomic activity in the housing market, and based on the previous researchers Hii, Latif and Nasir (1999), a fluctuation in the GDP has a significant relationship with the housing price.

Besides that, housing prices are related to the population. An increase in the population in Malaysia increases the housing demand and therefore increases the housing price. If there is a greater demand than a supply for housing, it will affect the housing price too. When there are fewer houses in the market, people are willing to spend more money to buy a house. This will cause the housing price to increase. However, those with a lower income cannot afford to buy a house, and are forced to rent a house or stay with their parents after marriage. In the 2010 budget, the Government reimposed the RPGT of 5% for those who sell their house within 5 years after purchasing it. The purpose of reimposing the RPGT is to discourage speculators from selling their house within 5 years. In addition, the Government wants to protect lower-income earners in obtaining their first house.

In future studies, other measurements of the increase in the housing price in Malaysia, such as investment, economy and personal income, can be used. However, in this research, these variables are not included. Also, a limited number of studies have included these three variables simultaneously. In the future, it is hoped that other researchers will pursue the fluctuation in housing prices and those variables mentioned above. Besides, this research does not attempt to link the
housing price to the length of time in which the house was built with the fluctuation; however, this is suggested to be pursued in the future.

Table 1: House Prices and Annual Change from 2000 to 2010

<table>
<thead>
<tr>
<th>Year (Quarter 4)</th>
<th>Index 2000 = 100</th>
<th>Change Over 12 Months (%)</th>
<th>All House Pricing (RM)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>101.9</td>
<td>0.3</td>
<td>141,494</td>
</tr>
<tr>
<td>2002</td>
<td>107.3</td>
<td>5.3</td>
<td>148,201</td>
</tr>
<tr>
<td>2003</td>
<td>111.2</td>
<td>3.7</td>
<td>153,580</td>
</tr>
<tr>
<td>2004</td>
<td>114.0</td>
<td>2.6</td>
<td>157,461</td>
</tr>
<tr>
<td>2005</td>
<td>116.9</td>
<td>2.6</td>
<td>161,500</td>
</tr>
<tr>
<td>2006</td>
<td>122.4</td>
<td>4.8</td>
<td>169,112</td>
</tr>
<tr>
<td>2007</td>
<td>125.9</td>
<td>2.9</td>
<td>174,410</td>
</tr>
<tr>
<td>2008</td>
<td>129.0</td>
<td>2.5</td>
<td>178,632</td>
</tr>
<tr>
<td>2009</td>
<td>136.1</td>
<td>5.6</td>
<td>188,542</td>
</tr>
<tr>
<td>2010</td>
<td>146.9</td>
<td>8.0</td>
<td>203,495</td>
</tr>
</tbody>
</table>

Table 2: Descriptive Analysis

<table>
<thead>
<tr>
<th></th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ln(Housing Price)</td>
<td>11.84</td>
<td>12.23</td>
<td>12.0115</td>
<td>.10445</td>
</tr>
<tr>
<td>ln(GDP)</td>
<td>18.26</td>
<td>19.13</td>
<td>18.7158</td>
<td>.27023</td>
</tr>
<tr>
<td>ln(Cost of Construction)</td>
<td>18.02</td>
<td>20.91</td>
<td>20.2960</td>
<td>.54351</td>
</tr>
<tr>
<td>ln(Population)</td>
<td>16.99</td>
<td>17.12</td>
<td>17.0570</td>
<td>.04052</td>
</tr>
<tr>
<td>Inflation Rate (%)</td>
<td>4</td>
<td>8</td>
<td>6.26</td>
<td>1.203</td>
</tr>
<tr>
<td>Interest Rate (%)</td>
<td>3.2</td>
<td>7.7</td>
<td>5.742</td>
<td>1.0218</td>
</tr>
<tr>
<td>RPGT (%)</td>
<td>0</td>
<td>30</td>
<td>10.50</td>
<td>11.865</td>
</tr>
<tr>
<td>Valid N (120)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 3: Coefficients

<table>
<thead>
<tr>
<th></th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>Collinearity Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std Error</td>
<td>Beta</td>
</tr>
<tr>
<td>(Constant)</td>
<td>-24.191</td>
<td>3.757</td>
<td>-</td>
</tr>
<tr>
<td>ln(GDP)</td>
<td>.172</td>
<td>.040</td>
<td>.446</td>
</tr>
<tr>
<td>ln(Cost of Construction)</td>
<td>-.004</td>
<td>.005</td>
<td>-.019</td>
</tr>
<tr>
<td>ln(Population)</td>
<td>1.937</td>
<td>.256</td>
<td>.752</td>
</tr>
<tr>
<td>Inflation Rate</td>
<td>-.004</td>
<td>.003</td>
<td>-.046</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>.002</td>
<td>.003</td>
<td>.020</td>
</tr>
<tr>
<td>RPGT(%)</td>
<td>.002</td>
<td>.000</td>
<td>.219</td>
</tr>
</tbody>
</table>

Dependent variable: Housing price

Graph 1: Housing Prices in Malaysia from 2001 to 2010
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