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HOUSING PRICE VARIATION ANALYSIS IN MALAYSIAN SCENARIO

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Abstract

Housing price variation has been in top of macroeconomic problems. Factors like unstable and unreasonable pricing, and homeless phenomenon are increasing from year to year. This study will examine the determinants of housing price volatility in Malaysia by taking into consideration of the yearly data of 34 years from 1982 to 2016 by employing descriptive statistics, regression model and correlation method analysis. Housing price acts as a dependent variable, and the findings show that gross domestic product (GDP) has significant relationship and interest rate gives positive correlation with housing price. Contradicting with the result, the inflation rate (INF) and unemployment rate (UNEMPL) are found insignificant in influencing the volatility of housing in Malaysia while, the result for net income per capita (NI) is found as the most significant. The outcome of the study is useful in providing the future research direction towards the variation of housing price in Malaysia.

Keywords: Housing Price, Gross Domestic Product, Interest Rate, Net Income per Capita

1.0 INTRODUCTION

Home equity is among the most important investment and the largest component of household wealth (Silverstein, 2014). The volatility of housing price in Malaysia leads to various impacts towards the country. A research done by Batterham (2012) found that tighter housing markets are associated with higher rates of homelessness. Suhaida, Tawil, Hamzah, Che-Ani, Basri and Yuzainee (2011) proved that the case of homelessness is increasing from year to year in Malaysia, as stated by Kuala Lumpur City Council which indicates that the number of homeless people in Kuala Lumpur has increased by three-fold, from 600 people in 2014 to at least 2000 people as to date. Furthermore, rapid development in Kuala Lumpur and Selangor has also resulted in the drastic increase of housing prices in Malaysia. This situation is parallel with high cost of goods and cost of living but contrast with income per capita which is maintained from year to year. This situation leads to inability of the individual or citizen to buy house because they cannot afford it. From the previous research done, volatility housing price problems are depending on macroeconomic factors such as gross national product, inflation, income, unemployment, interest rate and others. As to date, the percentage of individuals that are able to buy their own house is low compared to previous years due to high cost of living and price of goods, causing people tend to rent the house even though the rental fee is high. Looking at the statistics, housing price in Malaysia has slightly decline from 5.5% to 5.3% from 2016 to 2017. However, the price is still high as compared to other countries that lead to some serious problems such as homeless phenomenon, robbery, and other social problems.

A research done by Lei, Wei, Weiyan and Kun (2010) in Beijing, Shanghai, Guangzhou and Chongqing suggests that gross domestic product data is more elasticity compare to other variable such as average construction cost. This is also supported by Belej and Cellmer (2014), Hoxha and Salaj (2014), Xu and Tang (2014), and Cheng and Fung (2015) which discover the gross domestic product has positive relationship with the housing price. Nyakabawo, Miller, Balcilar, Das and Gupta (2013) has extended the research in United States of America by using Bootstrap Granger (temporal) non-causality test and fixed-size rolling-window estimation approach with quarterly time-series data shows that gross domestic product is influenced by variation of real house price index.

Theoretically, interest rate has inverse relationship with price. Hsin, Chia and Wan (2013) recognized that interest rate has negative relationship on influencing the housing price. However, a research about monetary policy, fiscal policy, and the housing bubble from 2000 to 2010 done by McDonald and Stokes (2015) indicates that the interest rate is significantly influencing the real estate market, thus the effect of interest rate towards house market was attractive enough. More than that, the finding in the research of fundamental economic factors affecting housing prices in Kosovo by Hoxha and Salaj (2014) also indicates that the housing price is depends on the volatility of interest rates. An empirical analysis done by Belej and Cellmer (2014), Ong (2013), and Mallick and Mahalik (2015) found that when the inflation rate decreases, the housing value will react in opposite direction, meaning that even the variable is moving in same direction, it does not influence each other, therefore inflation and income increment rate were not significant in influencing the housing market.

By using cointegration approach and error correction model, Xu and Tang (2014) supported by Ong (2013) and Atasya, Kamal, Hassan and Fattah (2015) discovered that income and money supply has negative relationship with housing price. However, Galati et.al (2011), Xin and Williams (2014), and Nneiji, Brooks and Ward (2013) stated that the real income of households directly reflects the movement of housing price as to their ability to spend and higher the income, the greater the capacity to pay.

An increase in the unemployment rate will affect the demand for housing, therefore it will cause a decrease in housing price as stated by Belej and Cellmer (2014). This is also supported by Lee (2009) which clearly defined the negative movement of unemployment towards housing price. However, both researches done by Xu and Tang (2014) and Grum and Govekar (2016) found positive direction between unemployment rate and housing price.

2.0 METHODOLOGY

Annual data from 1982 to 2016, retrieved from Data Stream and World Bank of Data have been utilized and converted by Ringgit Malaysia (RM), US Dollar and in percentage. This study focuses on longitudinal study by using time series data. Housing price (HP) as dependent variable while gross domestic product (GDP), inflation (INF), net income per capita (NI), unemployment rate (UNEMPL) and interest rate (INT) as independent variables. The variables are illustrated in Figure 1.

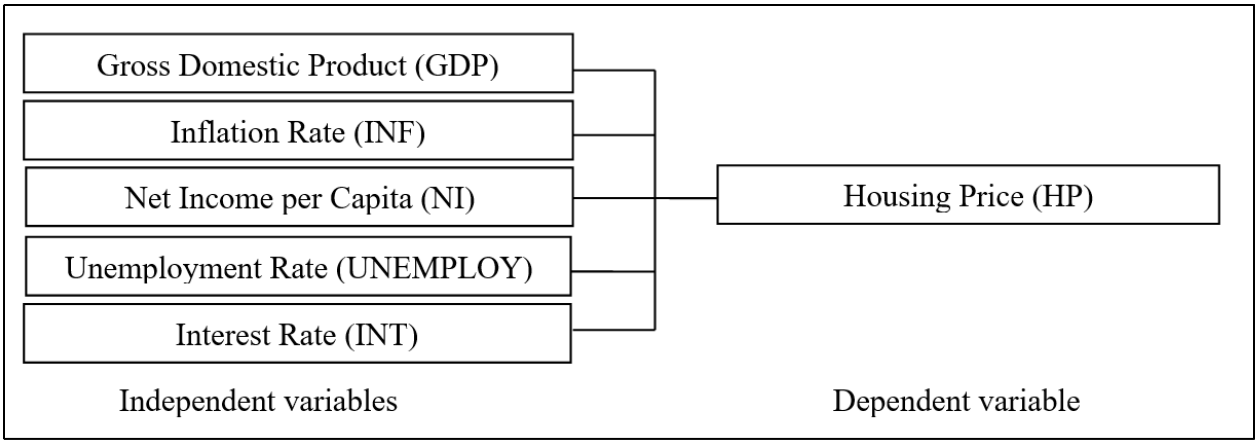

Figure 1. Dependent variable and independent variables

3.0 FINDINGS

This study uses an Ordinary Least Square method to determine the relationship between dependent and independent variables. Previous studies done which resulted in different factors contribute to the variation of housing price. The findings of this study are analysed using descriptive, correlation and regression analyses as following table.

Table 1. Descriptive Analysis

Variables	Mean	Std. deviation	Min	Max
HP	77.82662	36.33909	40.67410	176.0500
GDP	5.799714	3.860361	-7.35900	10.00300
INF	2.706157	1.425248	0.290000	5.818900
NI	0.049374	0.029747	0.018100	0.110000
UNEMPL	3.871429	1.290137	2.400000	7.400000
INT	7.726000	1.699602	5.620000	11.54000

Table 2. Correlation Analysis

Variables	HP	GDP	INF	NI	UNEMPL	INT
HP	1.0000					
GDP	-0.164147	1.0000				
INF	-0.175601	0.175029	1.0000			
NI	0.950456	-0.133127	-0.119639	1.0000		
UNEMPL	-0.465399	-0.046244	-0.325749	-0.521378	1.0000	
INT	-0.555734	-0.159769	0.257774	-0.573072	0.335267	1.0000

Table 3. Regression Analysis

	Original Model (without correction)	Adjusted Model (with correction)
C	27.82036	-11.13779
GDP	-0.303304	0.166277
INF	-1.302102	-0.031483
NI	1144.830	112.3302
UNEMPL	0.274967	0.287964
INT	-0.297779	0.559275
HP (-1)		1.042274
R-SQUARE	0.908188	0.998029
F-STAT	57.37224	2278.905
F-STAT (PROB)	0.000000	0.000000
DURBIN WATSON	0.307428	0.845972

To summarize the Ordinary Least Square (OLS) result, the gross domestic product is found to have positive relationship and significant in influencing the housing price in Malaysia. This is in line with Belej and Cellmer (2014), Hoxha and Salaj (2014), Xu and Tang (2014), Cheng and Fung (2015), Nyakabawo et.al. (2013), and Ong (2013). Therefore, when the gross domestic product increases, the housing price will also increase. Besides, the inflation rate has been found to be insignificant in influencing the housing price. The result is parallel with research that was done by Belej and Cellmer (2014) and Ong (2013) in the scope of different countries. In the other words, either the inflation rate is volatile or not, it does not affect the housing price. In contrast, the result obtained by Mallick and Mahalik (2015) found the significant correlation which is the variable is depending on each other.

In this study, the net income per capita indicates as the most significant variable that influences housing price in Malaysia. It shows that positive relationship does exist between these two variables. Based on previous research, there are several results obtained from Mallick and Mahalik (2015), Xu and Tang (2014), Atasya et.al. (2015), Galatai et.al (2011) and Nneiji et.al. (2013) that shared similar result in stating that the variable can really influence the housing.

The relationship between unemployment rate and housing price is presented as insignificant, meaning that the volatility of housing price in Malaysia is not influenced by unemployment rate. This result is supported by Grum and Govekar (2016), while other researchers that studied about this relationship have found different results.

Lastly, the findings for interest rate is similar with gross domestic product resulted in positive significant towards housing price. The increase of the interest rates will influence the value of houses which means that when the interest rate is high, the developer will transfer the burden of cost towards housing price. This similarity can be seen from previous research done by Hoxha and Salaj (2014), Hsin et.al. (2013) and McDonald and Stokes (2015).

4.0 FINDINGS

Many researches have conducted researches regarding the issue of housing price variation and uncertainty volatility, showing that this matter should be looked in depth and needs to be studied by many parties such as the government and other related agencies or organizations. Even though the house price in Malaysia has recently decreased, the number of citizens who can afford to buy it is still low, due to the increasing in cost of living is not parallel with their income. The government needs to ensure that the price of goods is affordable for the buyers, whereas the developers also must play their roles by offering the acceptable price.

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