



FACULTY OF COMPUTER AND MATHEMATICAL SCIENCE

STA602

APPLIED REGRESSION ANALYSIS

**RESIDENTIAL HOMES SALES PRICE
IN KUALA LUMPUR**

Prepared by

Miftakul Huda Bin Muchamad Imron

2019329007

Muhammad Fitri Bin Salim

2019314589

Norfaizatulah Binti Abdullah

2019314473

Prepared for

Madam Noreha Mohamed Yusof

Date of Submission

26th June 2020

TABLE OF CONTENTS

INTRODUCTION	2
1.1 Background of Study	2
1.2 Theoretical Framework	4
1.3 Problem Statement	4
1.4 Research Objective	5
1.5 Research Hypothesis	5
1.6 Significance of Study	6
1.7 Limitation of Study	7
LITERATURE REVIEW	8
2.1 House Price	8
2.2 The Relationship between Physical Characteristics and House Prices	9
METHODOLOGY	11
3.1 Source of Data	11
3.2 Data Description	11
3.3 Method of Data Analysis	11
3.3.1 Model adequacy checking	11
3.3.2 Transformation	12
3.3.3 Analysis of Variance (ANOVA)	13
3.3.4 Multiple linear regression analysis	14
3.3.5 R square	14
ANALYSIS AND RESULT	15
Part A	15
Part B	17
Model Adequacy Checking for Best Model	19
CONCLUSION AND RECCOMENDATION	22
5.1 Conclusion	22
5.2 Recommendations	22
REFERENCES	23
APPENDICES	24

INTRODUCTION

1.1 Background of Study

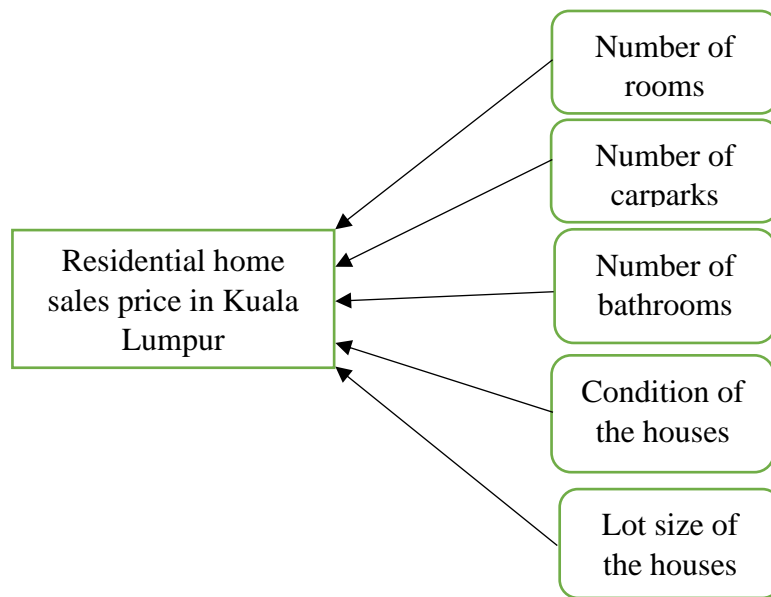
Kuala Lumpur also known as KL is the capital of Malaysia. Over the years, Kuala Lumpur had grown into an important Asian city where it is seen as the center of the country. This is due to the fact that people from various areas within Malaysia come to Kuala Lumpur to find better paying jobs and even do businesses. Nowadays, the city truly is a metropolis with a big central business district with many tall skyscrapers, many international renowned hotels, numerous luxurious shopping malls and other important facilities that can be easily access to. The United Nation had discovered that the population of this city has been increasing each year. Kuala Lumpur is over 243 square kilometers in size and now has an approximate of 1.8 million of people with different backgrounds and families living in its center and is still expected to increase in a few years' time. With this number of populations increasing, housing properties will be in a very high demand in this luxurious city where people will need to find a comfortable home and shelter for their families. In recent years, Tze San Ong (2013) stated that rapid economic development has resulted in an increasing demand for residential housing among urban areas in Malaysia. This is because the demand for housing in Malaysia will increase as there is a positive correlation between housing performance and occupants' productivity in a particular area. Malaysia as a developing country has obtained many benefits from the development of the housing industry (Jarad, 2010).

According to Golubchikov & Badyina (2012), housing the basic social condition that defines the quality of life and welfare of people and places. Where houses are located, how well they are built and designed and how well they are modeled into the environment, social, cultural and economic fabrics of communities are attributes that in a way that affect the daily lives of people, their health, security and well-being. The housing property business helps to fulfil one of peoples' most desire basic need, which is shelter. This is aligned with a statement made by The National Housing Department (2010) that stated a house is a basic need as it is "shelter for all" and the government is looking forward to ensure that all Malaysian are able to own a house or at least rent a house. Variations in climate, weather, criminality, government policy and as well as land availability will influence varies between different locations and areas of shelter (Reed & Sims, 2015). In general, housing properties in Kuala Lumpur are very important in assuring quality of life

for population that will never stop to increase in the city. Due to the high demand for properties, the price of the residential housings in a city such as Kuala Lumpur will also be in an upward trend and occupants must have enough knowledge to determine the possible circumstances that might affect the prices.

The prices of each houses in Kuala Lumpur may vary as different houses have different factors that contributed toward the sales price. Rahadi et al (2015) divide these factors into three main groups which are physical condition, concept and location. V. Limsombunchai (2004) stated that physical conditions are properties possessed by a house that can be observed by human senses, including the size of the house, the number of bedrooms, the availability of a garden, the availability of a kitchen and garage, the area of land and buildings and the age of the house. These housing characteristics may have a relationship with the price of houses in Kuala Lumpur. Other than that, the diversity between the housing types in Malaysia such as bungalows, semi-detached, terraces, apartments, condominiums and so on may also influence the market price due to its sizes and designs. The design of a house is quite crucial as it facilitates comfort and security for those living in it, functioning to protect them from the weather and environmental conditions (Rukiah 2015). Meanwhile, the concept is the ideas offered by developers who can attract potential buyers such as the concept of a minimalist home, healthy and green environment. Location is also an important factor in shaping the price of a house because location determines the prevailing land price (D. X. Zhu 2013). In addition, a good location determines the ease of access to public facilities such as schools, campus, hospitals and health centers, as well as family recreation facilities (S. Kisilevich, D. Keim & L. Rokach, 2013). Therefore, this research paper will examine several factors that might affect the the price of different type of houses in Kuala Lumpur which are the number of bedrooms, the number of bathrooms, the number of carparks, the condition of a house whether it is unfurnished, partly furnished or fully furnished and the lot size of the house in square feet.

1.2 Theoretical Framework



1.3 Problem Statement

In the recent years, Malaysia's economics have grown rapidly and this led to the increase of residential housings demand among big city such as Kuala Lumpur where it is currently conducting highly developing action in economy and living quality of occupants. The increase in population, both migrant and immigrant had pressurizing housing demands in the big city. House demands remain high even though there are the prices of a house continue to increase over the years. This had clearly reflecting the fluctuation between the demand and supply in the housing industry. The demand for housing in an area will increase as there is a positive correlation between housing performance and occupants' productivity, safety, well-being and satisfaction. Therefore, the housing price will continue to increase but the average of the Malaysian household is only RM 3686 which is considered low regarding the increment of house prices in productive cities (Zheng, 2014). This led to majority of citizens in Malaysia to be worried about the increasing of high housing price and is becoming one of the top major problem that is happening in the country. The Malaysia housing price index (HPI) was found to increase yearly where in 1990s, the HPI was around 100 annually, but in 2010, the HPI had increased in a bigger margin to around 275 annually. According to Malaysian Deputy Finance Minister (2011), the Malaysia's average housing price is increasing up to 20% each year after the economic recession in 2007 and most of the citizens are concerned and wondering that such high annual increase in housing price will lead them to face unaffordability to own a house since it is a basic

necessity and can be used for long term investments. For instance, before 2008, people can afford to buy a terrace house in Kuala Lumpur at RM 250,000 to RM 450,000 but after 2008, the price had already increase significantly where in 2012, a terrace house in Kuala Lumpur would cost around RM 500,000 to RM 900,000 (Mariadas et al., 2016). This proves that the housing market price will never stop to increase rapidly compared to the last 10 years and it had become a common problem face by all the citizens of Malaysia. Therefore, it is important to discover the factors that lead to the problem above and the relationship between the factors and the current housing price in Kuala Lumpur must be determined.

1.4 Research Objective

1. To determine whether there is significant relationship between number of rooms, number of carparks, number of bathrooms, condition of the houses and lot size of houses towards residential home sales price in Kuala Lumpur.
2. To identify the factors that significantly influence residential home sales price in Kuala Lumpur.
3. To identify the best model by comparing model performance.

1.5 Research Hypothesis

Research hypothesis 1:

H₀: There is no significant relationship between number of rooms, number of carparks, number of bathrooms, condition of the houses and lot size of houses towards residential home sales price in Kuala Lumpur.

H₁: There is significant relationship between number of rooms, number of carparks, number of bathrooms, condition of the houses and lot size of houses towards residential home sales price in Kuala Lumpur.

1.6 Significance of Study

The finding of this study will redound to the main specification that society need to consider before purchase a house as a basic need and investment. By finding the relationship between house characteristics such as number of rooms, number of carpark, number of bathrooms, the condition of a house and the lot size of a house, the most influence attribute towards the housing price in Kuala Lumpur can be determined. The findings of this study will be a guide for buyers to set their own financial budget related to the houses that suit their preferences. Not only that, the study will also be looked upon as a source of information for the society that is interested in buying a house in Kuala Lumpur where they will have enough knowledge to emphasize the sales price of residential homes. Moreover, house developers will adjust the suitable price for a house while taking account several factors and increase their profits. In addition, the study can be used forecast on what is the price of a house will be based on several physical dwellings so that the society can decide what characteristics they would consider while buying a house while taking measures of the predicted housing price. As for the researcher, this study will help them to uncover the hidden physical characteristics that contribute most towards the residential home sales price in Kuala Lumpur since there is an insignificant number of researches related to it.

1.7 Limitation of Study

There are several limitations and challenges while conducting this research which researchers cannot avoid such as using secondary datasets of residential home sales price in Kuala Lumpur that was obtained from the website. This is because it would take a longer time to complete the study if the researchers decide to obtain the factors and prices of each houses in Kuala Lumpur by themselves since the number of houses in that area is significantly high. Secondly, the researchers only considered on a single population of houses which are in Kuala Lumpur only since the researchers have a limited time of approximately three months and a larger population would affect the researchers' schedule to accomplish the study in a given period. The consideration of having houses from other cities in Malaysia will not clearly justify the research questions that the researchers would want to answer. Next, the secondary dataset that was used in this research may be outdated and the current house price may be different from the dataset since house price always change annually. Not only that, the secondary dataset contains flaws such as missing and incorrect values where the researchers need to clean the data before proceeding with further analysis. The problems in the datasets were treated by removing them and the findings may not generalize the factors that affect the entire house price in Kuala Lumpur. Lastly, due to the serious Coronavirus Disease 2019 (Covid-19) issue around the country today, the researchers will not be able to conduct a face-to-face consultation with their lecturer and therefore, some flaws are expected in completing this research.

LITERATURE REVIEW

2.1 House Price

Housing plays a very important role in life since it acts as an important fix asset and basic need for people around the country. (Mariadas et al., 2016). Cindy Liew and Nuzul Azam (2013) defined a house as a shelter to support a household living and owning a house is a key goal of life which everyone is pursuing with. The authors also stated that house price is the main consideration that should be looked at when making decision to own a home. Michele (2012) stated that, house price is a value for a residential property which get the perfect balance between attracting solid offers and ultimately receiving top money. The ability to own a house is seen as an investment in most part of the world where people tend to spend more than 50% of their productive time in their homes. Nevertheless, according to (Olanrewaju et al., 2018), expenditures on housing is high and for those who buy their houses, the property represents the single most expensive investment they make and for those who rent, the rental is often their highest monthly commitment.

Housing price has become one of the main focuses for the past decade in Malaysia (Mariadas et al., 2016). Chen (2000) stated that people in Malaysia need a total of 8,850,554 houses and therefore another addition of 3,581,643 units were in these ten years. According to Anand (2015), the median range of house prices in Kuala Lumpur was stated to be around RM 490,000 to RM 555,000 where it is nearly 5.4 times compared to other main cities in Malaysia. National house prices as measured by the house price index (HPI) were on an upward trend that was in line with the long-term average annual growth of house prices of 3.2%, together with economic development and national income levels. (BNM, 2010). However, from quarter one 2010 until quarter three 2014, national house prices exceeded the average annual growth with an increase of 9.41 percent each year. Consequently, this outcome was the result of sharp rises in the three largest urban cities in Malaysia which are the Greater Klang Valley, Penang and Johor.

2.2 The Relationship between Physical Characteristics and House Prices

The value of a residential house may vary depending on different aspects and it is very complex and therefore, it requires the analysis of various components of residential housing. There have been numerous past studies that determine the influence of several residential dwelling components on housing prices around the world. A house may comprise of numerous physical attributes, each of which add value to the house or otherwise deduct value from the house. The dwelling attributes of a house that needs to be examined to know the level of influence towards the housing price includes the number of bedrooms, the number of living rooms, the number of bathrooms, the size of both living room and bedrooms, age of the building, the quality of building materials and as well as the available home space in square feet (Musa et al., 2017).

For instance, (Zietz et al., 2008) conducted a study to determine the house prices using a quantile regression approach where they included several factors such as the square footage of a house, the number of bathrooms, number of bedrooms and the age of the house. The results indicated that square footage, number of bedrooms and bathrooms have significant and greater impacts on the increasing house price. Oluseyi (2014) evaluated the factors that might influence the rental value of residential houses in Ibadan Metropolis, Nigeria. A hedonic housing price model was employed as a method to estimate the influence of structural housing components and the attributes of location towards the house price. The researcher established that structural components such as the number of bedrooms, bathrooms and living rooms were to be the most significant towards the housing price. In Saudi Arabia, the number of bedrooms and bathrooms and bedroom size are the major housing attributes that significantly influence house prices. (Opoku & Abdul Muhmin, 2010).

In Kuala Lumpur, Malaysia, Tan (2012) investigated the top housing components preferences of first-time buyers on emphasizing certain characteristics of a dwelling such as the number of bathrooms, bedrooms, living rooms and others. The results indicated that number of bedrooms is the most preferred attribute to consider when purchasing a home. Prior to that, further researchers have been conducted to determine whether the preferred factors have a significant effect on house prices in Malaysia. (Faris, 2014) studied the determinants of house prices in Klang Valley, Malaysia and he categories the explanatory variables into two categories which are structural and location attributes. The structural attributes include the size of floor area in square feet and the number of bedrooms. The author had discovered that the size of

floor area is highly significant and indicating that it has a strong and positive influence on house prices. For every square-foot increase in the floor area, the house prices will increase by an approximate of RM 312.14. Moreover, the number of bedrooms has a positive relationship towards the house prices where the implicit price for one additional bedroom is at an average of RM 23, 968.08. Similarly, another study was done by (Teck-Hong, 2015) entitled “The Impact of Neighborhood Types on the Prices of Residential Properties” in Klang Valley, Malaysia where he included seven variables related to the structural characteristics of dwellings and the built-up area in square feet is one of them. Based on the multiple linear regression approach, it was found that among all the continuous variables, only the build-up area in square feet is statistically significant and has a positive relationship towards the housing price.

(Slone et al., 2014) examined the relationship between residential property asking price and various explanatory variables such as home square footage, lot square footage number of bedrooms, number of bathrooms, year of construction and the number of carparks in Atlanta, Georgia. The researchers developed a multiple linear regression using the method of ordinary least square and it was proved that square footage of a house was the most influential factor in determining asking price. The number of bathrooms and bedrooms exhibited a significant relationship, but carparks capacity and year of construction were insignificant and have the weakest relationships towards the housing price. Moreover, (Lishun, 2019) aims to construct a linear regression to estimate the price value of single houses in Los Angeles county. By using 140 single-family houses as the data, the researcher had successfully developed a multiple regression model by including seven physical attributes that might help to determine the sale price of houses such as internal square feet, lot square feet, number of bedrooms, number of bathrooms, local school quality, median household, income and city population. It was found that the p-values of lot of square feet and number of bathrooms were less than 0.05, therefore both of the variables have a significant relationship towards the housing price. However, the number of bedrooms was considered as an insignificant variable in the model since the p-value is 0.05916 which is slightly greater than 0.05 significance level.

METHODOLOGY

3.1 Source of Data

The data set is secondary data which is obtained from a third party sources. The data set is about residential home sales price in Kuala Lumpur.

3.2 Data Description

Variable	Description
Y	Sales price of residential home in Kuala Lumpur
X ₁	Number of rooms
X ₂	Number of carparks
X ₃	Number of bathrooms
X ₄	Condition of the houses
X ₅	Lot size of the houses

3.3 Method of Data Analysis

3.3.1 Model adequacy checking

- i. Linear relationship between dependent and independent variables

Scatter-plot matrix or partial plots is used in order to determine if there is linear relationship between the dependent and independent variables.

- ii. Normality of error terms

P-P plot of standardized residual is used to examine the points are plotted along the 45 degree line resulting in the normality of error terms.

- iii. Homoscedasticity

To examine if the error variance is constant using the plot of residuals against the fitted values. A sequence of random variables is homoscedastic if all the random variables have the same finite variance. This is also known as homogeneity of variance.

iv. Multicollinearity

To check on the presence of multicollinearity which occurs when the independent variables used in multiple linear regression model are highly correlated. The correlation matrix is used which shows the correlation coefficients of all pairs of data. Any pair of independent variables with a correlation coefficient value greater than 0.8 is said to be highly correlated.

Multicollinearity can also be detected by using variances inflation factor (VIF). If the value of VIF is greater than 10, the multicollinearity exist. Next, the value of tolerance statistics has to be below 0.2 for multicollinearity problem to exist and if the tolerance value is lower than 0.1, a serious multicollinearity problem existed.

v. Presence of outliers

An outlier is a data point that does not fit the general trend of the data but would appear to be well separated from the rest of the data points. The outlying cases needed to be studied in order to decide whether the outliers should be retained or eliminated and if retained, whether their influence should be reduced in the fitting process and/or the regression model should be revised.

3.3.2 Transformation

Simple transformation can be done when nonlinear regression occurs before carrying out the regression analysis. Transformation may be needed as a remedy to help to linearize a curvilinear regression relation. Scatter plot and residual plots based on each transformation has been prepared and analysed to decide the effectiveness of the transformation.

3.3.3 Analysis of Variance (ANOVA)

Analysis of Variance approach (ANOVA) is used to assess the significant of the regression model. The variance will be portioned into 3 different sum of squares. The total sum of squares (SST) measures the variation among the data. The greater the value of SST, the greater the variation among the data will be. The total sum of squares is partitioned into the variation explained by regression model (regression sum of square, SSR) and variation explained the random error (error sum of square, SSE).

$$SST = SSR + SSE$$

Where;

$$SST = S_{yy}$$

$$SSR = \beta_1 S_{xy}$$

$$SSE = SST - SSR$$

Analysis of Variance Table (Multiple Linear Regression)

Source of variation	Sum of squares	degrees of freedom	Mean squares	F
Regression	SSR	1	MSR	MSR/MSE
Error/residual	SSE	n-2	MSE	
Total	SST	n-1		

3.3.4 Multiple linear regression analysis

Multiple linear regression is the extension of the simple linear regression where it involves more than one independent variables in the model. The multiple linear regression model is written as

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon_i$$

Where;

Y_i is the sales prices of residential home in Kuala Lumpur

X_1 is the number of rooms

X_2 is the number of car parks

X_3 is the number of bathrooms

X_4 is the condition of the houses

X_5 is the lot size of the houses

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ are regression coefficients or parameters

$\varepsilon_i \sim ND(0, \sigma^2)$

3.3.5 R square

Generally, the model with higher adjusted and predicted R-squared values. The predicted R-squared is a form of cross-validation and it can also decrease. Cross-validation determines how well the model generalizes to other data sets by portioning this data.

ANALYSIS AND RESULT

Part A

Demographic Profile

The data is obtained from the internet which is a secondary data so there no demographic profile for the data.

Significance of Regression Model

Correlation Analysis

Model	R	R ²	Standard error of the estimate
1	0.532	0.283	810147.795

Table 4.1: Model summary

Correlation of coefficient

Based on the R value which is 0.532, there is a positive relationship between residential home sales price in Kuala Lumpur and number of rooms, number of carparks, number of bathrooms, condition of the houses and lot size of houses.

Correlation of determination

Based on R square value which is 0.283, 28.3% of total variation for residential home sales price in Kuala Lumpur is explained by number of rooms, number of carparks, number of bathrooms, condition of the houses and lot size of houses towards. The other 71.7% is explained by other factors.

Standard error of the estimate

The standard error value is 810147.795 which is quite big indicating that the observations are not close to the fitted line.

Analysis of Variance (ANOVA)

Source of variation	Sum of Squares	df	Mean Square	F	Sig.
Regression	428330701846344	5	841666140369268.8	1282.364	0.000
Error	10681268206137468	16274	656339449805.67		
Total	14889598907983812	16279			

Table 4.2: Analysis of variance

Based on the p-value which is 0.000, the model is significant because p-value is less than the alpha-value which is 0.05.

Coefficients of the variables

Variable	Unstandardized Coefficients		t-test	p-value
	Beta	Std. Error		
(constant)	652843.174	30524.451	21.388	0.000
Rooms	-257208.834	10289.891	-24.996	0.000
Bathrooms	490191.399	8867.396	55.279	0.000
CarParks	128366.46	10526.503	12.195	0.000
Size	114.726	4.613	24.871	0.000
Furnishing	-181590.066	10353.034	-17.540	0.000

Table 4.3: coefficient of the variables

Based on the p-value on table above, p-value of all variables is 0.000 which is less than the alpha which is 0.05. So, there is significant relationship between number of rooms, number of car parks, number of bathrooms, condition of the houses and lot size of houses towards residential home sales price in Kuala Lumpur.

Part B

Best Model

Coefficients		
	B	p-value
Constant (Price)	3.3632	0.000
Rooms	-0.0880	0.000
Bathrooms	0.0860	0.002
CarParks	0.0553	0.033
Size	0.0002	0.000
Furnishing	-0.1672	0.000

Table 4.3: Coefficient values

From the above coefficients value, the best model obtained is

$$Y = 3.3632 - 0.0880X_1 + 0.0860X_2 + 0.0553X_3 + 0.0002X_4 - 1672X_5$$

where

Y is the sales price of residential home in Kuala Lumpur

X_1 is the number of rooms

X_2 is the number of bathrooms

X_3 is the number of car parks

X_4 is the lot size of the houses

X_5 is the condition of the houses

Based on table 4.6, all variables have p-value less than $\alpha = 0.05$ explaining that each variables of the number of rooms, the number of bathrooms, the number of car parks, the lot size of the houses and the condition of the houses are significant towards the sales price of residential home in Kuala Lumpur.

Model Summary	
R	0.7781
R square	0.6055
Adjusted R square	0.5871

Table 4.4: Model summary

Table 4.7 stated that the value of R square is 0.6055 which explains that 60.55% of total variations in sales price of residential home in Kuala Lumpur is explained by the independent variables. The other 39.45% is explained by other factors.

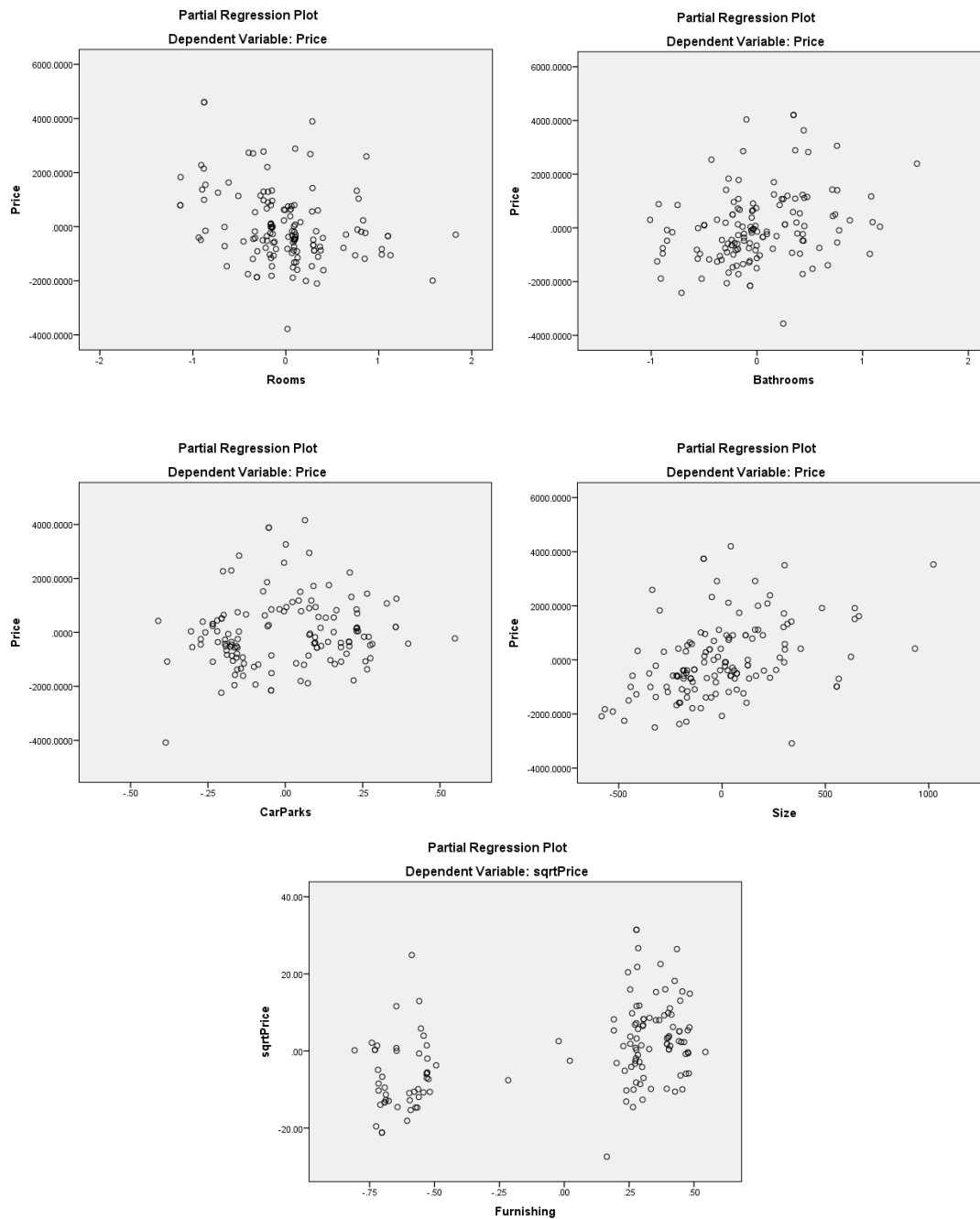
ANOVA					
	Sum of squares	df	Mean squares	F	p-value
Regression	4.2368	6	0.7061	32.9979	0.000
Residual	2.7605	129	0.0214		
Total	6.9972	135			

Table 4.5: Analysis of variance

Based on table 4.8, the significant value of analysis of variance is < 0.001 which indicates that the value is less than $\alpha = 0.05$. Thus, the model is significant.

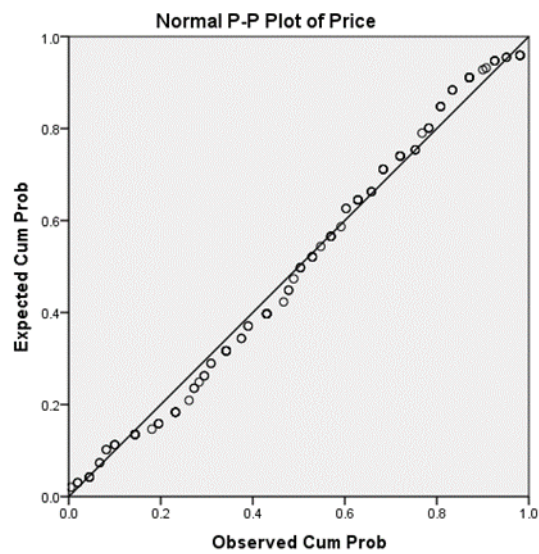
Model Adequacy Checking for Best Model

i) Linear relationship between dependent and independent variables



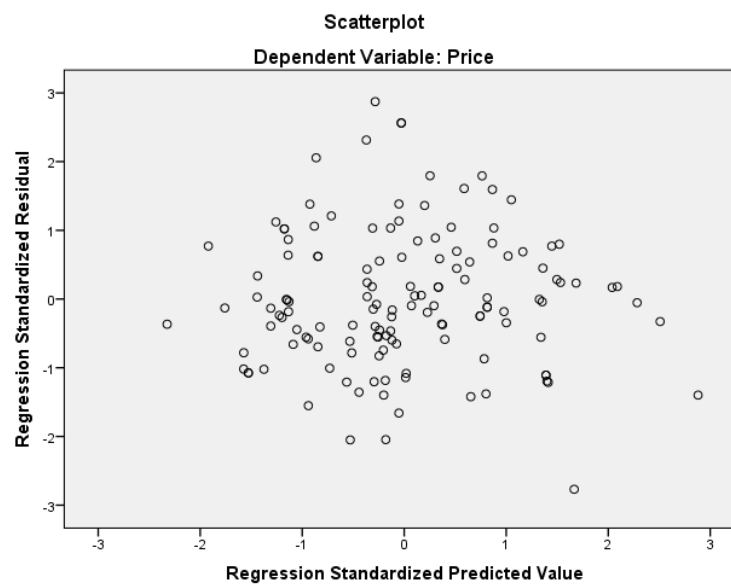
For each variables there is a linear relationship between number of rooms and sales price of residential home in Kuala Lumpur, number of car parks and sales price of residential home in Kuala Lumpur, number of bathrooms and sales price of residential home in Kuala Lumpur, conditions of the house and sales price of residential home in Kuala Lumpur also lot size of house and sales price of residential home in Kuala Lumpur.

ii) Normality of error terms



Since all the points lie along the 45° line, the error terms are normally distributed.

iii) Homoscedasticity



Since all the points lie between 3 and -3, the points are consistent. Thus, the error variance is constant.

iv) Multicollinearity

	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
Rooms	.515	1.944
Bathrooms	.316	3.164
CarParks	.752	1.329
Size	.366	2.733
Furnishing	.980	1.020

From the table of collinearity statistics of tolerance statistics value and variance inflation factor (VIF) value above, there is no value of tolerance statistics that is greater than 10 and VIF value of each variables are above 0.2. Thus, there is no multicollinearity exists.

CONCLUSION AND RECOMMENDATION

5.1 Conclusion

There are several factors indicating the sales price of houses in Kuala Lumpur. As in this study we are analysing of five factors which are the number of rooms, the number of car parks, the number of bathrooms, the condition of the houses and the lot size of the size. All of these factors are crucial element that has to be put into consideration in determining a house price. In this study, it is found that all of the factors contribute significantly in influencing the sales price of residential home in Kuala Lumpur. Therefore, the best model is $Y = 3.3632 - 0.0880X_1 + 0.0860X_2 + 0.0553X_3 + 0.0002X_4 - 1672X_5$.

5.2 Recommendations

For future research it is best to use a more consistent data as to avoid having too much outliers which will affect badly to the regression model. Other than that, it is also recommended for future researches on this topic to be using primary data because the data is more accurate and the data will appear to have less problems when construction a linear regression model.

Based on the factors contributing to the sales price of residential homes in Kuala Lumpur, other studies can include more variables to obtain a better model. This is to produce a better significant model in determining and predicting the sales price of residential homes in Kuala Lumpur.

REFERENCES

- Faris, D. (2014). *The Determinants of House Prices in the Klang Valley, Malaysia*.
- Lishun, Y. (2019). *A REGRESSION MODEL OF SINGLE HOUSE PRICE IN LA CONSTRUCTING A PREDICTED MODEL FOR HOUSE PRICES*.
- Mariadas, P. A., Selvanathan, M., & Hong, T. K. (2016). A Study on Housing Price in Klang Valley, Malaysia. *International Business Research*, 9(12), 103. <https://doi.org/10.5539/ibr.v9n12p103>
- Musa, U., Zahari, W., & Yusoff, W. (2017). *The Influence of Housing Components on Prices of Residential Houses: A Review of Literature*.
- Olanrewaju, A., Ying Lim, X., Yeow Tan, S., En Lee, J., & Adnan, H. (2018). *Factors Affecting Housing Prices in Malaysia : Analysis Of The Supply Side* (Vol. 16).
- Slone, E., Sun, H., Wang, P.-H., & Dhongde, E. (2014). *Market Prices of Houses in Atlanta*. www.realtor.com.
- Teck-Hong, T. (2015). THE IMPACT OF NEIGHBORHOOD TYPES ON THE PRICES OF RESIDENTIAL PROPERTIES. In *Sunway Academic Journal* (Vol. 7). http://www.fastlane2u.com/images/klangvalley_map.jpg
- Zietz, J., Zietz, E. N., & Sirmans, G. S. (2008). Determinants of house prices: A quantile regression approach. *Journal of Real Estate Finance and Economics*, 37(4), 317–333. <https://doi.org/10.1007/s11146-007-9053-7>

APPENDICES

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.532 ^a	.283	.282	810147.7950	.980

a. Predictors: (Constant), Furnishing, Bathrooms, Size, CarParks, Rooms

b. Dependent Variable: Price

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.208E+15	5	8.417E+14	1282.364	.000 ^b
	Residual	1.068E+16	16274	6.563E+11		
	Total	1.489E+16	16279			

a. Dependent Variable: Price

b. Predictors: (Constant), Furnishing, Bathrooms, Size, CarParks, Rooms

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	652843.174	30524.451		21.388	.000		
	Rooms	-257208.834	10289.891	-.233	-24.996	.000	.509	1.964
	Bathrooms	490181.399	8867.396	.515	55.279	.000	.507	1.970
	CarParks	128366.460	10526.503	.096	12.195	.000	.707	1.414
	Size	114.726	4.613	.173	24.871	.000	.907	1.102
	Furnishing	-181590.066	10353.034	-.118	-17.540	.000	.970	1.031

a. Dependent Variable: Price