

Analysis Of Factors Affecting Land Value (Case Study In Sub-District Medan Timur Medan City)

Irwan Bogie¹⁾, Moehammad Nawawiy Loebis²⁾, Nazaruddin Matondang³⁾, Sheila Hani⁴⁾.
^{1,2,3,4)} Magister Manajemen Properti dan Penilaian, Graduate School Universitas Sumatera Utara, Medan

*Corresponding Author

Email : irwanbogie@gmail.com

Abstract

This study aims to determine the factors that affect the value of land in the District of Medan Timur Medan. LT, JTF, AE, LEG, ETN are 5 (five) variables that are used as factors that affect the value of land in Medan Timur Sub – District. The data used are primary data, sampling technique used is Propostionate Stratified Random Sampling. The results showed that the factors LT, JTF, AE, LEG, ETN positive and significant effect, variable economic activity (AE) with a Standardized coefficient of 0.269 has the most dominant influence on the value of land compared to other variables. Land value Model with regression analysis techniques that can be used in the District of Medan East Medan city is $Y = 3.297 + 1.241 (LT) + 0.885 (JTF) + 1.325 (AE) + 1.755 (LEG) + 2.608 (ETN)$, while the Standard Error of the Estimate of 3.73091.

Keywords: Land Value, Land Area, Economic Activity, Regression Analysis, Land Value Model.

INTRODUCTION

Persil Persil land development is so rapid, especially in urban areas will result in an increase in the need for land parcels, while the availability of land parcels on this earth remains, so it will affect the value of land (Nursolikin:2005).

Medan Timur sub-district is a sub-district in the city center area, part of which is a trade and service area. The availability of persil land is very limited and in demand and is used as a destination for investing, earning and also living. This causes a high demand for vacant land and housing in the District of Medan Timur, Medan city.

The cause of the increased value of persil land can not be stated with certainty or absolute, but usually the market situation persil transparent land can lead to increased value persil land, other causes exist on the difference in interest towards persil land, the news of a project construction or road widening, business activities, or may increase in value of the land occurs because the land agent who wants to get a margin that big, the number of residents increased, resulting in the occurrence of the scarcity of persil land, thus encouraging an uncontrolled increase in land value. Of the various factors that exist, then there is a phenomenon that is anomalous value of persil tanah is quite high.

In the agrarian law No. 5 of 1960 explained that land is a type of real property that has economic value for its owner so that land can be an attractive investment for everyone who has the ability to own it. Directly or indirectly, land is a necessary factor of production in producing all other goods. It can be said that land is the source of all other wealth (Nasucha:1995). Soil has its own uniqueness that gives rise to variations in the value of each spatial distribution such as the nature, characteristics and capabilities of the soil as a resource. This causes the increasing need for land for housing and investment continues to grow following the rate of population growth and economic activity.

On the other hand, legality also has an effective relationship, causing the land value to be high. Land is limited in quantity and its supply cannot be increased. (Prawoto: 2003) said that each persil of land is unique in its location and composition, it cannot be moved to another

better location. In the end, City problems arise, one of which is the provision of land, especially with a relatively high demand for land, the consequence is an increase in land value.

Because land price and land value have a functional relationship that is the price of land is determined by the value of land, or the price of land will reflect the high and low value of land (Nasucha:1995). In the valuation of property in particular its real property, persil tanah is one (1) component that is very important in generating a value. To produce an accurate estimate of land value requires different models for different uses. Therefore, the land valuation model of one region cannot be applied in other regions. If the land value estimation model is known, it will make it easier to determine the change in land value. The land value Model is made to control and direct the land value so that it is evenly distributed and in accordance with its condition.

RESEARCH METHODS

This type of research is correlation research (Correlational Research). This study was conducted in the District of Medan Timur, Medan city with the focus of research is on the main road. The data obtained consisted of primary data obtained from the field collected through questionnaires and secondary data obtained from the internet, publications, media, Central Bureau of Statistics of North Sumatra province, Medan Timur Sub-District Office.

Persil Persil is a land that is in contact with or directly opposite the main road with a total population of 2,780 land parcels. Sampling technique is Propotionate Stratified Random Sampling by using the following formula (Lemeshow: 1977):

$$n = \frac{N Z^2 1 - \alpha/2 P(1 - P)}{(N - 1)d^2 Z^2 1 - \alpha/2 P(1 - P)}$$

From the results of the sampling formula, the minimum sample obtained is 245 persil of soil. The method of analysis used adalh correlation analysis and multiple linear regression analysis

RESULTS AND DISCUSSION

Analysis Results

Classical Assumption Test

Normality Test

Based on the normality test, obtained asymmp. Sig (2-tailed) of 0.248 where the value is greater than $\alpha = 0.05$. Because the value of significance is greater than $\alpha = 0.05$, it can be concluded that the assumption of normality has been met so that it can be stated that the regression model has been feasible to use.

Table 1. Normality testing with Kolmogorov-Smirnov

		Unstandardized Residual
	N	245
Normal Parameters ^{a,b}	Mean	1.1351222
	Std. Deviation	4.64803287
Most Extreme Differences	Absolute	.065
	Positive	.038
	Negative	-.065
Kolmogorov-Smirnov Z		1.021
		431

Source: Results Of Primary Data Processing, 2014

Multicollierinity Test

From the calculation of tolerance value shows that there is no independent variable that has a tolerance value of less than 10% which means there is no correlation between independent variables whose value is more than 95%. The calculation of the value of variance inflation factor (VIF) also shows the same thing, there is no one independent variable that has a value of more than 10 VIF. So it can be concluded that there is no multicollinearity between independent variables in the regression model.

Table 2. Multicollinearity testing with Collinearity Statistics

Model	Collinearity Statistics	
	Tolerance	VIF
(Constant)		
LT	.608	1.645
JTF	.653	1.530
AE	.568	1.762
LEG	.374	2.675
ETN	.381	2.624

Source: Results Of Primary Data Processing, 2014

Heteroscedasticity Test

This test is done by regressing all independent variables to their residual values. Symptoms of heteroskedasticity are indicated by the regression coefficients of each independent variable, if the probability value is greater than the alpha value (Sig. > $\alpha = 0.05$) then it can be ascertained that heteroskedasticity does not occur.

Table 3. Heteroscedasticity test using Park Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	2.900	.493		5.880	.000
LT	-.140	.222	-.052	-.633	.527
JTF	.348	.183	.151	1.907	.058
AE	.047	.207	.019	.226	.822
LEG	-.143	.633	-.024	-.226	.822
ETN	.402	.623	.067	.645	.520

Sumber :Hasil Pengolahan Data Primer 2014

Statistical Criteria Test

The accuracy of the sample regression function in estimating the actual value can be seen and measured from statistical criteria or goodness of fit.

Coefficient Of Determination

Adjusted R2 value resulting from regression statistical analysis in this study amounted to 0.595, which means in this case the amount of contribution or contributions from independent variables simultaneously to the dependent variable of 59.50 %, while the remaining 40.50% is explained by other causes outside the model. Standard Error of Estimate (SEE) of 3.73091, where the smaller the value of SEE will make the regression model more precise in predicting the dependent variable.

Table 4. Test Coefficient Of Determination

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777 ^a	.603	.595	3.73091

Sumber :Hasil Pengolahan Data Primer 2014

Simultaneous Significant Test (F-Test)

Based on simultaneous significant test, it can be seen that the obtained value of F count of 72.673 while the significance Ftable of 5% ($\alpha = 0.05$) is equal to 2.252, because F count > Ftable and has sig F < 0.05 is equal to 0.000 so that H_0 is rejected and H_1 is accepted. This means that simultaneously the independent variable has a significant effect on the dependent variable.

Table 5. Simultaneous Significance Test

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	5057.925	5	1011.585	72.673	.000 ^b
Residual	3326.810	239	13.920		
Total	8384.735	244			

Sumber : Hasil Pengolahan Data Primer 2014

Partial Test (t-test)

T test is done to test the level of significance of each parameter of the independent variable in the model, whether it can be accepted statistically by comparing between t count with T table.

Table 6. Partial Test

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.927	.633		6.206	.000
LT	1.241	.285	.228	4.359	.000
JTF	.885	.234	.190	3.779	.000
AE	1.325	.266	.269	4.977	.000
LEG	1.755	.813	.144	2.159	.032
ETN	2.608	.799	.215	3.264	.001

Sumber : Hasil Pengolahan Data Primer 2014

From the analysis showed that partially, the five variables affect the value of land, where the Fifth t-count is greater than the T_{table} with $\alpha = 0.05 = 1.970$ and the five variables have a significant below 0.05.

Correlation Analysis

Based on the results of research conducted by correlation analysis, it can be described as follows :

Table 7. Measurement Of Correlation Values To Variables

Variabel	r_{hitung}	Value	Interprestasi
LT dengan NT	0,564	0.40 - 0.70	Strong Correlation
JTF dengan NT	0,543	0.40 - 0.70	Strong Correlation
AE dengan NT	0,643	0.40 - 0.70	Strong Correlation
LEG dengan NT	0,549	0.40 - 0.70	Strong Correlation
ETN dengan NT	0,554	0.40 - 0.70	Strong Correlation

Sumber : Hasil Penelitian, 2014 (data diolah)

Description of the results of Pearson correlation analysis is as follows :

1. The results of the calculation of the test data of the two variables between LT and NT obtained r_{hitung} value of 0.564 and the value of significance of 0.000. Because the significance value < 0.05 so it can be concluded that the null hypothesis (H_0) is rejected and the research hypothesis or alternative hypothesis (H_1) is accepted, which means there is a significant relationship between LT and NT. The relationship between the two variables is positive or unidirectional, which means that the greater the LT, the greater the NT, and vice versa.

2. The results of the calculation of the test data of the two variables between the JTF and NT obtained r_{hitung} value of 0.543 and the significance value of 0.000. Because of the significance value < 0.05 , it can be concluded that the null hypothesis (H_0) is rejected and the research hypothesis or alternative hypothesis (H_1) is accepted, which means there is a significant relationship between JTF and NT. The relationship between the two variables is positive or unidirectional, which means that the greater the JTF, the greater the NT, and vice versa.
3. The results of the calculation of the test data of the two variables between Ae and NT obtained r_{hitung} value of 0.643 and the significance value of 0.000. Because of the significance value < 0.05 , it can be concluded that the null hypothesis (H_0) is rejected and the research hypothesis or alternative hypothesis (H_1) is accepted, which means that there is a significant relationship between Ae and NT. The relationship between the two variables is positive or unidirectional, which means that the greater the AE, the greater the NT, and vice versa.
4. The results of the calculation of the test data of the two variables between the LEG with NT obtained r_{hitung} value of 0.549 and the significance value of 0.000. Because of the significance value < 0.05 , it can be concluded that the null hypothesis (H_0) is rejected and the research hypothesis or alternative hypothesis (H_1) is accepted, which means that there is a significant relationship between LEG and NT. The relationship between the two variables is positive or unidirectional, which means that the greater the LEG, the greater the NT, and vice versa.

The results of the calculation of the test data of the two variables between ETN and NT obtained r_{hitung} value of 0.554 and the significance value of 0.000. Because of the significance value < 0.05 , it can be concluded that the null hypothesis (H_0) is rejected and the research hypothesis or alternative hypothesis (H_1) is accepted, which means that there is a significant relationship between ETN and NT. The relationship between the two variables is positive or unidirectional which means the greater the ETN the greater the NT, as well as vice versa.

Multiple Regression Analysis

Table 8. Multiple Regression Results

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	3.927	.633		6.206	.000
LT	1.241	.285	.228	4.359	.000
JTF	.885	.234	.190	3.779	.000
AE	1.325	.266	.269	4.977	.000
LEG	1.755	.813	.144	2.159	.032
ETN	2.608	.799	.215	3.264	.001

Sumber : Hasil Pengolahan Data Primer 2014

Based on Table 8 above, it can be made regression model in linear equation as follows:

$$Y = 3.297 + 1.241 X_1 + 0.885 X_2 + 1.325 X_3 + 1.755 D_1 + 2.608 D_2 + \varepsilon \dots$$

$$\begin{aligned} Y &= NT \\ X_1 &= LT \\ X_2 &= JTF \\ X_3 &= AE \end{aligned}$$

D₁ = LEGD₂ = ETN

Interpretation of the regression model above is as follows :

1. Constants (α) of 3,297 indicate that if the independent variable is considered constant, then the average land value of Rp. 3.297.000.
2. Regression coefficient shows the value of land area variable (X1) of 1.241 indicates that LT and NT have a unidirectional relationship and have a positive influence. So if the LT variable is increased, the NT increases, and vice versa if the LT variable decreases, the NT will decrease. Each additional LT with a certain interval will give a result of Rp. 1.241.000.
3. Regression coefficient shows the value of the distance variable to the Traffic Light (X2) of 0.885 indicates that the variables JTF and NT have a unidirectional and positive relationship, which means that if the variable JTF increased then NT increased, and vice versa if the variable JTF decreased then NT will decrease. Each increase in ground distance to the Traffic Light with a certain interval will give a result of Rp. 885.000.
4. Regression coefficient shows the value of economic activity variable (X3) of 1.325 indicates that the variables AE and NT have a unidirectional and positive relationship, which means that if the variable Ae increased then NT increased, and vice versa if the variable Ae decreased then NT will decrease. Each increase in income with a certain interval will give a result of Rp. 1.325.000.
5. Regression coefficient shows the value of the legality variable (D1) of 1,755 indicates that the LEG and NT variables have a unidirectional and positive relationship, which means that if the LEG variable is increased, the NT increases, and vice versa if the LEG variable decreases, the NT will decrease. Each different type of certificate will give a result of Rp. 1.755.000.
6. Regression coefficient shows the value of the variable ethnicity (D2) of 2,608 indicates that each group or a particular ethnicity will give results of Rp. 2.608.000.

Discussion Of Research Results

This study has shown that the independent variables that include land area, distance to Traffic lights, economic activity, legality, and ethnicity simultaneously have a strong correlation with the dependent variable is the value of land. Likewise partially, all independent variables have a significant influence

The results of regression analysis showed the value of the land proved all variables included in this model in accordance with the results of the regression. A positive sign in the land area variable means that the influence of land area is significant to the value of land, because in general, people buy land with needs and utilization based on a certain area size. For the variable distance to the traffic light that has a positive sign means that the farther from the Traffic Light, the utility or economic benefits of the land is high. In this situation, Traffic Light is declared negative impact for people who want to open a store or business. Based on the results of this study, the land between 10-350 meters is widely used shops, this is because at that distance is ideal for opening a business due to the ease of parking. Economic activity variables have a positive and significant effect on the value of land in this research area. Economic activity or income in this research area is mostly self-employed. Persil Persil land owners take advantage of a strategic location, where the land is located on the arterial road, which has the potential to generate as much income as possible. Then the legality variable also supports or adds to the value of land, where the amount of the contribution of the legality of land with SHM status to the value of land can reflect the cost of the land plus the intangible of the certainty of rights that have been obtained on the land. The last thing from this research variable is the ethnic variable, the results of regression analysis of ethnic variables have a

positive and significant effect on the value of land in this research area. Persil Persil timur is dominated by non-indigenous ethnic ownership, where they are very influential with commercial and business activities, due to their existence is so large that the value of land parcels occupied by non-indigenous ethnic groups will tend to be higher than the value of land parcels occupied by indigenous ethnic groups. This situation can be seen on Krakatau Street, Sutomo Street, MT. Haryono, Thamrin Street, and also West Irian street, non-indigenous ethnic groups almost 100% control and own the persil land.

Land Valuation Application With Selling Price Comparison Technique Using Regression Analysis.

The results of multiple regression analysis of this study can be used to assess the land with the technique of comparison of selling prices using regression analysis. The multiple regression analysis Model aims to analyze the sample data, and the results will be generalized (informed) for the population in which the sample was taken. Its use required a large number of samples, with the result of estimation in the form of a confidence interval around the point estimate of value.

There are two advantages to using regression analysis. First, this regression equation can be used to assess very large quantities of property quickly and economically. Second, regression equations can be used to describe how the value is estimated (The Appraisal Real Estate 13th ed, 2013 : 597-598).

Based on Table 5. multiple regression model can be made that will be used to predict the value of land to be assessed (property object) as follows :

$$Y = 3.297 + 1.241 (\text{Land Area}) + 0.885 (\text{Distance to Traffic Light}) + 1.325 (\text{Economic Activity}) + 1.755 (\text{Legality}) + 2.608 (\text{Ethnic}) + \varepsilon \dots$$

Another important thing to know in the assessment of land with regression analysis techniques is to calculate the interval (an approximate confidence interval) or commonly referred to as the level of confidence interval value of an estimated result. The Formula that can be used to calculate the interval as follows :

$$Y \pm (t_{\text{table}} 5\% \text{ or } 10\% \text{ or } 15\%) (3.73091)$$

Calculation Of Land Value Case I

Property that has a shop house subject to economic activity or an average income of Rp. 15,000,000 per month and has a land area of 85 square meters, within 150 meters from the Traffic Light, the legality of the land is a letter of ownership (SHM) with ethnic indigenous ownership, confidence interval (confidence interval) 95%, then based on the equation of regression analysis results can be determined estimation or prediction of land value as follows :

$$\begin{aligned} Y &= 3.297 + 1.241 * LT + 0.885 * JTF + 1.325 * AE + 1.755 * LEG + 2.608 * ETN \\ &= 3.297 + 1.241 * 1 + 0.885 * 2 + 1.325 * 4 + 1.755 * 1 + 2.608 * 0 \\ &= 3.297 + 1.241 + 1.77 + 5.3 + 1.755 + 0 \end{aligned}$$

$$Y = \underline{\underline{13.363}}$$

$$\begin{aligned} \text{Confidence Interval} &= 13.363 \pm 1.970 * 3.73091 \\ &= 13.363 \pm 7.350 \\ &= 6.013 \text{ sampai dengan } 20.713 \end{aligned}$$

Based on the results of the regression calculation above, the estimated value of the land from Case 1 (one) of Rp. 13.360.000, - per square meter, while the calculation of the confidence interval (confidence interval) is between Rp. 6.013.000, - per square meter up to Rp. 20.713.000, - per square meter, which means that the estimated value obtained based on the calculation of the regression is not absolute given Rp. 13.360.000, - per square meter but the value of the land can be below the value of Rp. 13.360.000, - per square meter and can also be above the value of Rp. 13.360.000, - per square meter, with the smallest limit value of Rp. 6.013.000, - per square meter and the largest value limit is Rp. 20.713.000, - per square meter.

Calculation of Land Value Case II

Middle-scale offices located in Medan Timur Sub-District have economic activity or an average income of Rp. 20,000,000 per month and has a land area of 480 square meters, is 380 meters from the Traffic Light, the legality of the land is a letter of right to building (SHGB) with ethnic non-Indigenous ownership, confidence interval (confidence interval) 90 % then based on the equation of regression analysis results can be determined estimation or prediction of land value as follows :

$$\begin{aligned}
 Y &= 3.297 + 1.241 * LT + 0.885 * JTF + 1.325 * AE + 1.755 * LEG + 2.608 * ETN \\
 &= 3.297 + 1.241 * 5 + 0.885 * 3 + 1.325 * 5 + 1.755 * 0 + 2.608 * 1 \\
 &= 3.297 + 6.205 + 2.655 + 6.625 + 0 + 2.608
 \end{aligned}$$

$$Y = \underline{\underline{21.390}}$$

$$\begin{aligned}
 \text{Confidence Interval} &= 21.390 \pm 1.651 * 3.73091 \\
 &= 21.390 \pm 6.161 \\
 &= 15.229 \text{ sampai dengan } 27.551
 \end{aligned}$$

Based on the results of the regression calculation above, the estimated value of the land from Case 2 (two) of Rp. 21.390.000, - per square meter, while the calculation of the confidence interval (confidence interval) is between Rp. 15.229.000, - per square meter up to Rp. 27.551.000, - per square meter, which means that the estimated value obtained based on the calculation of the regression is not absolute given Rp. 21.390.000, - per square meter but the value of the land can be below the value of Rp. 21.390.000, - per square meter and can also be above the value of Rp. 21.390.000, - per square meter, with the smallest limit value of Rp. 15.229.000, - per square meter and the largest value limit is Rp. 27.551.000, - per square meter.

Calculation of Land Value Case III

A vacant plot of land with an area of 400 square meters is rented for culinary business, the land has economic activity or an average income of Rp. 18,000,000 per month, within 750 meters from the Traffic Light, the legality of the land is a letter of Title (SHM) with ethnic non-Indigenous ownership, confidence interval (confidence interval) 85 % then based on the equation of regression analysis results can be determined estimation or prediction of land value as follows :

$$\begin{aligned}
 Y &= 3.297 + 1.241 * LT + 0.885 * JTF + 1.325 * AE + 1.755 * LEG + 2.608 * ETN \\
 &= 3.297 + 1.241 * 4 + 0.885 * 5 + 1.325 * 5 + 1.755 * 1 + 2.608 * 1 \\
 &= 3.297 + 4.964 + 4.425 + 6.625 + 1.755 + 2.608
 \end{aligned}$$

$$Y = \underline{\underline{23.674}}$$

$$\begin{aligned}
 \text{Confidence Interval} &= 23.674 \pm 1.444 * 3.73091 \\
 &= 23.674 \pm 5.388 \\
 &= 18.286 \text{ sampai dengan } 29.062
 \end{aligned}$$

Based on the results of the regression calculation above, the estimated value of land from Case 3 (Three) is Rp. 23.674.000, - per square meter, while the calculation of the confidence interval (confidence interval) is between Rp. 18.286.000, - per square meter up to Rp. 29.062.000, - per square meter, which means the estimated value obtained based on the calculation of the regression is not absolute given Rp. 23.674.000, - per square meter but the value of the land can be below the value of Rp. 23,674,000, - per square meter and can also be above the value of Rp. 23.674.000, - per square meter, with the smallest limit value of Rp. 18.286.000, - per square meter and the largest value limit is Rp. 29.062.000, - per square meter.

CONCLUSION

Based on the formulation of the problem, objectives and results of the analysis in this study, the following conclusions can be drawn :

1. Economic activity variable (AE) with Standardized coefficient of 0.269 has the most dominant influence on land value (NT) compared to other variables.
2. Land area, distance to Traffic Light, economic activity, legality, ethnicity positively and significantly affect the value of land in the District of Medan Timur Medan.
3. The form of land valuation with selling price comparison technique using regression analysis that can be used in Medan Timur Sub-District of Medan City is $Y = 3.297 + 1.241(\text{land area}) + 0.885 (\text{distance to Traffic Light}) + 1.325 (\text{economic activity}) + 1.755 (\text{legality}) + 2.608 (\text{ethnicity}) + \epsilon$, with the Standard Error of the Estimate (SEE) of 3.73091

REFERENCES

Academia.

http://www.academia.edu/4422523/BAB_III_METODE_PENELITIAN_3.1_Lokasi_Penelitian?login=irwanbogie@gmail.com&email_was_taken=true&login=irwanbogie@gmail.com&email_was_taken=true.html. (2009, 05 Juni).

An-lu Zhang. (2000). Policies and Measures to Protect Farmland in U.S. World Agriculture, Vol, 249, 8-10.

Appraisal Institute. 1993. The Dictionary .of Real Estate Appraisal 2nd Edition. Appraisal Institute, Chichago, USA.

Appraisal Institute. 2013. The Appraisal of Real Estate 13th Edition. Appraisal Institute, Chichago, USA.

Appraisal Institute. 2013. The Dictionary of Real Estate Appraisal 5th Edition. Appraisal Institute, Chichago, USA.

Appraisal Institute. 2013. The Student Handbook of The Real Estate 13th Edition. Appraisal Institute, Chichago, USA.

Arif Burhanuddin. (2013, 21 Mei). Penelitian Kuntitatif dan Kualitatif. <http://afidburhanuddin.wordpress.com/2013/05/21/penelitian-kuantitatif-dan-kualitatif/html>

B. Boesro. 2004. Pemodelan Nilai Tanah Kawasan Pemukiman dan Infrastruktur yang mempengaruhinya. Tesis Program Magister, Departemen Geodasi dan Geomatika ITB, Bandung.

Badan Pusat Statistik, 2013. Kecamatan Medan Timur Dalam Angka. Medan : BPS.

Bartik, T. “Measuring the Benefits of Amenity Improvements on Hedonic Models.” *Land Economics* 64, 2 (1988): 172-183

Billah, Mustaidz. 1999. Studi Variabel-Variabel Penentu Model Harga Lahan Di Kotamadya Semarang (Studi Kasus: Koridor CBD Simpang Lima – Kecamatan Pedurungan). Semarang. Fakultas Teknik Universitas Diponegoro.

Brett Day, Ian Bateman, Iain Lake. 2001. Publish Online. The Effect of Road Traffic on Residential Property Values: A Literature Review and Hedonic Pricing Study. ESRC.

Brett Day, Ian Bateman, Iain Lake. 2007. Publish Online. Beyond implicit prices: recovering theoretically consistent and transferable values for noise avoidance from a hedonic property price model. 37:211–232 DOI 10.1007/s10640-007-9121-8.

Budi, Harjanto dan Rianto Edi. R, 1999, Analisa LPM Terhadap Pengaruh Faktor Lokasi aksesibilitas dalam mempengaruhi nilai tanah, Jurnal Survai dan Penilaian Properti, Vol.014, p. 31-39.

Cassel, G. 1924. *The theory of social economy*. Trans. by J. McCabe. NY: Harcourt, Brace, and Co. Originally published as *Theoretische sozialökonomie*. Leipzig, Germany:C.F. Wintersche Verlagshandlung, 1918.

Chevy. (2008, 22 Februari). Ketentuan – Ketentuan Tentang Jalan. <http://theplanner.wordpress.com/2008/02/22/tinjauan-pustaka-ketentuan-ketentuan-tentang-jalan/html>

Cochran, T. 1874. Methods of valuation of real estate for taxation. *Penn Monthly* May.

Damayanti, A. dan Syah Alfian, 2009. Upaya Mengendalikan Harga Tanah Melalui Pendekatan Spasial, *Jurnal Survei dan Penilaian Properti*, Vol. 011.p. 29.

Debrezion, Ghebreegziabiher. Eric Pels and Rietveld, Piet. 2005. The impact of rail transport on the prices of real estate: Empirical study of the Dutch housing market, Free University, Department of Spatial Economics De Boelelaan 1105, 1081 HV Amsterdam.

International Association of Assessing Officers. (2003). Standard on automated valuation models (AVMs.). IAAO. Chicago.

IVSC. 2011. International Valuation Standart 2011. London, United Kingdom.

J. Wayne Moore. 2010. *Journal of Property Tax Assessment & Administration* Volume 5, Issue 3. New York.

Jacobs, Jane .1969. *The Economy of Cities*. New York: Random House Inc.

Kemp, Roger L. *Managing America's Cities: A Handbook for Local Government Productivity*, McFarland and Company, Inc., Publisher, Jefferson, North Carolina, USA, and London, England, UK, 2007.

Koentjaraningrat. 2008. *Manusia dan Kebudayaan di Indonesia*. Jakarta: Djambatan.

Lemeshow, S., & Hosmer, D. W. 1997. *Applied Survival Analysis Regression Modeling of Time to Event Data* . New York: John Wiley and Sons, Inc.

Levy, John M., 1985. *Urban and Metropolitan Economi*, McGraw Hill Book Company, USA.

Lusht, Kenneth M., 1997. *Real Estate Evaluation, Principles Aplication Press*. USA.

Lusht, Kenneth M., 1997. *Real Estate Valuation*, Times Mirror Higher Education Group, Inc. USA.

MAPPI. 2013. *KEPI & SPI 2013*. Jakarta

Mark R. Linne. 2000. *A Guide to Appraisal Valuation Modeling*. Appraisal Institute, Chichago, USA.

Mark R. Linne. 2000. *Statistical Analysis in Real Estate Appraisal*. USA

Marshall, A. 1893. On rent. *Economic Journal* vol. 3. <http://socserv2.socsci.mcmaster.ca/~econ/ugcm/3ll3/marshall/rent> (accessed January 14,2006)

Mehmet Topcu. 2009. The Analysis of Urban Features that Affect Land Values in Residential Areas, Turkey.

psychologymanis (2014, 20 Juni). Pengertian Etnis.
<http://www.psychologymania.com/2012/12/pengertian-etnis.html>

Prasetya, Nararya Adi. 2013. Faktor-faktor yang mempengaruhi nilai tanah di Kawasan Banjarsari Kelurahan Tembalang, Semarang, Tesis S2, Pascasarjana Universitas Diponegoro, Semarang.

Prawoto, Agus. 2003. Teori dan Praktek Penilaian Properti, Edisi 2nd. BPFE Yogyakarta, Yogyakarta.

Purwanto Hadi. 2004. Pusat perbelanjaan Surabaya. *Journal of Accounting Management and Economic Research*, Vol.4, No.1.

Ray M. Northam. 1975. *Urban Geography*. USA.

Reichert, Alan K., 1997. Impac of an Toxic Waste Superfund site on Property Values. *The Appaisal Institute USA Journal*, Vol LXV, p 381-392.

Rightmovedata, (2014, 04 Mei). What is an AVM ?
<http://www.rightmove.co.uk/data/avm.html>http://eprints.undip.ac.id/35296/1/seminar_city_branding_muktiali_PWK_UNDIP_ok.pdf.

S. D. Putri and D. S. Fithrah, “Pengaruh online marketing campaign #samyangchallenge terhadap consumer behavior digital natives pengguna Youtube Indonesia,” *J. PProfesi Humas*, vol. 1, no. 2, pp. 132–141, 2017.

T. Bates, “The impact of technological change on open and distance learning,” *Distance Educ.*, vol. 18, no. 1, pp. 93–109, 1997, doi: <https://doi.org/10.1080/0158791970180108>.