

Analysis of Building Area, Building Age, Period Rent Building, Motivation for Home Ownership, Building House Facilities to Formal Housing Capitalization in Medan Helvetia

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Abstract: This study aims to identify the factors that influence the capitalization value of formal housing in Medan Helvetia, analyze how much weight of the factors that influence the level of capitalization of formal housing in Medan, evaluate the factors that can affect the level of capitalization of formal housing properties in Medan Helvetia. The number of samples in this study were 45 samples taken from 16 planned housing in Medan Helvetia. The results showed the dominant factor in influencing the magnitude of the level of formal housing capitalization in Medan Helvetia was building area, building age and building house facilities. The magnitude of the weighting of the factors that influence the level of capitalization of formal housing in Medan Helvetia varies, in which the building area factor is 73.2%, the age of the building is 16.5% and the building facilities are 26.2%. Variable level of housing capitalization can be explained by the variable building age, building area, period rent building, motivation for home ownership and building house facilities by 72.2%. The remaining 27.8% is influenced by other variables not included in this research model.

Keywords: Capitalization Value, Building Area, Building Age, Period Rent Building, Motivation for Home Ownership, Building House Facilities

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I. Introduction

Economic growth is one of the factors that greatly influences the property business. The improving economic conditions in Indonesia currently have an impact on the property market. Property is believed to be able to breathe the economy, as evidence in the midst of a multidimensional crisis like today, many people are actually making a profit from buying and selling property. One type of property that feels an increase in demand is housing. The house is one type of property that is widely traded, whether for sale or rent.

In the current conditions, investment opportunities in the form of residential property still have a favorable rate of return. These benefits can be in the form of income from rent and appreciation of the value of the house. In making investment decisions, investors are very concerned about two important things, namely the acquisition and risks that exist in these investments, where both factors are seen in the level of capitalization. One of the problems that currently arises is the large number of housing units that have been built in housing unsold due to one factor, which is the low purchasing power of the community and a problem that is felt to be quite difficult by interested parties in the housing rental market, namely the problem of pricing, because lack of available market information. One approach used in determining the rental price of property, in this case housing, is through determining the level of capitalization.

The level of capitalization is also defined as the amount used to convert the income generated by a property to the value of that property. The level of capitalization is the ratio between net income generated from a property and its property value. Thus if the market value of the property and the level of its capitalization are known, a reasonable rental value of the property can be determined (Appraisal Institute, 1993). Knowledge of the level of property capitalization will help in property investment decision making, especially in the housing sector, because housing is the type of property that is very dominant and most often transacted.

In general valuation practices in Indonesia, the use of the income approach through the procedure of capitalizing net income from property is rarely used. Though this approach is more appropriate for valuing income-producing properties, compared to the cost approach. Besides that, Law Number 12 of 1994 article 1 (3) has provided opportunities for the adoption of the income approach. Some things that become obstacles are the difficulty of obtaining the required information and the limited number of people who are capable of conducting

research. According to Cherry and Dick (2004), property valuation techniques based on a cap rate should be used to assess properties with relatively stable annual income, bearing in mind that this cap rate is difficult to apply to properties whose income is unstable.

According to Handayani (2003) who examined the level of house value capitalization in East Lombok Regency using the ordinary least square method, it shows that the distance to the city center has a significant effect and with a negative direction on the level of house value capitalization in East Lombok, the building area has a significant positive effect to the level of capitalization of the value of the house, the tempo of rent has a significant negative effect on the level of capitalization of the value of the house, building facilities have a significant positive effect on the level of capitalization of the value of the house, the motivation of the owner has a significant positive effect on the level of capitalization of the value of the house in East Lombok Regency.

From previous research, it can be understood differences in understanding about things that can affect the level of capitalization. Research conducted by Saptoto (2005) and Mulyono (2005) places more emphasis on location and physical building variables. Only rental tempo variables are not categorized as location and physical building variables. Whereas in the study of Parker (1994), the five most important things that can influence the level of capitalization are tenants, growth, risk, property market conditions, and location.

II. Theoretical Review

2.1 Capitalization Rate

There are two methods commonly used to determine capitalization rates, namely direct capitalization and yield capitalization. The difference between the two lies in the assumptions used. Direct capitalization assumes that the income received in the coming years is the same as reflected by income in the year of valuation. While the yield capitalization includes assumptions regarding factors such as the rate of return expected by investors. The remaining economic life, tenure and anticipation of depreciation/appreciation.

Furthermore, based on the analysis of the overall capitalization rate of several properties into the study sample, a statistical analysis was conducted to determine the standard and standard deviation. In addition to statistical tests conducted to determine the average capitalization rate of house values, an analysis of the relationship between levels was carried out. capitalization and the factors that influence it.

2.2 Property Market Value

In the field of property business and valuation, the most commonly used term is market value. In general, market value is the price of a transaction that meets the following elements:

- a. Buyers and sellers want to make transactions
- b. In an open market situation
- c. The seller and the buyer have sufficient knowledge, experience and information;
- d. There is an adequate offer period;
- e. Special purchases / sales are ignored.

2.3 Investment Property Value

Property valuation is a process of determining value, whether market value, investment value, insurance value or other types of value, from a property at a certain valuation date.

IAAO (1996: 204) states that in the application of this income approach, there are several basic steps as follows.

- a. Estimating potential gross income.
- b. Reducing potential gross income with the level of vacancy.
- c. Summing up other income and potential gross income after deducting the vacancy rate to get an effective gross income estimate.
- d. Determine operating costs.
- e. Subtracting gross income is effective with operating costs to get operating income before interest and taxes.
- f. Determine the appropriate capitalization rate.
- g. Determine the capitalization procedure that is appropriate to be applied.
- h. Capitalizing on operating net income to estimate property values.

2.4 Definition of Housing

Based on Law Number 1 of 2011 concerning Housing and Settlements. Housing is a group of houses that function as a residential or residential environment equipped with environmental facilities and infrastructure. Housing is one form of housing that has a very close relationship with the community. This means that housing in a location more or less reflects the characteristics of the people living in the housing, (Ananda, 2016).

Housing Elements

- a. Natural environment: residential land and land.

- b. Social activities: human (individual), household, community (siskamling, etc.).
- c. Residential buildings.
- d. Basic physical facilities and socio-economic services:
 - 1. Stalls & grocery stores.
 - 2. Playgrounds, mosques, etc.
- e. System for basic physical infrastructure network;
 - 1. Road network.
 - 2. Drainage Channels.
 - 3. Sanitation.
 - 4. Clean water.
 - 5. Electricity, communication

2.5 Factors Affecting the Rate of Capitalization in Housing

a. Building area

The house or building that we have must have physical boundaries that are easily recognized as broad boundaries. The building area of a house is measured in units of square meters (m²). But it needs to be understood that all parts of the space that have a floor pavement are not of the same area. For example, the size of a 3 x 4 m² bedroom is not counted the same as a 3 x 4 m² terrace. Although both have the same area mathematically, which is 12 m².

b. Age of building

The economic life of a building is a period of time in which assets (building) are expected to be utilized economically according to their functions. The remaining economic life / remaining useful life of the building is the remaining economic life is the period of time calculated from the estimated value to the end of the economic life / benefit of the asset (building), namely the remaining time of asset utilization (building) according to its function.

c. Rent Period

Rent period is the lease period given by the homeowner which is calculated in units of years. Rental tempo is an important factor in determining the level of property capitalization. Based on the use of multiple regression analysis, leased commercial property shows that 90% of the value variability of the overall capitalization rate is the tempo and choice of rent, the keofisien beta of the tenant's share of the lease payment phase contained in the lease.

The Directorate General of State Wealth said "One of the important things in BMN leasing is the determination of rental rates. Determination of rental rates is also not an easy thing because it must be able to accommodate the objectives of the leasing, the rights and obligations of the parties involved both the Ministry / Institution as the party that rents out and prospective tenants".

d. Motivation of Home Ownership

The owner's motivation which includes investment motives and residence motives will affect the rental price and the capitalization rate of residential property. Ownership which initially for investment will maximize the income from his house by leasing, while for owners who have motivation to live in, they tend to be less interested in renting out their houses. The owner's motivation has a significant and positive effect on the capitalization rate of the house. This means that if the house is solely for investment purposes, it will increase the house capitalization rate.

e. House Building Facilities

Building facilities play a role in supporting building functions. Housing that has complete facilities affects the capitalization value. Which includes building facilities here is like the presence or absence of carport, garage, kitchen set, hot water, etc.

Population density and the economic level of urban areas result in high levels of private vehicle ownership. Until now the government has not too limited ownership of private cars so that it will support the movement to always use private vehicles. The condition of car transportation facilities that have become a basic necessity makes the existence of a garage in a residential house also a thought of consumers in choosing a home or residence. Satisfaction with home is assessed from objective attributes and subjective attributes to several factors; features of residential units, residential unit support services, public facilities, social environment, and environmental facilities.

2.6 Hypothesis

Based on the background and theory, the hypotheses proposed in this study are:

1. It is assumed that the area of the house building partially has a significant positive effect on the level of house value capitalization.
2. It is assumed that partially the age of the house building has a significant positive effect on the level of house value capitalization.
3. It is assumed that partially the tempo of rent has a significant negative effect on the capital value of the house.
4. It is assumed that partially the motivation of home ownership has a significant positive effect on the level of home value capitalization.
5. Partially, the existence of home facilities (garage) has a significant positive effect on the level of capitalization of the value of the house.

Materials and Method

3.1 Type of Research

This type of research according to the level of exploration is quantitative descriptive. Sugiyono (2004) states that, explanatory level research is the level of explanation. This study aims to explain the position of the variables studied and the relationship between one variable with another variable while descriptive research is research conducted to determine the value of independent variables, either one or more variables without making comparisons, or relationships with other variables. The nature of this research is descriptive explanatory. Sugiyono (2004) states that, explanatory research is a study that intends to explain the position of the variables studied and the relationship between one variable and another.

3.2 Location and Time of Research

The study was conducted at Jalan Kapten Muslim, Jalan Gaperta Ujung, Jalan Asrama, and Jalan Cempaka, located in Medan Helvetia District, Province North Sumatra. Location selection is based on considerations on the roads there are housing that has many types of houses.

3.3 Research Populations and Samples

The population in this study were all residential houses of a formal housing complex in Medan Helvetia District, Medan City.

Based on the data obtained from the survey to the field, the total number of buildings with the type of housing used was 16 housing units.

Given the limitations of researchers, to facilitate research by not ignoring the research objectives, sample criteria and conditions in general, sampling for this study was carried out by considering the availability of data on the sale and rental of existing housing in each formal housing in Medan Helvetia District, Medan City. The amount of data available for sale and lease obtained by researchers, then the number of samples in this study were 45 samples taken from 16 planned housing in Medan Helvetia District, Medan City.

3.4 Data Analysis Method

This study uses descriptive qualitative analysis method to determine the existence of relationships between dependent variables and independent using inductive statistics correlation with multiple regression analysis. The qualitative descriptive objective in this study is to provide a systematic, factual and accurate description of certain facts.

a. Descriptive Analysis

Sugiyono (2004) explains that qualitative research methods are research methods used to examine natural objects, where researchers are key instruments, while data collection techniques are conducted by interview methods, data analysis is inductive, and the results of qualitative research emphasize meaning rather than generalization.

b. Multiple Linear Regression Analysis

The data analysis method used in this study is multiple regression analysis (Sugiyono, 2004). Therefore the research formulation in the path analysis framework only revolves around the independent variable (X_1, X_2, \dots, X_k) influencing the dependent variable Y , or how much direct, indirect, and total influence or simultaneous set of independent variables (X_1, X_2, \dots, X_k) to the dependent variable Y . Hypothesis testing using t test, F test, r squared test.

III. Results and Discussion

4.1 Results

Table 4.1 Determination Coefficient Value

Model Summary ^b				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.857 ^a	.722	.711	.33178

a. Predictors: (Constant), X₅, X₄, X₃, X₂, X₁

b. Dependent Variable: Y

Source: SPSS Output Results, 2019

The value of R Square in Table 4.1 means that it is close to one, meaning that the independent variables provide almost all the information needed to predict the variation of the dependent variable. This shows that 72.2% of the variable capitalization rate of the housing can be explained by the variable width of the house, the age of the house, the tempo of rent, the motivation of home ownership and housing facilities. The remaining 27.8% is influenced by other variables not included in this research model. To test the level of confidence in the results of the hypothesis, then the variables are tested simultaneously (F) and partially (t) with a confidence level of 5% ($\alpha = 0.05$).

Table 4.2 Test Regression Results F

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	20.343	5	6.781	6.274	.009 ^b
	Residual	7.816	34	.102		
	Total	28.159	39			

a. Dependent Variable: Y

b. Predictors: (Constant), X₅, X₄, X₃, X₂, X₁

Source: SPSS Output Results, 2019

From Table 4.2. obtained F-count value of 6.274 while the F-table at the 95% confidence level ($\alpha = 0.05$) is 2.731. This shows that F-count > F-table ($6.274 > 2.731$) and sig = 0.009% < $\alpha = 5\%$, then the variable area of the house building, the age of the house, rental tempo, motivation of home ownership and home building facilities simultaneously have a significant effect simultaneously to the level of capitalization of housing.

Table 4.3 Regression Test Results t

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.413	.824		2.928	.106
	X ₁	.732	.142	.515	5.047	.001
	X ₂	.165	.049	.395	3.239	.000
	X ₃	-.032	.069	.013	.078	.938
	X ₄	.136	.301	.077	.452	.654
	X ₅	.262	.187	.039	2.217	.009

a. Dependent Variable: Y

Source: SPSS Output Results, 2019

Based on the table above, the partial effect of each independent variable on the dependent variable can be described as follows:

- The building area variable has a t-test of 5.047 greater than t-table = 1.993, meaning that the building area partially influences the level of formal housing capitalization.
- The building age variable has a t-count of 3.239 greater than t-table = 1.993, meaning that the building age partially influences the level of capitalization of formal housing.
- Tempo lease variable has a t-count of 0.078 smaller than t-table = 1.993 meaning that partially tempo lease has no effect on the level of capitalization of formal housing.
- The ownership motivation variable has a t-count of 0.452 smaller than t-table = 1.993, meaning that partially the pperiod lease has no effect on the level of capitalization of formal housing.
- The facilities (garage) variable has a t-count of 2.217 greater than t-table = 1.993 meaning that partially the facility (garage) has an effect on the level of capitalization of formal housing.

4.2 Discussion

a. Effect of Building Area on House Capitalization Rates

The area of the building of the house has a positive and significant effect on the level of capitalization of the value of rental homes in the district of Medan Helvetia. The more extensive the building of a house, the more the capitalization of the value of the house increases. Based on the calculation of the value of the coefficient of house building area coefficient value of 0.732 with sig < 0.05 which is 0.001 This means that if the building area moves one unit or the building area is newer then the level of capitalization of formal housing will move 0.732 or 73.2%.

Based on 2018 property data in the city of Medan Helvetia, houses that have a relatively large building area are rarely produced by developers, because land prices are already high, so consumers cannot afford to buy.

b. Effect of Building Age on House Capitalization Rates

The age of the building is the age of the house building from the time the house was built up to the year of the study, related to the magnitude of the physical depreciation of the house building under study.

In this research, the result shows that the age of the building has a positive effect on the level of capitalization of housing with a coefficient value of 0.165 with sig < 0.001, which is 0.001. It means that if the age of the building moves one unit or the age of the building is newer, the level of capitalization of formal housing will move 0.165 or 16.5%. This study supports research conducted by Ananda (2016) that the age of a building has a significant effect on the level of capitalization of rental homes.

c. Effect of Period Rent Building on House Capitalization Rates

The longer the rent period has a negative and not significant effect on the capitalization rate of the value of the rental house. The implementation is that the longer the rental period, the lower the capitalization rate of the house. Based on the calculation of the rental tempo variable has a negative effect on the level of capitalization of housing with a coefficient value of -0.032 with sig > 0.05 is 0.938 means that if the rental tempo moves one unit or the building area is newer then the level of capitalization of formal housing will move -0.032 or -3.2% so that it can be said that the effect of significant tempo of rent on the capitalization rate of rental homes is rejected.

The results of this study can be understood and in accordance with the research of Mooney (1998) that one of the factors that influence capitalization is the tempo of rent. The explanation is the factors and ways of development. People who rent a house the longer it will be more at will in doing the house for rent, for example, less careful care. Therefore, the value of housing capitalization will decrease.

d. Effect of Motivation For Home Ownership on House Capitalization Rates

Motivation of home ownership does not affect the level of capitalization of the value of rental homes. Based on the calculation of ownership motivation variables have a positive effect on the level of capitalization of housing with a coefficient value of 0.136 with sig > 0.05, which is 0.654% so that it can be said that the effect of significant ownership motivation on the capitalization rate of rental homes is rejected. This research is supported by Arifin (2011) said that home ownership motivation does not significantly influence the level of house capitalization in Klaten Regency.

e. Effect of House Building Facilities on House Capitalization Rates

Facilities have a positive and significant effect on the level of capitalization of rental housing. The implementation is a house that has a garage facility will increase the level of home value capitalization. Based on the calculation of the garage facility variable has a positive effect on the level of capitalization of housing with a coefficient value of 0.262 with sig < 0.05, ie 0.009% so it can be said that the influence of garage facilities significantly on the level of formal housing capitalization is accepted. Housing developers need to add garage facilities if they want to increase house prices. The existence of a garage at this time is very vital, because the buyers often use the garage for car and motorcycle parking, besides the buyer also feels safe because of the garage in their homes.

V. Conclusion and Suggestion

5.1 Conclusion

Based on the results of this study, it can be concluded as follows:

1. The dominant factor in influencing the magnitude of the level of capitalization in formal housing in the Medan Helvetia District Area is the area of the building, the age of the building and the building facilities.

2.The weight of the factors that influence the magnitude of the level of formal housing capitalization in the Medan Helvetia Subdistrict are different, where the area of the building is 73.2%, the age of the building is 16.5% and the building facilities are 26.2%.

3.Variable level of housing capitalization can be explained by the variable area of the house, the age of the house, the tempo of rent, the motivation of home ownership and housing facilities by 72.2%. The remaining 27.8% is influenced by other variables not included in this research model.

5.2 Suggestion

Based on the conclusions and limitations of the research previously presented, three suggestions from this research are proposed as follows:

1.For the general public who are interested in renting a house in a residential area in the area of Medan Helvetia District, it is suggested to consider the results of this study.

2. For future research in order to expand or add research samples such as companies not in the property sector.

3.The next researcher should add variables or other factors that influence the Capitalization Rate of Rental House Value in the Medan Helvetia District area.

Reference

- [1]. Ananda. (2016). *Pengaruh Infrastruktur terhadap tingkat Kapitalisasi Properti Perumahan di Kecamatan Medan Selayang*. Tesis. Medan: Universitas Sumatera Utara.
- [2]. Appraisal Institute. (1993). *The Appraisal of Real Estate. thirteenth edition*. Illinois: North Michigan Avenue Chicago
- [3]. Arifin, Muhammad Yani. (2011). *Analisis Tingkat Kapitalisasi Nilai Properti Perumahan di Kabupaten Klanten*. Tesis. Surakarta: Universitas Sebelas Maret.
- [4]. Cherry and Dick. (2004). *The Science Behind Real Estate: The Disposal of Special-Purpose Assets*. Journal of Corporate Real Estate Vol.1, pp 8-22.
- [5]. Handayani. (2003). *Analisis Tingkat Kesehatan pada Koperasi Simpan Pinjam Syariah BMT Akbar Tahun Buku 2006-2007*. Skripsi, Universitas Muhammadiyah Surakarta.
- [6]. International Association of Assesment Officer (IAAO). (1996). *Property Assesment Appraisal*. IAAO. Chicago: Illinois.
- [7]. Mooney. (1998). *Bootstrapping a Nonparametric Approach to Statistical Inference*. Sage Publication.
- [8]. Mulyono. (2005). *Manajemen Administrasi dan Organisasi Pendidikan*. Yogyakarta: Ar-Ruzz Media.
- [9]. Parker. (1994). *Menciptakan Peningkatan Produktivitas Tenaga Kerja Masa Kini*. Yogyakarta: Penerbit Yayasan Masa Kini.
- [10]. Saptoto (2005). *Manajemen, Edisi 2, Cet-akan 7*. Yogyakarta: BPFE.
- [11]. Sugiyono. (2004). *Metode Penelitian*. Bandung.

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