Influence of Infrastructure on Land Prices in Housing in Medan Johor (Case Study on Karya Wisata Street)

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Abstract: *This study aims to determine the effect of infrastructure factors such as road networks (accessibility), availability of facilities (transportation networks, electricity networks, telephone networks, water supply networks, educational facilities, health facilities) and or the housing environment which affects land prices in housing in Medan Johor based on the perceptions of residential residents (consumers). In this study the type of research used is quantitative analysis. From the results of these calculations the sample is 83.33, then rounded up to 85 respondents. The method of determining which sample is used in this study by sampling technique is an unsrestricted random sample. Based on the results of this study, as follows: 1) Independent road network variables (accessibility), availability of facilities and housing environments and unable to explain changes in the dependent prices or regression models declared inaccurate or unsuitable. 2) The road network (accessibility) has no significant effect on land prices in a residential environment in Medan Johor. 3) Availability of facilities has no significant effect on land prices in a residential environment in Medan Johor. 4) The housing environment has no significant effect on land prices in a residential environment in Medan Johor.*
Keywords: *Infrastructure, Land Prices, Accessibility*

I.   Introduction

One reason for the sudden increase in land prices is the situation of a land market that is not transparent. This then resulted in imperfect competition that occurred in land acquisition which might be caused by inappropriate information which became speculation. It could be when there are "rumors" about an infrastructure development project in a particular location responded by land brokers and speculators immediately buying land that is the construction site or nearby. Estimated land prices based on the Tax Object Selling Value as a normative measure of land can no longer be used and precisely the market price generated from imperfect competition is valid. Such events occur so much that the estimated price of land can rise far from what was originally planned by the project owner, namely the government, whether funded through the APBN or APBD.

In economic theory, as is the case with other goods, actually the determinants of an item into an economic good also apply to land. An item is classified as an economic item, if it has conditions (Simarta, 1997), as follows:
1. the item must have human use value (utility);
2. the item is relatively rare (availability) compared to its use (scarcity);
3. said item has ownership rights (property rights).

In accordance with the first condition, land that is not useful at all for humans does not become an economic object, such as land on the ocean floor, lakes, icebergs and so on. The tendency is clear that the higher the use of a land, the higher the price of the land. For the second condition it turns out that it has many consequences because of the scarcity of land. As is known together, that the availability of land is fixed and limited, while humans and other living things always increase in number. As a result of this scarcity that causes the land to become higher over time, especially when it has a strategic position and is not easily found in other locations.

Today, cities experience development as a result of population growth, socio-economic and cultural changes and their interactions with other cities in the surrounding area. Physically, the development of a city can be characterized by its growing population and increasingly congested, buildings that are increasingly tightly packed and areas built mainly settlements that tend to be increasingly widespread, as well as the more complete urban facilities that support the city's social and economic activities.

The development intensity in the city is increasing, causing the land needs for the construction of housing, public facilities, infrastructure and other needs to increase, in line with the increasing land demand for housing development, there is also the development of land values, both social and economic values. The fact is

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that the development of the value of the land has not been in line with the development of the most socio-economic level of the community today. The limited availability of urban land also has an impact on the difficulty of obtaining land, which in turn makes land prices continue to increase, because land prices increase, while city residents still need housing, resulting in shifting residential locations towards the suburbs.

The general description of the location under study is a residential area, including in the suburbs of Medan, namely Medan Johor sub-district. Medan Johor District is an area south of Medan City. In the Medan subdistrict of Johor there are many middle-class and luxury housing estates. This area is very potential for investors in the field of housing development (Real Estate). Medan Johor area is a very strategic area for housing facilities with a location close to the city and beautiful areas for housing. However, the reality is that the development of road infrastructure is not yet in line with the development of housing developments. Like the narrow roads but the houses remain high and also cause increasingly alarming congestion. Infrastructure or infrastructure which is defined as a facility that must be built or provided first, which will then be used to serve the utilities that have not been fully fulfilled. Nevertheless, property prices in the form of houses in this location continue to increase every year. At the beginning of 2005, the cheapest housing prices in Medan Johor Subdistrict were only around Rp. 150,000,000 (one hundred and fifty million) / unit, for land area of up to 200 m² and including ordinary housing and not too crowded. But entering the beginning of 2010 until now along with the increasingly widespread construction of new housing and increasing population, the price of the cheapest housing has reached a price of Rp. 450,000,000 (four hundred fifty million) / unit, and even the price of this house depends on the location of the housing. With the increase in the price of the housing, it can be ascertained that there is also an increase in the price of land per meter.

Infrastructure is the driving force for economic growth. From the allocation of public and private financing, infrastructure is seen as a locomotive for national and regional development. Macroeconomically, the availability of infrastructure services affects the marginal productivity of private capital, whereas in the microeconomic context, the availability of infrastructure services has an effect on reducing production costs (Gie, 2002). Infrastructure also has an important influence on improving the quality of life and human well-being, including increasing consumption values, increasing labor productivity and access to employment, as well as increasing real prosperity and the realization of macroeconomic stabilization, namely fiscal sustainability, the development of credit markets, and their impact on labor market.

II. Theoretical Review

2.1 Infrastructure
Infrastructure is a whole element that is useful for the functioning of the economy by facilitating the circulation of goods, people and ideas. Every effort to increase and diversify production, expand trade, spread the population, reduce poverty and improve the environment requires infrastructure (Hidayati, 2007).

The characteristics of infrastructure are both positive and negative externalities and the existence of natural monopoly due to the high fixed costs and the level of importance in the economy. Besides that infrastructure which is a public good is also non-exclusive (no one is excluded), non rivalry (consumption of an individual does not reduce the consumption of other individuals) and generally marginal costs are zero. Generally, infrastructure is not traded (non-tradable) (Henner, 2000).

2.2 Infrastructure and Economic Growth in a Micro Perspective
Development aims to improve people's welfare. The role of the government as a development mobilizer is very strategic in supporting the improvement of people's welfare and the country's economic growth. Economic growth is one indicator to see the results of development that has been done and is also useful to determine the direction of development in the future. Positive economic growth shows an increase in the economy whereas negative economic growth shows a decline.

Simon Kuznets states that a country's economic growth is affected by capital accumulation (investment in land, equipment, infrastructure and facilities and human resources), natural resources, human resources both in terms of quantity and quality of its population, technological progress, access towards information, the desire to innovate and develop themselves and work culture (Todaro, 2000).

2.3 Theory of Land Value and Prices
In the Concept and General Principles of Assessment, it is explained that value is an opinion of the economic benefit of asset ownership, or the price most likely to be paid for an asset in exchange, so that value is not a fact. Assets are also defined as goods and services. While the price is the amount of money requested, offered or paid for an asset. Because of the financial ability, motivation or special interests of the buyer or seller, the price paid may differ from the value of the asset based on the assumption of another party.

Hidayati (2007) in his book entitled Basic Concepts of Property Valuation, states that value is what should be paid by a buyer or accepted by the seller in a transaction, and price is what is finally approved. Value

and price are different, but both can be the same. Factors that cause differences and similarities between value and price are fairness factors, namely:
a) The seller who is feasible and has the right to sell his property.
b) A capable and feasible buyer is willing to buy the property.
c) There is enough time to bargain.
d) There is sufficient time to show the assets sold to the market.
e) Prices do not change or fluctuate within a certain period of time.
f) Not considering special offers (for example between children and fathers, between parent companies and subsidiaries and so on).

2.4 Housing
According to Republic of Indonesia Law Number 1 of 2011 concerning Housing and Settlement Areas, what is meant by home is a building that functions as a habitable residence, a means of fostering a family, a reflection of the dignity of its inhabitants, and assets for its owner. Housing is a collection of houses as part of settlements, both urban and rural, which are equipped with infrastructure, facilities, and public utilities as a result of the fulfillment of homes.

livable. Whereas settlements are part of a residential environment consisting of more than one housing unit that has infrastructure, facilities, public utilities, and has support for other functional activities in urban areas or rural areas.

2.5 Hypothesis
Based on the background and limitation of the problem, as well as a description of the previous research as well as the theoretical framework, then in this study several hypotheses can be proposed as follows:
1. It is suspected that there are influences on road network facilities (accessibility) on land prices.
2. It is suspected that there are influences on the availability of facilities (transportation networks, electricity networks, telephone networks, clean water networks, educational facilities, health facilities) on land prices.
3. It is suspected that there is an environmental influence of housing on land prices.

III. Materials and Method

3.1 Types of Research
In this study the type of research used is quantitative analysis. The analysis tool is in the form of statistical and econometric methods. Econometrics is defined as a quantitative analysis of actual phenomena which is based on the development that coincides with the theory and observation associated with the appropriate inference method (Gujarati, 2003).

3.2 Location and Time of Research
This research was conducted on several heads of households (KK) who occupy several houses in Medan Johor housing namely Johor City Housing, Citra Wisata Housing, Johor Indah I Housing, Johor Indah II Housing and Villa Mutiara Indah Housing located on Karya Wisata Street, Gedong Village Johor, Medan Johor District, Medan City. This research takes ± 2 (two) months starting in April 2014.

3.3 Population and Samples
The population in this study was the Head of Family (KK) who occupied several houses in Medan Johor housing namely Johor City Housing, Citra Wisata Housing, Johor Indah I Housing, Johor Indah II Housing and Villa Mutiara Indah Housing located on Karya Wisata Street, Gedong Johor Village , Medan Johor District, Medan City, which is 200 families. To simplify research in obtaining primary data because the population is very large, it is necessary to withdraw the number of samples that can represent the entire population.

From the results of these calculations the resulting sample is 83.33, then rounded up to 85 respondents. The method of determining the sample used in this study by sampling technique is Unsrestricted Random Sample, ie the sample is drawn directly from the population, the population is not divided into sub-samples. The method used more precisely is to use Simple Random Samples, namely by the way each population unit is numbered, then the desired sample is drawn randomly or randomly from the population (Nanang, 2011).

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

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

This analysis is conducted to see if there is a causal relationship between the two variables or examine how large one variable affects the other variables. Relationship between variables that describe the function, namely: y = f (x). This function explains the relationship between the dependent variable (Y) and the free variable (X). Hypothesis testing using t test, F test, r squared test.

IV. Results and Discussion
4.1 Descriptive Statistics Analysis

Following this, a general description of the respondents who were the objects in this study will be presented, namely respondents who live in the Medan Johor residential area. The number of respondents in this study amounted to 85 people. But the respondents taken as samples were 30 people. The method of determining the sample used in this study by sampling technique is Unrestricted Random Sample, ie the sample is drawn directly from the population, the population is not divided into sub-samples. The method used more precisely is to use Simple Random Samples, namely by the way each population unit is numbered, then the desired sample is drawn randomly or randomly from the population (Nanang, 2011). Respondents will be divided into 5 categories, namely: respondents according to gender, age, property status, type of property, and land area.

Based on the results of research on respondents living in Medan Johor housing, respondents according to sex showed that more respondents with male sex than female respondents, male respondents as many as 22 people or 73% and female respondents as many as 8 people or 27%.

From the data it can be seen that the majority of respondents aged 30-40 years with a number of 16 people or 53%. The next largest respondent is the age of 40-50 years with a total of 8 people or 27%. Respondents aged less than 30 years amounted to 2 people or 7% and those aged greater than 50 years amounted to 4 people or 13%. Most of the respondents aged between 30 - 40 years because of that age is the age of young couples who began occupying their own homes. This age has enough income to buy where they are at a productive age.

From the data it can be seen that respondents according to the status of self-owned property as many as 21 people or 70%, rent or contract as many as 5 people or 17% and home loan status as many as 4 people or 13%. Thus it is known that the majority of respondents choose to have their own homes for their future.

From the data it can be seen that the respondents according to the type of residential property are 30 people or 100%. Thus it is known that respondents according to the type of property are all types of houses.

From the data it can be seen that most respondents have a land area of 200 - 300 m² with a total of 15 people or 50%. The second largest respondent is land area <200 m² with a total of 7 people or 23%. Respondents who have a land area of 300 - 400 m² totaling 6 people or 20% and those who have a land area greater than 400 m² are 2 people or 7%.

4.2 Results and Discussion
a. Effect of Road Network on Land Prices

Road network variables (accessibility) have a regression coefficient of 0.040 with the value of Sig. amounting to 0.812 and t-count value of 0.240. The results of the regression analysis of the road network variable did not significantly influence land prices in this research area. This means that the results of the study can reject the hypothesis which states "there is a significant influence between the road network on land prices".

Previous research conducted by Siswanto (2007) showed different results from this study. Siswanto conducts research on the study of land prices and the condition of residential land locations. The location or area chosen for this study was in the District of Arga Makmur, North Bengkulu Regency. This research was conducted with the aim of conducting a study of land prices and the condition of residential land locations in Arga Makmur District, North Bengkulu Regency. The results showed that the pattern of land prices in Arga Makmur District was formed by accessibility and economic value of land functions. Theoretically that a particular location will have a higher value than another location, the degree of accessibility is one of the factors influencing the high and low values of the land.

In this study the theory is itself indisputable because it is not proven that the road network (accessibility) has a significant effect on the price of land / land in the residential area of Medan Johor. This may be due to the fact that the community (respondents) who live in the housing area feel that the road network (accessibility) of housing is sufficient and appropriate. Although the phenomenon that occurs is the frequent

occurrence of congestion in the area because the main road access in and out of housing is only one, namely Jalan Karya Wisata. However, this did not significantly affect the price of land in the residential area.

b. Effect of Availability of Facilities on Land Prices

Facility availability variables have a regression coefficient of -0.4471 with the Sig. amounting to 0.077 and t-count value of -1.842. The results of the regression analysis of variable availability of facilities did not significantly influence land prices in the area of this study. This means that the results of the study can reject the hypothesis which states "there is a significant influence between the availability of facilities on land prices".

Previous research conducted by Fahirah (2011) showed different results from this study. Fahirah conducted a study of the variables of property valuation in housing. The location or area chosen for this study is in West Palu. The research method was carried out by distributing questionnaires to residential residents by random sampling then processed descriptively and using an attitude scale namely the Likert scale, to find out the percentage of perceptions of residential residents to variable property valuation. The results showed that the most influential variables on the valuation of property (land and buildings) of housing in West Palu based on the perceptions of occupants of housing (consumers) were accessibility variables, social factors and availability of facilities. In this study the availability of facilities classified into infrastructure variables also did not have a significant effect on land / land prices in the Medan Johor housing area. The availability of facilities is indeed sufficient nowadays, especially in residential areas.

c. Effect of Housing Environment on Land Prices

The residential environment variable has a regression coefficient of -0.126 with the Sig. equal to 0.472 and the t-count value is -0.731. The results of the regression analysis of housing environment variables did not significantly influence land prices in the area of this study. This means that the results of the study can reject the hypothesis which states "there is a significant influence between the housing environment on land prices".

Hidayati and Harjanto (2003) state that location factors can be considered as the most influential factor on the value of a property. In this study, the location factor is included in the housing environment variable which apparently does not have a significant effect on land price / value. This is probably due to the fact that the community (respondents) who live in the Medan Johor housing area choose to live in a residential area with individual or group aspirations of the type and type of house they want according to their income and life cycle.

V. Conclusion and Suggestion

Conclusion

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

1. Independent road network variables (accessibility), availability of facilities and housing environment simultaneously unable to explain changes in the dependent variable of land prices or regression models declared inaccurate or unsuitable.

2. The road network (accessibility) has no significant effect on land prices in a residential environment in Medan Johor.

3. Availability of facilities has no significant effect on land prices in a residential environment in Medan Johor.

4. The housing environment has no significant effect on land prices in a residential environment in Medan Johor.

Suggestion

Based on the results of the study, the suggestions that I can give as a researcher are as follows for future researchers who will conduct research in this research area it is recommended to enrich other variables such as the shape or type of property, land area, building area, and can also look for factors that influence the choice of residence location in residential environment in Medan Johor.

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