DETERMINANTS OF SUBSIDIZED HOUSING DEMAND IN KARANGANYAR DISTRICT CENTRAL JAVA PROVINCE

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Abstract

House is representing requirement of human being base besides food and clothing. In its growth in the reality house also represent interesting investment alternative on the chance of capital gain in the future. Area housing of subsidy of Karanganyar region represent one of the correct choice alternative to cultivation of investment in housing area, either from price facet, facility, freshness, location which located in Karanganyar region can fulfill requirement of modern society of house besides for residence also for habitable. This research has aim to to analyse factors which influencing request of housing specially type of subsidy at Karanganyar region. Analysis for this research is using doubled linear regression. This Research responder is dweller of housing subsidy of Karanganyar region. Based on result of analysis indicate that price, location, substitution price and earnings have an effect on to decision of purchasing of house, whereas facility and environment have not an effect on to decision of purchasing of house. Testing the coefficient of determination is known that 64.2 percent of the variation that occurs in the purchase decision variables jointly influenced by the perception variable price, amenities, location, environment, income and substitution rates. While the rest equal to 35.8 percent influenced by other factors. Based on the result of this research we got that substitution price factor very having an effect on in purchasing of house. Seen from level of coefficient influencing decision of purchasing of substitution price equal to 2,175; earnings equal to 2,100; location equal to 2,141; and price equal to 2,133

Key words: request of housing, cluster, analyses double linear regression.
JEL Classification: O12, O18

1. INTRODUCTION

The existence of slums and low accessibility of the poor to obtain decent housing, indeed there is a problem in the city of Indonesia. The attractiveness of the city as centers of economic activity, trade and services, cause the presence of the rural-urban migration is not able to be accommodated by the number of habitable housing for its citizens, so often the poor into groups are excluded from the inventory of existing dwelling. Besides the ever-increasing population growth makes not limited to the space requirements.

However for some countries the level of high population density and uneven spreading like Indonesia, housing problem is still being debated. Indonesia is still a lot of people, both village and city, who live in a place that could even be said to be less healthy and liveable. Housing problems faced by people living in rural areas are generally weak economic capacity and lack of education and knowledge on how to build a healthy and decent homes.

Among the government's efforts to help society low-income in get a house / dwelling adequate and affordable health and well-qualified, Government programming housing assis-
tance to support subsidized credit facilities, other than that in line with the publication of the regulation on housing supply and housing with support facilities housing subsidies and technical guidelines healthy simple housing, so needed improvements the Director General of Housing numbers: 36/KPTS/DM/2002 date 23 April 20-02 about Standard Operating and Procedures Implementation of Assistance Program Loan Interest Difference Simple Houses / House Very Simple (KP-RS/RSS). To supporting the program the Ministry of Settlement and Regional Infrastructure had been programming facilities housing assistance by support subsidized credit. Implementation of program involves the banking sector, non-bank financial institutions and cooperative, and arranged by the Decree of the Minister of Settlement and Regional Infrastructure.

Karanganyar Regency is a districts borders of the city Solo, Sragen, Sukoharjo, and Wonogiri, so that the known as scope of area SUBOSUKAWONOSRATEN. The location of strategic areas and conveniently make Karanganyar Regency preferred by many consumers and producers in the development of the property, so that the demand for property is currently considered a significant increase. Views from the number lands that are converted to housing the densely populated. Given the many lands that has been changed into new housing are now more focused on subsidized housing, so from the demand for housing has become necessary to be studied so that home sales in the coming year can be predicted.

Research conducted by the Widiarto (2008) examines of the analysis of the factors that influence the demand a simple house type 36 in urban areas Wonosobo Regency in Central Java Province in 2008. The analysis tools used are a random cluster sampling and regression analysis. The research found that house price factors, accessibility, comfort of the environment, the community / neighbors who are expected to form, facilities, buildings and land quality has a positive and significant influence on the selection of homes, either individually or partially or jointly or simultaneously.

Soenhadji (2010) examines of the factors that influence consumer decisions in the purchase of bottled water in Depok. Analysis tools used are multiple regression and coefficient of determination. The research was found that knowledge, income, price, quality, distribution and promotion jointly influence consumer decisions in the purchase of bottled water as well as a partial test, the results of calculations can be seen that the variables have the greatest influence is the promotion of the 32.1 percent (0.321) to the consumer in the purchase decision.

Conclusions obtained from the background that appears a problem to be further investigated as to how real are the factors that influence the decision of decisions behind the rise and fall of demand for housing will. Due to the problems of housing demand for middle to the bottom of a growing but limited land we need to hold an investigation to identify any factors that influence the demand subsidized housing in the District of Karanganyar.

Related to problem formulation as described previously, then the purpose of this research was to analyze and to know how large the influence of income, price, amenities, location, environment and price of substitution of the demand for subsidized housing.
2. THEORETICAL FRAMEWORK AND HYPOTHESES

According Sukimo (2005) demand is the desire of consumers to buy an item at a certain price level for periods of time. Function demand of a consumer for goods can be formulated as:

\[ D_x = f (Y, Py, T, u) \]  \hspace{1cm} (2.1)

Where:
- \( D_x \) = number of goods required
- \( Y \) = Income Consumers
- \( Py \) = Price of Other Goods
- \( T \) = Tastes
- \( U \) = Other Factors

Equation (1.1) means that quantity of goods X demanded is affected by the price of X goods, consumer income, price of other goods, tastes and other factors. Where DX is the number of consumer goods demanded X, Y is the consumer's income, Py is the price of goods other than X, T and U are the tastes of consumers are other factors. In fact, the demand for a product not only influenced by the price of the goods themselves but also by other factors.

Demand curve is a curve that connects between the price level of goods to the amount required for the goods, ceteris paribus. The relationship between price of a commodity by amount requested can be seen in the chart below demand.

Figure 1 The demand curve of individual

As mentioned above, we should be able to distinguish between quantity demanded and demand. Price changes will affect the quantity demanded, not demand. Changes in demand will cause the demand curve shifts to the right and left (Figure 1). The shift of demand curve means that the quantity demanded will change at every price level.

Elasticity is a quantitative relationship between the variables, for example between the amount requested by price of the goods. Elasticity of demand is the ratio (ratio) between the percentage change in quantity demanded to price changes. In economic theory, the technical term price elasticity of demand (price elasticity of demand) as a concept that links changes in the quantity of purchase / optimal demand for a commodity to changes in relative price of (Nopirin, 1994).

The Demand of Housing

According AIREA (American Institute of Real Estate Appraise) (1987: 89), demand is the desire and ability to purchase or lease of goods and services. In real estate demand is the amount of the desired type of real estate to be purchased or rented, while the factors affecting demand are demographic data related to population, income and wages, job type, geographical factors, the financial condition of the soil and the growth of the city, institutions cultural, educational facilities, health facilities, fire protection and pollution protection, transportation, administration and tax structure.

Function of supply is an equation showing the relationship between the amount of goods offered by the seller and all of the factors that influence it. Function of supply is generally written:
**Definition of Housing**

There is some understanding of home and housing. Under Law No. 4 of 1992 on Housing and Settlement is.

1. The house is a building that serves as a residence or dwelling and means of family formation.
2. Housing is a group home that serves as the neighborhood or residential environment that is equipped with infrastructure and the environment.
3. The settlements are part of the environment outside the protected areas, both urban and rural area form which serves as the neighborhood or residential environment that supports life and livelihood.

**Characteristics of Housing**

According Anonymous (2008), the most important elements of the establishment of a housing is the house itself. The house can be interpreted as a place to settle down, residence / address, location of residence, the existence of an individual / family (related to the status, domicile, identity), part of the functional area of the city, the investment (family or company), space for recreation, the space used to establish family life, as well as the container limits of privacy.

Utilization of long-term residence is a common feature of residential buildings. In general, modifying the shape of the household, interior, exterior, residential buildings and space from its original form. Of the housing market, in other locations. On the other hand, a lot of residential modifications made by individuals in a particular neighborhood will affect the housing market conditions in the neighborhood.

The framework on this research can be seen in the following scheme.

\[
Q_s = f (P_q, P_{l.i}, C, O, T) \ldots \ldots \text{(2.2)}
\]

where:
- \(Q_s\) = number of goods offered
- \(P_q\) = price of the goods themselves
- \(P_{l.i}\) = price of other goods \((i = 1,2, \ldots, n)\)
- \(O\) = company goals
- \(T\) = level of technology used.

The function is can be to analyze the effect of all these factors together at once, certainly with a more complicated calculation. For ease of calculation, generally carried out a partial analysis, which analyzes one by one with regard to other factors ceteris paribus. In economics is called the law of supply Law of Diminishing Return, there is a positive correlation between the number of bids with the price of a product, meaning that if the price increases, the number of goods produced to be offered will be increased nor vice versa (Samuelson, 1995). If this is illustrated, it will obtain a supply curve that starts from the lower left to upper right (Figure 2). The supply curve shows number of bids on a product at various price levels, while other factors being equal.

Figure 2. Supply Curve.

![Supply Curve](image-url)

Source. (Samuelson, 1995:42)
Hypothesis

Based on theory and existing problems, so hypothesis presented in this research is the perception of factor price, amenities, location, environment, income, price of substitution effected on demand housing for subsidized housing

3. RESEARCH METHOD

Research Variables and Operational Definitions.

Dependent variable is a variable of major concern in an observation. Dependent variable used in this research are purchase of decision.

While the independent variables (independent variables) are variables can affect a change in the dependent variable and the dependent variable has a relationship for future dependent variable (Mudrajad, 2003). The independent variable in this research is the perception of price, amenities, location, and environment.

To measure the respondents answer of all questions of variables, in this research used Likert scales (Stanislaus, 2009: 21). On a scale of this environment, the subjects were asked to choose answers ST (Very Affordable), T (Affordable), CT (Simply Affordable), TT (Not Reachable) and STT (It's Not Reachable) to the statements contained in the scale that best suits him. Value of 5 is given when the subject chose the answer "ST", 4 is given when the subject chose the answer "T", the value of 3 for 'CT', a value of 2 for "TT", and a value of 1 if the subject chose the answer "STT".

Population and Sample.

Populations in this research are all consumers who buy and live in subsidized housing in the District of Karanganyar. Based on data obtained from the developer, there are some subsidized housing locations. In making this thesis, the author just took the questionnaire on housing Winong I and 2, and the Citra Alam Rania because this housing is housing that has a lot of its inhabitants and is located near the town center Karanganyar. The population in this housing approximately 55 KK, but the authors can only get a sample of 45 families because existing houses which no inhabited (to contracted or to be sold again), not inhabited and the occupants were not home.

Sample is a subsets of population units (Mudrajad, 2003). Sample is part of the population that have relatively similar characteristics and are considered representative of the population. In this research, taking into account the number of population, the research conducted on the entire population.

Location of Research Objects.

Location of housing Winong I and II are located in areas Palur Citra Raya and Housing Rania Alam who was d Tasikmadu Papahan area, where three is the location of housing that is located nearest to the center of Karanganyar. Besides housing Winong I and II are near the border with Surakarta Municipality making it easier for residents to reach out to the center of Karanganyar and Surakarta.
Description of Respondents.

The following will be presented an overview of the respondents which the object of the present study, the consumers who buy and live in housing Winong I and II, and Citra Rania Alam. Respondent sample was taken as many as 45 people. Respondents will shared into four categories, ie: Respondents by gender, age, marital status, highest education, occupation, monthly income, type of house and home status.

4. DATA ANALYSIS AND DISCUSSION

The results of multiple linear regression.

Multiple linear regression analysis is used to determine the effect of independent variables on the dependent variable or independent or dependent. The results of the analysis of the perception of price, amenities, location, environment, income and substitution rates of the purchase decisions of consumers who buy and live in subsidized housing in the district of Karanganyar can be seen in the table.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>-0.216</td>
<td>-0.304</td>
</tr>
<tr>
<td>Price</td>
<td>0.226</td>
<td>2.133</td>
</tr>
<tr>
<td>Amenities</td>
<td>0.026</td>
<td>0.024</td>
</tr>
<tr>
<td>Location</td>
<td>0.238</td>
<td>2.141</td>
</tr>
<tr>
<td>Environment</td>
<td>0.035</td>
<td>0.031</td>
</tr>
<tr>
<td>Income</td>
<td>0.244</td>
<td>0.030</td>
</tr>
<tr>
<td>Substitution Price</td>
<td>0.239</td>
<td>0.295</td>
</tr>
</tbody>
</table>

Dependent Variable: subsidized housing

From the above analysis with SPSS regression constants and coefficients obtained when entered on the general regression equation is as follows.

\[ \hat{y} = 0.712 + 0.106 \times X1 + 0.132 \times X2 + 0.111 \times X3 + 0.131 \times X4 + 0.116 \times X5 + 0.110 \times X6 \]

From the multiple linear regression equation, it can be interpreted that all the independent variables of perception of price, location, income and substitution rates have an influence on purchasing decisions with enormous impact that differ, while the facilities and environment variables are less influential on purchasing decisions.

The Results of Test-F.

Analysis test - F essentially indicates whether all the independent variables included in the model have jointly influence on the dependent variable. Testing by comparing the F tables with F count. Looking for F tables with criteria = 5 percent, df = n - k (45-6 = 39). From this table, the table F value obtained is 2.34. SPSS output in the attachment From the the F value of 11.334. Since F calculated> F table then Ho is rejected and Ha accepted. The magnitude of the significance of 0.000, which means less than 0.05. Based on these results it can be concluded that the model is good and acceptable.

The Results t-test.

Testing by comparing the t table with t count. T look for tables with criteria = 5 percent, df = n - k (45-6 = 39). From the SPSS output t count magnitude t count each variable can be seen in the following table.

<table>
<thead>
<tr>
<th>Variable-Free</th>
<th>t-count</th>
<th>t-table</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>2.133</td>
<td>2.042</td>
<td>0.039</td>
</tr>
<tr>
<td>Amenities</td>
<td>0.196</td>
<td>2.042</td>
<td>0.845</td>
</tr>
<tr>
<td>Location</td>
<td>2.141</td>
<td>2.042</td>
<td>0.039</td>
</tr>
<tr>
<td>Environment</td>
<td>0.271</td>
<td>2.042</td>
<td>0.788</td>
</tr>
<tr>
<td>Income</td>
<td>2.100</td>
<td>2.042</td>
<td>0.042</td>
</tr>
<tr>
<td>Substitution Price</td>
<td>2.175</td>
<td>2.042</td>
<td>0.036</td>
</tr>
</tbody>
</table>

Source: Primary data which processed, 2011

From this table, the table t value obtained was 2.042. Because t count >
t table is Ho refused and Ha is received. Perception of the value of the variable probability of price, location, income, and substitution rates < 0.05, which means a partial or individually each of these variables significantly influence the purchase decisions of consumers who buy and live in subsidized housing Karanganyar District. Facilities and environmental value of the probability of > 0.05 is the partial or individually each of these variables did not significantly influence the purchase decisions of consumers who buy and live in subsidized housing Karanganyar District.

**Coefficient of Determination.**

Coefficient of determination is used to measure how far the influence of independent variables on the dependent variable. From this table, multiple linear regression testing can be seen that the coefficient of determination of 0.642. This indicates that 64.2 percent of the variation that occurs in a purchase decision variables jointly influenced by the perception variable price, amenities, location, environment, income and substitution rates. The remaining 35.8 percent is influenced by factors outside of these factors.

**Classical Assumptions Testing and Results**

To detect whether the regression model of data distribution is normal or not it can be seen on N-par Tests with a One-Sample Kolmogorov-Mirnov Test. Which can be seen that the P-value is 0.790, where the P-value ≥ 0.05 so Ho is the data come from a normally distributed population can not be denied. Detection of multicollinearity can be seen in the magnitudes of VIF and tolerance. If the tolerance value close to 1 and VIF value of not more than 10, then the regression model is free from the presence of multicollinearity. Here are the amount of tolerance and VIF values based on the results of multiple regression analysis, table 3.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Tolerance</th>
<th>VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>0.664</td>
<td>1.507</td>
</tr>
<tr>
<td>Amenities</td>
<td>0.658</td>
<td>1.520</td>
</tr>
<tr>
<td>Location</td>
<td>0.834</td>
<td>1.200</td>
</tr>
<tr>
<td>Environment</td>
<td>0.722</td>
<td>1.384</td>
</tr>
<tr>
<td>Income</td>
<td>0.453</td>
<td>2.208</td>
</tr>
<tr>
<td>Substitution Price</td>
<td>0.511</td>
<td>1.957</td>
</tr>
</tbody>
</table>

Source: Primary data which processed 2011

From the table it can be seen that all the independent variables tolerance value close to 1 and VIF value of not more than 10, so it can be concluded that the regression models are not feasible multikolinieritas and regression models to wear. Autocorrelation can be defined as the correlation between members of a series of observation, sorted by time or space (Gujarati, 1995). This test is intended to determine whether there is autocorrelation among sets of variables are obtained. Testing for autocorrelation symptoms performed using the Durbin-Watson test statistics, ie by comparing the Durbin-Watson figures obtained from regression analysis with calculation of the Durbin-Watson figures in the table with degrees of freedom (Nk) and significant levels of certain. Durbin-Watson figures in the table shows the distribution between the lower limit value (dL) and upper limits (DU). Autocorrelation test can be described as follows.

Based on the results of regression analysis of the obtained value of 1.959 d. The critical value d at 5 percent significance level, the value of dL is 1.29 and the value of du is 1.78. So that 1.78 <1.959 <4- du (2.22), then reject Ho because it was in the area there is no autocorrelation.

The first hypothesis is that perceptions of factors affect the price of a home purchase decision on subsidized housing is received. It can be
seen from the large t count bigger than t tables and a significant probability. Bid according to consumers will increase the purchasing decisions of subsidized housing in the District of Karanganyar.

The Second hypothesis is the facility of factors affect a home purchase decision on subsidized housing was rejected. It can be seen from the magnitude of t count is smaller than t and the probability tables are not significant. The results showed there is a relationship between the facility with the purchase decision, which means a lack of facilities on offer does not affect the consumer to make purchases.

The third hypothesis is that factors affect the location of the home buying decision on the received subsidized housing. It can be seen from the large t count bigger than t tables and a significant probability. The results showed that the location or locations of housing is a consideration in buying a home buyer.

The fourth hypothesis that environmental factors influence the decision of buying a home in subsidized housing was rejected. It can be seen from the large t count bigger than t tables and a significant probability. The results showed that the comfort and safety in the environment does not affect the buyer in finding a home purchase.

The fifth hypothesis that income factors influence the home buying decision on the received subsidized housing. It can be seen from the large t count bigger than t tables and a significant probability. The results showed that the size of one's income affects the purchasing power of a person, including the purchase of the house. The higher revenues are an increasingly diverse customer needs including the purchase of a house for shelter.

The sixth hypothesis is factor substitution effect on the price of a home purchase decision on subsidized housing is received. It can be seen from the large t count bigger than t tables and a significant probability. The results show that consumer behavior in buying a home would compare with other housing. Competitive prices because of subsidies from the government's enormous influence on purchasing decisions Karanganyar subsidized housing in the District.

5. CONCLUSION, IMPLICATION, SUGGESTION, AND LIMITATIONS

Partially and individual variable substitution rates positively affected the demand for subsidized housing in the District of Karanganyar. Variables influence the perception of price, location, income, and price of substitutes proved significantly to housing demand, seen from the results of the t test that produces a statistical test with a P value for the price, because the P value smaller than \( \alpha = 0.05 \). Facilities and environmental variables influence proved to be significant demand for housing, seen from the results of the t test that produces a statistical test with P value for the price. Because the P value is greater than \( \alpha = 0.05 \) we can conclude the price factor, location, income and substitution rates significantly influence the demand for subsidized housing in the District of Karanganyar.

This research still has limitations. The existence of these limitations, expected to be improved for future studies. Based on the results suggest that purchase decisions are influenced by the four dependent variables and the remaining 64.2 percent of 35.8 percent is influenced by other factors. Although quite high at over 50 percent, but more research still needs to be done with the addition of new variables or other indicators in future
studies in order to generate a broader picture of the problem in this study so as to refine the results of the study.

Suggested to the researchers next, to be able to do the same research with other variables. As for the developer or developers to better take into account price, amenities, neighborhood, location, income and substitution rates to build or expand subsidized housing in order to target an increase in sales can be achieved.

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