IOSR Journal of Business and Management (IOSR-JBM)
e-ISSN: 2278-487X, p-ISSN: 2319-7668. Volume 21, Issue 5. Ser. VI (May. 2019), PP 05-09
www.iosrjournals.org

Analysis of the Level of Capitalization of Paddy Fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province

Irfan Riadi[1], Sukaria Sinulingga[2], Rahmanta[3]
[1](Universitas Sumatera Utara, Indonesia)
[2](Universitas Sumatera Utara, Indonesia)
[3](Universitas Sumatera Utara, Indonesia)
Corresponding Author: Irfan Riadi

Abstract: *The capitalization rate is a certain rate used to convert the estimated income stream into an estimate of the present value of a property or also defined as the ratio of the annual net income to its market value. This study aims to analyze the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province. The results showed that, at an alpha level of 5% there was a significant difference between the level of capitalization of paddy fields based on the net income of paddy field rental with the level of capitalization of paddy fields based on operational net income of paddy field production in Perbaungan District which was 2.06%. The most suitable model of various models for estimating the rate of capitalization of paddy fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province is in the form of log-i. Ton / Ha) + 0,005 Distance of paddy field to water source (m) + 0,003 Distance of paddy field to business center (Km). The data collected in this study is primary data from the results of interviews and field observations at the study site. The analysis used in this study consisted of two analytical methods, namely measurement of central tendency and regression. Based on the results of the study, it can be concluded that the higher the market value of paddy fields, the lower the capitalization of paddy fields, and the lower the market value of paddy fields, the higher the capitalization rate. The implication is that the greater the level of risk of paddy fields, the greater the level of capitalization, and the lower the level of risk of paddy fields, the lower the level of capitalization.*

Keywords: Capitalization, Paddy Field, Market Value

Date of Submission: 30-04-2019 Date of acceptance: 15-05-2019

I. Introduction

In applying the Income Capitalization Approach, the appraiser can assume that the objective of the investor is to obtain a total return on the amount of investment that has been spent. Therefore, the return expected by the investor consists of the total amount of return that has been invested, and the profit that will be received. Because returns obtained from a real estate can consist of various forms, the rate of return used in capitalization will vary. All returns can be categorized both as income levels and yield levels.

Assessment of agricultural land for the purpose of tax use and other purposes still uses a comparative approach. The income method by calculating the capitalization rate is one of the alternative assessments to get more accurate results using estimation of rent value and selling value of agricultural land (Widiyatmoko, 2007).

According to Winarso (2012) the change in ownership and control of land for a farmer has a huge effect on the economic life of the farmer's family in question, both changes due to the loss of tenure rights and ownership rights to a piece of land or the emergence of ownership rights and tenure rights over a piece of land. Disappearance and emergence of rights to land can be through various processes so that a person is entitled or not entitled to the land in question. This process can occur because of buying and selling transactions, inheritance sharing transactions, grants or other transactions such as profit sharing, leasing, pawn or hitching.

Based on the observations in Perbaungan Subdistrict, it was found that the market value of paddy fields varied and the market value of paddy field rental, this indicated that the level of capitalization of paddy fields in Perbaungan District also varied, so research was needed to analyze the level of paddy field capitalization in Perbaungan District, Serdang District Bedagai North Sumatra Province.

The formation of a model to estimate the capitalization rate of paddy fields will help in calculating land values in the Perbaungan sub-district with an income approach, it is necessary to conduct research and formulation of capitalization levels by using several variables that are expected to affect the size of

capitalization rates based on previous research. Some of these variables are paddy field area, productivity of paddy fields, distance of paddy fields to water sources, and distance of paddy fields to the business center.

II. Theoretical Review

2.1 Capitalization Rate

The rate of return used in the income capitalization approach reflects a prospective, and not a historical level, so market perceptions of risks and changes in purchasing power are very important. The capitalization rate is the rate of return whose function is as an indicator of risk on a property investment. In general, the higher the capitalization rate usually reflects the less desirable property, and the lower the capitalization rate reflects the property is much in demand.

There are two methods commonly used to determine capitalization rates, namely direct capitalization and yield capitalization. The difference between the two is the assumption 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, the period of ownership and anticipation of depreciation / appreciation (Akerson, 2000: 31).

In the procedure of capitalizing land rent (ground rent capitalization), basic land rent can be capitalized with a rate that matches the market value of the land. Basic land rent is paid for the right to use and place land in accordance with the conditions or rental conditions. The capitalization rate derived from the market rate is used to convert the land base lease into the estimated market value, namely by multiplying the basic land rent per year with the appropriate capitalization rate. The capitalization results show the estimated value of land. This technique is useful when it is useful when analysis of comparable land data indicates rent and its level of capitalization.

According to Hidayati and Harjanto (2003:176) to form capitalization yield of an appraiser needs to do the following.

1. Selecting the period of ownership / rental.
2. Forecasting all future cash flows or cash flow patterns and analyzing the relationship between current and future cash flows.
3. Choosing the appropriate yield or discount rate.
4. Bringing future profits into present value through discounting every profit every year throughout the economic life.

2.2 Agricultural Land Market Value

Market value is defined as an estimate of the amount of money that can be obtained from the exchange of an asset or liability at the date of valuation, between buyers who intend to buy with sellers who intend to sell, in a bond-free transaction, whose marketing is feasible, where both parties each acting on the basis of his understanding, prudence and without coercion.

The value of agricultural land actually reflects the use value (value in use) of land as agricultural land rather than market value (market value) and land tenants will try to maximize the use of agricultural land. The value of the use of agricultural land is proportional to the valuation approach based on the income approach which can be calculated by capitalizing the net income received by farmers, or the marginal value product for output from agricultural land use or income from rent. Based on the theory of capitalization, to convert income streams into a property value a certain capitalization level is needed. Agricultural land that has higher productivity will have the ability to produce higher rent values so that the level of capitalization will also be higher (Fathullah, 2004).

Agricultural land, both rice fields and dry land, functions as a cultivation medium or source of production of agricultural products which is a source of farmers' income. In addition, land also functions to produce environmental services whose benefits can be enjoyed by farmers and the wider community. Agricultural land, especially rice fields has a multifunction. The function of agricultural land is the function of agricultural land both that can be assessed directly through the market mechanism of production or services produced, and which is assessed indirectly which is functional for the environment in the form of biophysical, socio-economic and cultural functions (Soemarno, 2010).

2.3 Value of Rental of Agricultural Land Markets

Market rent value is an estimate of the amount of money that can be obtained from leasing an asset at the date of appraisal, between leasing interested owners and tenants who are interested in renting according to reasonable lease requirements in bond-free transactions, whose marketing is feasible, and each party knows , act carefully, and without coercion.

Rental of agricultural land is a description of the potential net income that can be generated by agricultural land, namely the income of the net income received in exchange for the right to use and place the land in accordance with the conditions or rental conditions. The rental price of agricultural land reflects the value of agricultural products or the quality of agricultural land resources (Saputra, 1998: 3).

2.4 Hypothesis

Based on the background and 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 is a significant difference between the capitalization rates of paddy fields based on the net income of paddy fields with a capitalization rate based on the operational net income of paddy field production in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province.
2. It is assumed that simultaneous factors of paddy field area, productivity of paddy fields, distance of paddy fields to water sources, and distance of paddy fields to the center of business have a significant effect on the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province.
3. It is assumed partially that the factors of paddy field area have a significant effect on the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province.
4. It is assumed partially that the productivity factor of paddy fields has a significant effect on the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province.
5. It is assumed partially that the distance of paddy fields to water sources has a significant effect on the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province.
6. It is assumed partially that the distance of paddy fields to the business center has a significant effect on the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province.

III. Materials and Method

3.1 Types of Research

The type of this research is descriptive quantitative. The nature of this study is comparative non causality research. According to Fachrudin and Meliza (2014: 64) comparative non-causality research is a study conducted not to directly explain causal relationships, but to make comparisons on several situations and on that basis an assumption is made about what causes differences in the situation that occurs.

3.2 Location and Time of Research

The study was conducted in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province. The location selection is based on the consideration that Perbaungan District is a mainstay for Serdang Bedagai District to become a rice barn in North Sumatra Province with 43% of the land area. Based on the results of observations in Perbaungan Subdistrict, it was found that the market value of paddy fields varied and the market value of rice field rents, this indicates that the level of capitalization of paddy fields in Perbaungan District also varied. This research was conducted from May to July 2016.

3.3 Population and Samples

The population in this study were all paddy fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province, with a total paddy field area of 5,535 hectares. Sampling is done by purposive sampling technique. The reason for using this technique is that the sample chosen is expected to represent the population so that it can provide acceptable results. The amount of data on rental transaction data obtained by researchers, the number of samples in this study were 57 samples taken from 19 villages.

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

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

Results

a. In the variable wetland area (X_1), the coefficients that are positively marked indicate the direction of a positive relationship. This means that the higher the area of rice fields, the higher the level of capitalization. The regression coefficient of 0.019 indicates that an increase in rice field area of 1 hectare will increase the capitalization rate of paddy fields by 0.019%, assuming other variables are in a constant or constant state. The more extensive rice fields, the greater the value of land rent and also the amount of rice production in paddy fields will increase, but the more paddy fields will cause the market value of per-meter paddy fields to decrease.

b. In the wetland productivity variable (X_2), the coefficients that are positively marked indicate the direction of a positive relationship. This means that the higher productivity of paddy fields, the higher the level of capitalization. The regression coefficient of 0.169 shows that the increase in paddy field productivity by 1 Ton / Ha will increase the rate of capitalization of paddy fields by 0.169%, assuming other variables are in a constant or constant state. Rice fields with good land productivity will cause an increase in the value of paddy fields, but the rent value and net income of paddy field production will be much increased. Rice field productivity is related to the level of land fertility, the difference between good land productivity and poor land productivity lies in the greater land rent with good land productivity, due to high costs for poor productivity so that income will decrease.

c. In the variable distance of paddy fields to water sources (X_3), the coefficients that are positively marked indicate the direction of a positive relationship. This means that the further the distance of paddy fields to water sources, the higher the level of capitalization. The regression coefficient of 0.005 indicates that the longer the distance of paddy fields to water sources increases by 1 meter, the higher the capitalization rate of paddy fields to 0.005%, assuming other variables are constant or constant. Rice fields that are far from water sources will cause the market value of paddy fields to be much lower, but the net income of land production is not far down due to the role of cultivators of rice fields in monitoring the irrigation of the paddy fields. Based on the derivative formula of capitalization which shows that the greater the risk, the greater the capitalization rate, it can be seen that the farther the distance from the paddy field the higher the risk, resulting in higher levels of capitalization of the paddy fields.

d. In the variable distance of paddy fields to the center of business (X_4), the coefficients that are positively marked indicate the direction of a positive relationship. It means that the further the distance of paddy fields to the center of business, the higher the level of capitalization. The regression coefficient of 0.003 shows that the farther the distance of paddy fields to the business center by 1 Km will increase the rate of capitalization of paddy fields by 0.003%, assuming other variables are in a constant or constant state. According to (Fisher and Martin, 1994: 326) property located far from the center of business will have greater risk, especially the risk of space market. Space market risk is affected by the location of the property. This will result in changes in market rents, vacancy rates and NOI. Location of property that is far from the business center will reduce market rent, and reduce NOI, while property values will also be much lower. In the end the risk for the owner becomes high. The higher the risk, the higher the capitalization rate. Based on this, the further the paddy field to the business center, namely the rice refinery, the greater the risk and the greater the capitalization rate.

IV. Discussion

Level of Capitalization of Rice Fields

Based on the results obtained there are significant differences between the average level of capitalization of paddy fields based on the net income of paddy field rental with an average level of capitalization of paddy fields based on the operational net income of paddy field production in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province. The average level of capitalization of paddy fields based on the net income of paddy fields with an average level of capitalization of paddy fields based on operational net income of paddy field production is 2.06%, where the average capitalization level of paddy fields is based on net income of paddy fields at 2.34%, while the average capitalization rate of paddy fields is based on the operational net income of paddy field production of 4.40%.

According to Soekartawi, Rusmadi, and Damaijati (1993) activities in the agricultural sector concerning the production process are always faced with a situation of risk (uncertainty). The risk is the chance of possible losses can be known in advance. Uncertainty is something that cannot be predicted beforehand, and therefore the chance of a loss is not known beforehand. An important source of uncertainty in the agricultural sector is fluctuations in agricultural yields and price fluctuations. Uncertainty in agricultural products is caused by natural factors such as climate, pests and diseases and drought.

Based on the results of interviews with the owners of paddy fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province, results were obtained that by renting their paddy fields to other parties, it could reduce the risk because the income from paddy fields was more stable and could be received quickly.

V. Conclusion and Suggestion

Conclusion

Based on the research that has been done on all observational data of paddy fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province, according to the objectives and hypotheses proposed in this study, the following conclusions can be drawn:

1. There is a significant difference between the average capitalization level of paddy fields based on the net income of paddy field rental with the average capitalization rate of paddy fields based on the operational net income of paddy field production in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province which is 2.06% . The average capitalization rate of paddy fields is based on an estimated net rental value of 2.34%, while the average rate of capitalization of paddy fields is based on the estimated net income of paddy field production of 4.40%. This difference is caused by the level of risk, the greater the level of risk of paddy fields, the greater the level of capitalization, and the smaller the level of risk of paddy fields, the lower the level of capitalization.
2. Simultaneously the Rice Field Area, Rice Field Productivity, Rice Field Distance to Water Source, and Rice Field Distance to the Business Center significantly influence the Rice Field Capitalization Rate with clear power (R2) of 86.4%.
3. The model for estimating the level of capitalization of paddy fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province in the form of functions of the log-lin model is as follows:

Y = 0.064 + 0.019 Rice Field Area (Ha) + 0.169 Productivity of Rice Field (Ton / Ha) + 0,005 Distance of paddy field to water source (m) + 0,003 Distance of paddy field to business center (Km).

Suggestion

From the whole series of research processes on the analysis of the level of capitalization of paddy fields in Perbaungan Subdistrict, Serdang Bedagai Regency, North Sumatra Province, and based on the background and conclusions in this study, suggestions can be given as follows:

1. In property valuation, it is expected that the estimation model of the level of capitalization of paddy fields in Perbaungan District, Serdang Bedagai Regency, North Sumatra Province which is produced through analysis and various tests in this study can be used as a reference and consideration for farmers, investors, appraisers, and local government to estimating the market value of paddy fields and the value of renting paddy fields.
2. For further researchers, to get a better model for estimating the capitalization level of paddy fields, improvement of the model in this study can be done by increasing the other independent variables that are thought to have a significant effect on the level of capitalization of paddy fields.
3. Further research needs to be done about the relationship between the level of risk and the level of property capitalization.

Reference

[1]. Akerson, C.B. (2000). *Capitalization, Theory and Techniques, Study Guide, Second Edition*. Appraisal Institute. Chicago, Illinois.
[2]. Fachruddin, Khaira Amalia and Juli Meliza. (2014). *Metode Penelitian*. Medan: USU PRESS
[3]. Fathullah, Zuli. (2004). *Faktor-faktor yang Mempengaruhi Tingkat Kapitalisasi Tanah Pertanian di Kabupaten Magelang.* Yogyakarta: Universitas Gadjah Mada, Tesis, Program Pascasarjana.
[4]. Hidayati, W., and Harjanto, B. (2003). *Konsep Dasar Penilaian Properti, Edisi Perdana.* Yogyakarta: BPFE.
[5]. Saputra, I., Y. (1998). *Pengaruh Harga Sewa Tanah Pertanian terhadap Nilai Jual Obyek Pajak Tanah Pertanian*. Yogyakarta: Universitas Gadjah Mada, Tesis, Program Pascasarjana.
[6]. Soemarno. (2010). *Metode Valuasi Ekonomi Sumberdaya Lahan Pertanian, Bahan Kajian untuk Mata Kuliah Ekonomi Sumberdaya Alam.* Malang: Universitas Brawijaya
[7]. Soekartawi, Rusmadi and Effi Damaijati. (1993). *Resiko dan ketidakpastian dalam Agribisnis*. Jakarta: PT Raja Grafindo
[8]. Widiyatmoko, F. Iwan. (2007). *Analisis Tingkat Kapitalisasi Tanah Pertanian Tembakau Melalui Estimasi Nilai Sewa Dasar Tanah di Kabupaten Temanggung*. Yogyakarta: Universitas Gadjah Mada, Tesis. Program Pascasarjana.
[9]. Winarso, Bambang. (2012). *Dinamika Pola Penguasaan Lahan Sawah di Wilayah Pedesaan di Indonesia*. Jurnal Penelitian Pertanian Terapan 12 (3) : 137-149.