

## Farmer Preference to Access Agricultural Credit in Indonesia

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*We suggest you to cite this article as:*

Salmiah, Sebayang, T., Khaliqi, M., Muda, I. 2019. Farmer preference to access agricultural credit in Indonesia. *Junior Scientific Researcher*, Vol V, No. 2, pp. 16-23.

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### ABSTRACT

*This research was conducted in Sempa Jaya Village, Berastagi Sub-district, Karo Regency, Indonesia. The research location is determined purposively based on the consideration that this village is horticulture production center and there is Credit Union (CU) Merdeka which give farm loan/credit to farmer. This research is aimed to analyze farmer preference to credit itself, by analyzing the most important credit attribute according to farmers. Through analysis of farmer preferences will be known level of farmer selection to credit based on credit attribute like service, supporting facility, requirement, time period, interest system and collateral. By knowing farmer preference to combination of credit attribute, credit institution can form credit system as expected by farmer, so that its utilization can be more effective and efficient. At the end of the targeted study, a new form of policy from government and credit institutions regarding the granting of credit towards farmer will be created, which will prevent the farmer to rent a credit to informal institution and individual.*

**Keywords:** agricultural credit, credit union, conjoint analysis, farmer preference

**JEL Classification:** N5, O13, Q14.

### INTRODUCTION

Agricultural growth is closely related to increased production and exchange rate of farmers. The most basic problem in agriculture is the difficulty of access to capital that can be achieved by farmers. Many farmers have the ability to increase their agricultural output but because they do not have sufficient capital, the farmer is finally unable to develop their farms. To overcome the shortage of capital, farmers attempt to apply for loan credit to the institution of financing both formal and informal Agricultural growth is closely related to increased production and exchange rate of farmers. The most basic problem in agriculture is the difficulty of access to capital that can be achieved by farmers. Many farmers have the ability to increase their agricultural output but because they do not have sufficient capital, the farmer is finally unable to develop his farm. To overcome

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the shortage of capital, farmers attempt to apply for loan credit to the institution of financing both formal and informal.

One of the financing systems in agriculture to increase agricultural growth is through agricultural credit. Agricultural credit is an important input in improving the adaptation of modern technology to increase agricultural production. This relatively low installment value does not only provide opportunities for small and medium-sized farms to survive, but large-scale farming can increase farm revenues (Das *et al* 2009). This is because for better production, farmers have to spend more on production facilities.

Various credit / financing schemes for MSME and Farmers have been launched by the government linked to tasks and programs for economic development in certain business sectors, for example in the areas of food security, livestock and plantation. Bank Indonesia through an implementing bank has disbursed capital loan to farmers in the form of Food Security and Energy Credit (KKPE), Credit for Energy Development and Plantation Revitalization (KPEN-RP), Business Credit of Cow Breeding (KUPS) and People's Business Credit (KUR). These loans / loans are granted to farmers and farmer groups are channeled through credit unions or Credit Union (CU).

Currently, in the village of Sempa Jaya, in Karo District there is already a financial institution, Credit Union (CU) Merdeka which provides credit assistance to farming. The main target of this agricultural credit granting program is that the aid is used appropriately in spurring the increase of agricultural production (food) in order to affect the increase of farmer's income. However, based on the results of preliminary interviews in the field, only 54.98% of the farmers in this village who use agricultural credit, the rest do not use credit or ask for help to the middleman.

Based on the description, one thing that can be concluded is the necessity to analyze the farmers preferences to determine the level of farmer selection to credit based on attributes such as services, supporting facilities, requirements, timeframe, interest and collateral system, by knowing the preferences of farmers to the combination of credit attributes, credit institutions can establish credit systems such as which the farmers hope to achieve.

## MATERIAL AND METHOD

### Sample and Survey Design

This research was conducted at CU-Merdeka, Sempajaya Village, Berastagi Sub-district of Karo Regency. The location of the study was determined purposively based on the consideration that the research area is horticulture production center in Berastagi sub-district, and in this village, there is Credit Union (CU) agriculture to farmers.

This research was conducted within 1 year. This research analyzes and examines the most important credit attributes based on farmer preferences. Through conjoint analysis, the most important credit attributes are based on farmer preferences. Through the analysis of farmers' preferences, it will be known that the farmers selection rate on credit based on credit attributes such as service, supporting facilities, requirements, time period, interest system and collateral. By knowing the preferences of farmers to the combination of credit attributes, credit institutions can establish credit system as expected by farmers, so that its utilization can be more effective and efficient.

This study uses conjoint analysis. The population of horticultural farmers in Sempajaya village, Brastagi sub-district, Kab Karo is 149 peasants. According to Hair, Black, Babin, Anderson, and Tatham (2006) in the conjoint analysis the sample size is

considered to be between 50 to 200 samples. used is a census method, where all populations are sampled.

### Conjoint Analysis

In this study using conjoint analysis to measure farmer perceptions to compare the most important elements in influencing farmers' decision making in choosing agricultural credit. Conjoint analysis is an analysis that compares factors that affect the purchase of a product in the market. This technique assumes that the product consists of several attributes attached to it such as brand, color and price (Auty, 1995). Broadly speaking, conjoint analysis has been used in studies in the marketing of a product (Silayoi&Speece, 2007). Conjoint analysis can also be said as a ranking method, farmers are given the discretion to determine what is considered important in choosing agricultural credits that exist (Claret et al., 2012).

Additionally, Conjoint Analysis is able to assess factors that can affect one attribute compared to the overall attribute on the product (Boesch, 2013). Conjoint analysis is formed from the measurement of consumer habits mathematically. AC is used in investigating factors simultaneously with ordinal data types (Wu, Liao, &Chatwuthikrai, 2014). This analysis is often applied to the analysis of preferences because consumers can clearly choose consumer preferences to provide a product overview by considering several attributes that can be a priority (Nuraeni, Arru, & Novani, 2015).

## RESULTS AND DISCUSSION

### Farmer Preference for Combination of Credit Attributes

This study aims to analyze farmers' preferences on credit attributes to analyze the most important attribute sequence of credit products and to determine the level of accuracy of predictions between estimation results and actual results in conjoint processes.

**Table 1.** Results of Conjoint Analysis of Farmers Preference on Credit

No.	Attribute	Level	Utility values	Importance values (%)
1	Collateral	Land Certificate	.199	10.853%
		Movable Properties	.015	
		No Collateral	-.214	
2	Loan Procedure	Difficult	.115	9.295%
		Normal	.015	
		Easy	-.130	
3	Loan Terms	Difficult	.081	8.836%
		Normal	-.056	
		Easy	-.025	
4	Credit Collateral Limit	Small	.244	12.269%
		Medium	.004	
		Large	-.247	
5	Time Period	Long	.226	11.518%
		Normal	.026	

No.	Attribute	Level	Utility values	Importance values (%)
6	Location of Credit Institution	Fast	-.252	8.955%
		Close	-.074	
		Normal	.037	
7	Interest Rate	Far	.037	10.415%
		High	.141	
		Medium	-.081	
8	Administrative Cost	Low	-.061	9.536%
		Expensive	.186	
		Medium	-.034	
9	Repayment Time Period	Cheap	-.152	9.200%
		Long	-.081	
		Normal	-.023	
10	Installment Procedure	Fast	.104	9.124%
		Fixed	.033	
		Medium	.097	
		Flexible	-.130	

Source: Data Analyze, (2017).

The credit that the farmer prefers can be seen from the utility values of the greatest among the level on each attribute. Based on the results of research, the preferred credit specification from consumer is reviewed from:

#### a. Collateral

The collateral that the consumer chooses is credit with no collateral. This result can be seen in Table 1, where the collateral attribute, no-collateral has the smallest utility values among the other levels of -0.214.No-collateral, where credit is borrowed without the use of collateral either moving goods or land certificates. Without collateral included in the level easy because farmers do not need collateral in borrowing the credit.

#### b. Loan Procedure

Loan Procedure which is the consumer's choice is credit with easy lending procedure. This result can be seen in Table 1, where the easy lending procedure attribute has the smallest utility values among the other levels ie -0.130. The lending procedures are said to be easy because few steps have to be met by the creditors.

#### c. Loan Terms

Lending requirements that can be considered the choice of consumers are credits with moderate lending requirements. These results can be seen in Table 1, where the attributes of lending conditions have the smallest utility values among the other levels of -0.056.Medium credit lending requirements, as farmers may become members to obtain credit and may not necessarily be members to obtain credit or no attachment in obtaining credit.

#### d. Collateral Limit

The collateral limit, the credit that the consumer chooses is credit with a large credit ceiling. This result can be seen in Table 1. where the attribute of large credit limit has the smallest utility values among the other levels of -0.247. Large, large credit

collateral platform if the funds issued by the credit institution to farmers in borrowing credit of >Rp. 200 million.

#### **e. Time Period**

The grace period of consumer choice is credit with a fast grace period. This result can be seen in Table 1, where the fastest time attribute has the smallest utility values among the other levels of -0.252. Fast, the Grace Time between the Applicant and the Realization of Credit takes 1-2 days.

#### **f. Location of Credit Institution**

The location of the Credit Institution that the consumer chooses is credit with the location of the credit institution close by. These results can be seen in Table 1, where the attributes of near credit institution locations have the smallest utility values among the other levels of -.074. Close is the distance of the credit institution, close to the farmer so it takes a slim distance to the credit agency or about 0-2 km from the farm.

#### **g. Interest Rate**

The interest rate that the consumer chooses is the credit with the moderate interest rate. This result can be seen in Table 1. where the interest rate attribute is having the smallest utility values among the other levels of - 0.081. Medium i.e the interest rate in credit is between 1% -7%.

#### **h. Administrative Cost**

Administration cost of consumer choice is credit with low cost administration. This result can be seen in Table 1. where in attribute of cheap administration cost has the smallest utility value among other level that is equal to -0.152. Cheap is the administrative cost in credit of <Rp. 100.000.

#### **i. Repayment Time Period**

The Credit Repayment Period which is the consumer's choice is credit with the old credit repayment period. This result can be seen in Table 1, where the attribute of the old credit repayment period has the smallest utility values among the other levels of - 0.081. The length of the loan repayment period is 4-5 years.

#### **j. Credit Installment Procedure**

Credit Installment Procedures which are the consumer's choice are credits with flexible Credit Installment Procedures. These results can be seen in Table 1, where the attributes of the flexible Credit Installment Procedure have the smallest utility values among the other levels of -0.130. Flexible credit repayments procedures are not necessarily follow the pattern of installments desired by credit institutions. Thus, the credit to which the farmer preference is the credit with the specifications without collateral, easy lending procedures, medium lending requirements, large collateral platform, fast deadlines, distant credit institution locations, intermediate interest rates, low administrative costs, flexible credit installment procedure.

#### **Order of The Importance Values of Credit Attribute by Consumer Preferences**

Based on the result of conjoint analysis, it is known that the sequence of the most important credit attributes according to the consumer starts from the credit collateral platform (12,269%), the grace period (11,518%), the collateral (10.853%), the interest

rate (10.415%), administration fee (9,536%), (9,295%), repayment period (9,200%), installment procedures (9.124%), location of credit institutions (8,955%), loan requirements (8,836%). From the analysis of the research data, that the credit platform attribute has the highest importance value and then under it respectively the time attribute, the rate and the interest rate, the administrative cost, the loan procedure, the payback period, the installment procedure, the location of the credit institution, and the last loaning requirement. This indicates that the consumer considers the credit platform attribute as the most important factor in making the decision to borrow the credit while the less important attribute in influencing the credit loan decision is the borrowing requirement.

### **Correlations Between Observed And Estimated Preferences**

The correlation result is high (above 0.5) in both Pearson's (0.938) and Kendall's Tau (0,600) correlation and the second correlation is significant because the significance level of both is below 0.05. Based on the value of Pearson's and Kendall's Tau significance equals 0.000 where  $0.000 < 0.05$  then  $H_0$  is rejected so that the interpretation is a strong relationship between estimation preferences and preference actual, or there is a high predictive accuracy in the conjoint process. It can be said that the process conjoint using such samples may be aligned if used in farmer populations. This means that the credibility that the sample consumer preference can describe the farmers' overall preference (population).

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Conclusions**

From the conjoint analysis that has been done on the preferences of farmers and credit institutions on credit can be concluded that:

1. Farmers have a tendency to choose unsecured loans, easy lending procedures, medium lending requirements, large collateral platforms, fast lead times, near credit institution locations, intermediate interest rates, low administrative costs, long repayment terms and Credit Installment Procedures flexible.
2. In selecting credit factors affecting the purchasing decision of the farmer it is seen that the attributes of the collateral platform have the highest importance value and then below the respective attributes grace period Time, Collateral, interest rate, administration fee, loan procedure, repayment period, credit institutions, and the latter lending terms. This indicates that the consumer considers the attributes of the collateral platform as the most important factor in making the decision to borrow the credit while the attribute that is not so important in influencing the purchase decision is the terms of borrowing
3. Based on the correlation value can be seen that the value of Pearson's Correlation 0.000 (sign.  $< 0.05$ ) and Kendall's Tau 0,000 (sign  $< 0,05$ ). The interpretation is a strong relationship between estimation preferences and actual preferences, or there is a high predictive accuracy in the conjoint process.

### **Recommendations**

#### **Credit Institutions**

Credit Agencies are expected to provide credits with specifications that match farmers preferences at least resembling peasant preferences so as to be able to meet the credits desired by farmers.

### Government

The government can formulate future policies in accordance with the specifications of the farmers preferences in an effort to improve creditability for farmers.

### REFERENCES

- [CU] Merdeka. (2014). *Annual Member Meeting Report*. Desa Merdeka: CU Independent
- Anonimus. (2011). *Role of Agricultural Credit*. Retrieved from <http://jurnalscript.com/peranan-kredit-kredit-usaha-tani-dan-kredit-ketahanan-pangan-dan-tenaga-kerja-katihananian-in-increase-information-perkapita-petani-in-kurahan-poor/>. Accessed on September 5, 2018. Medan
- Aritonang, H. (2009). Analysis of Credit Union Existence (CU) as Financing Institution in Saribudolok Village, Silimakuta District, Simalungun Regency. *Dissertation*. Faculty of Agriculture, University of North Sumatra.
- Ashari. (2009). The Role of National Banking in Agriculture Sector Financing in Indonesia. *Agro Economic Research Forum*. 27(1). 22-32.
- Auty, S. (1995). Using conjoint analysis in industrial marketing: The role of judgment. *Industrial Marketing Management*, 24 (3), 191-206.
- Bilson Simamora, (2005), *Multivariate Marketing Analysis*. Jakarta. PT. Gramedia Library:
- Boesch, I. (2013). Preferences of processing companies for attributes of Switzerland milk: A conjoint analysis in a business-to-business market. *Journal of dairy science*, 96(4), 2183-2189.
- Claret, A., Guerrero, L., Aguirre, E., Rincón, L., Hernández, M. D., Martínez, I., Rodríguez-Rodríguez, C. (2012). Consumer preferences for sea fish using conjoint analysis: Exploratory study of country of origin, obtaining method, storage conditions and purchasing prices. *Food Quality and Preference*, 26(2). 259-266.
- Das, A., Senapati, M., & John, J. (2009). Impact of agricultural credit on agriculture production: an empirical analysis in India. *Reserve Bank of India Occasional Papers*, 30(2). 75-107.
- Djarwanto. (2003). *Non Parametric Statistics*. Yogyakarta. BPF.
- Engel JF, Blackwel RD, Winiard PW. (1994). *Consumer behavior*. Volume 1 Ed 6th. Jakarta (ID): Literature Bodybuilding.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate data Analysis*. 6th ed. Uppersaddle River: Pearson Prentice Hall.
- Hair, Joseph (2006). *Multivariate Data Analysis*, Sixth Edition. Pearson Education Inc. New Jersey
- Hasibuan. (2011). *Basics of Banking*. Grafindo: Jakarta
- Juarwan, I. (2013). Analysis of Consumer Preference on Organic Vegetable Attributes in the City of Bogor. *Thesis Published*. Bogor Agricultural Institute
- Kasmir. (2009). *Banks and Other Financial Institutions*. PT Raja Grafindo Persada. Jakarta
- Kotler P, Keller KL. (2008). *Marketing Management*. Volume 1 Ed 12th. Jakarta (ID): PT Index.
- Kotler P. (2005). *Marketing Management*. Millennium Edition. Jakarta (ID): PT Prenhallindo
- Kotler, P. (2000). *Marketing Management: Planning, Implementation and Control Analysis*. Erlangga. Jakarta
- KU Cooperative Ora et Labora Namoriam Village. (2013). *Annual report*. Deli Serdang.
- Malik, S. J., & Nazli, H. (1999). Rural poverty and credit use: evidence from Pakistan. *The Pakistan Development Review*. 699-716.
- Mosher, A.T. (1966). *Moving and Building Agriculture. Absolute Terms of Establishment and Modernization*. Adapted by S. Krisnashi and Bahrin Samad from the book Getting Agriculture Moving. Yasaguna, Jakarta. 206 p.
- Mosher, A.T. (1996). *Moving and Building Agriculture, Absolute Conditions for Development and Modernization*. Jakarta. CV Yasaguna.
- Nugraha, A. (2014). *Identification of Transaction Costs and Social Capital to Determine Credit Schemes Suitable for the Agricultural Sector*. Economic Studies. Malang.

- Nuraeni, S., Arru, A. P., & Novani, S. (2015). Understanding consumer decision-making in tourism sector: conjoint analysis. *Procedia-Social and Behavioral Sciences*, 169, 312-317.
- Putra, Gede S A, (2008). *Finding Farmers' Problems to Look for Solutions as an Effort to Help Improve Their Knowledge and Flexibility*. Working Paper. Page 1-2
- Santoso, S. (2012). *SPSS application on Multivariate Statistics*. PT. Elex Media Komputindo. Jakarta.
- Sarwono, J. (2016). *Quick and Easy Guide to SPSS 19*. Edition I. Yogyakarta: Andi Offset.
- Septiani, E. (2014). Consumer Preference Conjoint Analysis on Durian Fruit (*Durio zibethinus* Murr.) In Medan City. Dissertation. Faculty of Agriculture, University of North Sumatra
- Silalahi, Alexander. (2013). *Evaluation of the Effectiveness and Efficiency of Raskin Based on Targeted Household Attitudes of Beneficiaries in Hamparan Perak Village, Hamparan Perak District, Deli Serdang District*. USU. Medan.
- Silayoi, P., & Speece, M. (2007). The importance of packaging attributes: a conjoint analysis approach. *European journal of marketing*, 41(11/12). 1495-1517.
- Simatupang and Ariyani, M. (1997). Linking between Household Income and Shifting Preference to Food. Food No. 33 Volume IX
- Soetrisno. Suwandari, A.Rijanto. (2006). Introduction to Agricultural Sciences. Malang. Bayumedia Publishing.
- Sumarwan U. (2004). *Consumer Behavior Theory and Its Application in Marketing*. Jakarta: Ghalia Indonesia.
- Suyatno (1989). *Credit Basics*. Jakarta. PT Gramedia.
- Suyatno T, Chali HA, Sukada M, Ananda TY, Marala DT. (2007). *4th Credit Basics*. Jakarta: PT Gramedia Pustaka Utama.
- Untung, B. (2000). *Banking Credit in Indonesia*. Jakarta. Erlangga.
- Wiratmo, Mr. (1992). *Managerial Economy*. Media Widya Mandala. Yogyakarta
- Wu, W. Y., Liao, Y. K., & Chatwuthikrai, A. (2014). Applying conjoint analysis to evaluate consumer preferences toward subcompact cars. *Expert Systems with Applications*, 41(6), 2782-2792.