Socio-economic factors of farmers in implementing the profit-sharing system in beef cattle business

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Abstract. One of the regency in South Sulawesi Province that implements a profit-sharing system is Bone Regency which has been done by farmers for a long time and has been carried out from generation to generation. This system is one of the local wisdoms for the community in managing the beef cattle business. The aim of this study was to analyze the socio-economic factors of farmers in implementing a profit-sharing system in beef cattle business in Bone Regency. The type of the research was an explanatory study with a sample of 175 farmers who were taken simple random. Data were collected through interviews with the help of a questionnaire where each variable measured used a Likert scale, namely 1 = disagree, 2 = disagree less, 3 = agree and analyzed using multiple linear regression. The results of this study indicate that socio-economic factors of farmers have a significant effect on the profit-sharing system in beef cattle business in Bone Regency.

1. Introduction

The beef cattle commodity has a very large business opportunity, this is based on the gap between the demand and supply of national beef which cannot yet be fulfilled by the dominant small-scale farms. The results of research conducted by Tanri et al. [1] show that beef production in Indonesia has not been able to meet the demand related to various obstacles in the development of beef cattle. The upstream industry from livestock often encounters many problems, including limited business capital, extensive land ownership in running a livestock business, limited knowledge and technology in livestock management, availability of natural resources and human resources, and many other things that can hinder the sustainability of beef cattle business, especially in people's farms.

Beef cattle farming business is very dependent on the availability of business capital, because this business requires a fairly large supply of capital. In the beef cattle business, the capital turnover is slow so that there are fewer investors in this field, compared to other livestock businesses, thus causing the farmers to be more efficient and very careful in managing their business. Various problems faced by beef cattle farmers so far in obtaining capital from formal financial institutions have hampered the acceleration of business scale strengthening and the real sector of beef cattle farming has not developed [2].

Socio-economic conditions are a determining factor in carrying out their farming, they are interrelated and support one another. The success of the cattle business with the aim of exploring natural
and human resource potentials, shifting the typology of livestock business, creating jobs, and applying technology [3]. In addition, livestock is still a side business, most farmers run their livestock business in the form of profit-sharing partnerships to reduce the risk of business failure.

The partnership system is currently used as an option in business cooperation, where partnership cooperation will be realized in the form of a business contract that is binding on the parties involved. The contract contains a number of clauses that must be obeyed by the parties, but still have to pay attention to a number of applicable ethics and regulations, this must pay attention to the principle of equality and balance so that it must benefit the parties [4]. The development of the beef cattle market business needs to be handled in several ways, including a profit-sharing system between farmers [5]. One of the local wisdom that is generally still applied in business cooperation especially in the area of South Sulawesi is called Teseng, a local institution formed because of an agreement between two parties, namely the owner of the capital and the farmer. This local partnership cooperation system is unique in that the agreement is not black and white, or emphasizes the elements of trust between fellow pledge makers of business cooperation. The purpose of this study was to analyze the socio-economic factors of farmers in implementing a profit-sharing system in beef cattle business in Bone Regency.

2. Research methods
This research was conducted in Bone Regency using this type of explanatory research which aims to see the effect of independent variables on dependent variables. Sampling was done randomly to 175 farmers. Data were collected through interviews with the help of questionnaires and analyzed using multiple linear regression [6] with the following equation:

$$Y = a + b_1X_1 + b_2X_2 + e$$  (1)

Where:
- $Y$ = Profit-sharing system
- $a$ = Constant
- $b_1, b_2$ = The regression coefficient for the variables $X_1$ and $X_2$
- $X_1$ = Farmer social factors
- $X_2$ = Farmer economic factors
- $e$ = Standard error

The closeness of the relationship between the independent variable and the dependent variable is known through the multiple correlation coefficient, the magnitude of the influence of the independent variable on the dependent variable is known through the determinant coefficient.

The farmer social factor variable ($X_1$) implements a beef cattle profit-sharing system, that is: farmer behavior, social status of farmers, support from livestock farmer groups, and support from agricultural extension agents.

The farmer economic factor variable ($X_2$) implements a beef cattle profit-sharing system, that is: the farmer family's economic demands, limited business capital, additional income, and the farmer free time.

The profit-sharing system variable ($Y$), that is: the mechanism and application used in the profit-sharing system, the existence of a partner request from the owner of capital, the trust and responsibility of the farmer in raising beef cattle, and the interdependence between the owner of the capital and the farmer. Measurement of these variables using a Likert scale, namely a score of 1 to 3 with category 1 = disagree; 2 = less agree; and 3 = agree.

3. Result and discussion
The influence of farmer social factor variables ($X_1$) and farmer economic factor variables ($X_2$) on the profit-sharing system in beef cattle business can be seen in the results of linear regression analysis in Table 1.

Table 1 shows that the results of the regression coefficient for each variable and the constant value so that an equation can be formed as $Y = 1.859 + 0.174X_1 + 0.197X_2 + e$. From this equation, it is known that the constant value is 1.859, this means that when the value of the farmer social factor variable ($X_1$)
and the farmer economic factor variable \( (X_2) \) is equal to zero, the profit-sharing system \( (Y) \) will be worth 1.859.

**Table 1.** The influence of social and economic factors on the profit-sharing system in beef cattle business.

| Component          | Coefficient | Significant |
|--------------------|-------------|-------------|
| Constant           | 1.859       |             |
| Farmer social factors | 0.174   | 0.000**     |
| Farmer economic factors | 0.197   | 0.000**     |
| F. Count           | 10.853      |             |
| Correlation coefficient \((R)\) | 0.851     |             |
| Determinant coefficient \((R^2)\) | 0.879     |             |

Note: Significant at \( \alpha = 0.05 \).

Table 1 can be explained that the farmer social factor variables and the farmer economic variable both together and individually have an effect on the profit-sharing system, this can be seen in the significance value of \( P < 0.05 \). The closeness of the relationship between the farmer social factor variables and farmer economic variables on the profit-sharing system is shown by the correlation coefficient \((R)\) of 0.851 indicating a strong correlation. The value of \( R \) indicates multiple correlation, namely the correlation between the independent variable and the dependent variable. The value of \( R \) ranges from 0 - 1, if it approaches 1, then the relationship is getting tighter. Conversely, if it is close to 0, then the relationship is getting weaker.

The magnitude of the influence of the farmer social factor variables and farmer economic variables is shown by the determinant coefficient \((R^2)\) value of 0.879 which means that the farmer social factors and farmer economic variables have an effect of 87.9% on the profit-sharing system while the remaining 12.1% is influenced by factors others that are outside of this research model.

The farmer social factor variable \((X_1)\) is 0.174, it can be interpreted that the farmer social factor has a direct influence, where if the farmer social factor increases, the profit-sharing system will also increase by 0.174 assuming other variables are constant (ceteris paribus). This study shows the results that the social factors of farmers have an effect on the profit-sharing system. This means that the social factors of farmers, that is the behavior of farmers, social status of farmers, support of livestock farmer groups, and support of agricultural extension workers, the profit-sharing system carried out by farmers is increasing. Therefore, to improve the model for the application of the profit-sharing system, it is necessary to have the participation of the farmers themselves, both participating in the activities of livestock farmer groups and agricultural-animal husbandry counseling. Research conducted by [7], shows that the participation of members of farmer groups in farming management starting from the planning stage, implementation stage and supervision stage is high. In line with research conducted by [8], that the participation of members in farmer groups is high, because they participate in every activity held by the Mitra Jaya farmer group at the planning stage, implementation stage and evaluation stage of farmer group activities. Member participation in farmer groups Mitra Jaya in Mundung Village, East Tombatu District is classified as high.

The farmer economic factor variable \((X_2)\) is 0.197, it can be interpreted that the farmer economic factor has a direct influence, where if the farmer economic factor increases, the profit-sharing system will also increase by 0.197 with the assumption that the other variables are constant (ceteris paribus). This study shows the results that the economic factors of farmers affect the profit-sharing system. This means that the economic factors of the farmer, that is the economic demands of the farmer family, limited business capital, additional income, and the free time that the farmer has, the profit-sharing system carried out by the farmer is increasing. This means that economic factors that provide benefits to farmers, the application of a profit-sharing system is getting better. The main factor for farmers to use a profit-sharing system is because of economic demands [9]. Marzuki [10] concluded that the most dominant profit-sharing system used by the cattle-breeding community is profit-sharing based on gross
profit, this system can improve the economy of the farming community, and is seen as more equitable and improves welfare for both parties.

Furthermore, to determine the most influential variable between variables $X_1$ and $X_2$ on variable $Y$, an analysis method is used that compares the regression coefficient between variables $X_1$ and $X_2$. Table 1, shows that the regression coefficients of the variables $X_1$ and $X_2$, then the variable $X_2$ (farmer economic factor) has the largest regression coefficient ($B$) which is 0.197. Thus, the economic factors of farmers have a greater influence on the profit-sharing system compared to the social factors of farmers in Bone Regency.

4. Conclusion
The results of this study can be concluded that the social and economic factors of farmers either partially or simultaneously have a significant effect on the profit-sharing system in beef cattle business in Bone Regency.

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