



## Factors Affecting The Adoption Rate Of Beef Cattle Farmers Implementing A Profit-Sharing System In Bone District

Titi Hardaryanti<sup>1</sup>, Syahdar Baba<sup>2\*</sup>, Aslina Asnawi<sup>3</sup>

<sup>1</sup> Student at the program Study of Agribusiness, Graduated School of Hasanuddin University, Indonesia. Email: [titihandaryanti2000@gmail.com](mailto:titihandaryanti2000@gmail.com)

<sup>2</sup>Departement of Social Economics, Faculty of Animal Science, Hasanuddin University, Indonesia. Email: [syahdarbaba@unhas.ac.id](mailto:syahdarbaba@unhas.ac.id)  
ORCID ID: 0000-0002-8025-4072

<sup>3</sup>Departement of Social Economics, Faculty of Animal Science, Hasanuddin University, Indonesia. Email: [aslinaasnawi@unhas.ac.id](mailto:aslinaasnawi@unhas.ac.id)  
ORCID ID: 0000-0003-3788-4770

\*Corresponding author's E-mail: [syahdarbaba@unhas.ac.id](mailto:syahdarbaba@unhas.ac.id)

| Article History  | Abstract   |
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| Received: 06 June 2023<br>Revised: 05 Sept 2023<br>Accepted: 20 Nov 2023 | <p>This study aims to determine the factors that influence the level of adoption of beef cattle farmers who run a profit-sharing system. This research was conducted in Bone District, South Sulawesi Province. The sample size was 164 farmers who adopted the profit-sharing system using probability sampling technique. Data collection methods were conducted through observation and interviews. Data were analyzed using multiple linear regression models using simultaneous and partial tests. Independent variables included social capital (trust, cooperation, and norms), financial capital (business capital, farm income, non-farm income and land area), and human capital (formal education, farming experience and counseling). The dependent variable includes the level of adoption of farmers. The results showed that the level of adoption of beef cattle farmers who run the profit-sharing system is in the very low category because farming work is only used as a side job and pays less attention to operational costs so that sometimes the results are less profitable. Therefore, extension activities are needed to educate farmers on how to manage operational costs used during the beef cattle rearing system. Factors that influence the level of adoption are trust, cooperation, norms, business capital, farm income, land area and farming experience.</p> |
| CC License<br>CC-BY-NC-SA 4.0  | <b>Keywords:</b> Farmers, beef cattle, profit sharing system, adoption rate.   |

### 1. Introduction

The agricultural sector in Indonesia contributes to increasing Indonesia's economic growth in the era of globalization. The agricultural sector supports the economic activities of society in general. Not only as a source of food for the community every day, but as a source of foreign exchange as well. The agricultural sector is still the mainstay of labor absorption from time to time. Agriculture in general consists of several sub-sectors including the livestock sector (Hildawati et al., 2018).

Beef cattle is a commodity in the livestock sector which is one of the leading commodities (Indryani et al., 2022). Beef cattle business is a business that is currently chosen by many people to be cultivated. Most of the beef cattle ownership scale at the community level is still small. The development of agribusiness-oriented beef cattle business with a partnership pattern is one of the alternatives for farmers' profits. Partnership is cooperation between agribusiness actors starting from the pre-production process, production to marketing based on the principle of mutual need and benefit for partnering parties. The beef cattle farming partnership system includes the gaduhan system. The gaduhan system is one of the livestock business partnership systems with a profit sharing pattern, which is a partnership relationship between farmers, or between farmers as implementers who run cultivation businesses that are financed or owned by a person or livestock company and / or companies in other fields (Hastita and Amam, 2021). Adoption is a mental process, in making a decision to accept or reject a new idea and further emphasizing the acceptance and rejection of the new idea. Adoption can also be defined as a person's mental process from hearing, knowing the innovation to finally adopting it. Adoption is a

process of starting and exiting ideas from one party, conveyed to the second party, until the idea is accepted by the community as the second party (Rogers, 1995).

Farmers adopting the profit-sharing system (tesang) can be influenced by several factors. According to Zulvera's research (Zulvera et al, 2014), factors that influence farmer adoption include knowledge, attitudes, skills and perceptions of farmers through the learning process they have gone through. Research by Baba et al (2021), also stated that the adoption of profit sharing (tesang) is influenced by land area and number of livestock. The larger the farmland owned by the farmer, the more likely the adoption of teseng profit sharing will increase. Some of these experts' opinions underline the importance of resources such as social capital, financial capital and human capital as factors that influence adoption.

Social capital focuses on networks, mutual trust, and applied norms that can be utilized to increase adoption (Bulu and Haryadi, 2011). In addition, financial capital can also influence adoption. Financial capital is the financial resources that people can use and utilize in achieving their livelihood goals, which include reserves or inventories of both their own and financial institutions, as well as a regular flow of funds. Financial capital includes income, expenses, savings, debts and wealth. Human capital indicates a person's ability to gain better access to their livelihood conditions. Human capital can be in the form of knowledge, skills and experience.

One of the regions in South Sulawesi that applies the concept of profit-sharing system (tesang) is Bone Regency. Bone Regency is an area that has a large amount of rice fields and empty land that can be utilized as a grazing area and source of feed for cattle. Bone District is the highest beef cattle producing district in South Sulawesi with a population of 452,347 head. The type of beef cattle that is widely developed in Bone Regency is Balinese cattle, which is the mainstay of Indonesian beef cattle.

The implementation of the profit-sharing system in Bone Regency involves two parties, namely the farmer and the capital provider. According to the farmers, the agreement is not made in writing between the farmers and the capital owner, but only prioritizes the concept of kinship so that the results are sometimes less favorable for the farmers. Although less profitable, farmers in Bone Regency continue to implement the profit-sharing system that has been carried out for generations. It is important to study the factors associated with the level of adoption because the results can be used to evaluate the system that has been carried out (Syifa et al, 2020). Therefore, a study was conducted with the aim of finding out the factors that influence the adoption rate of beef cattle farmers who run a profit-sharing system.

## 2. Materials And Methods

This research was conducted in Bone District, South Sulawesi. The location chosen is the largest beef cattle population center in South Sulawesi. In addition, the community in Bone Regency also still applies a profit-sharing system. Data were collected using questionnaires distributed from May to July 2023. The population in this study was sampled by as many as 164 farmers. The data collection techniques used were interview and observation techniques. The analysis method used was descriptive quantitative. A 4-level Likert scale was used to calculate the measurements. Data analysis using multiple linear regression model.

## 3. Results and Discussion

**Table 1:** Level of adoption of farmers adopting the beef cattle profit-sharing system

| Level of Adoption | Quantity (Person) | Persentase(%) |
|-------------------|-------------------|---------------|
| High              | 4                 | 2.4           |
| Medium            | 52                | 31.7          |
| Low               | 31                | 18.9          |
| Very Low          | 77                | 47.0          |
| <b>Total</b>      | <b>164</b>        | <b>100.0</b>  |

Source: Primary Data After Processing, 2023.

Based on Table 1, it is known that the adoption level of beef cattle farmers who adopted the profit-sharing system is generally clustered at the very low, low and medium levels. A total of 77 farmers fall into the very low adoption level in the sense that 77 farmers who adopted the production sharing system keep cattle but the majority of the cattle kept are their private cattle. A total of 52 farmers keep cattle and the majority of the cattle kept are profit-sharing cattle. A total of 31 farmers keep cattle with equal numbers of profit-sharing system cattle and privately owned cattle. The 4 farmers who keep cattle are all profit-sharing cattle.

The adoption rate of beef cattle farmers who operate a profit-sharing system is very low. This means that farmers generally have more private cows than profit-sharing cows. Farmers who adopt the profit-

sharing system are only interested in increasing their farm income, because most of the cattle breeding work is used as a side job that aims to increase income. This is in line with the research of Nugraha et al (2020), which states that most farmers who implement the profit-sharing system only make livestock farming work as a side job in adding to the family economy.

### Factors Influencing the Adoption Rate of Beef Cattle Farmers Beef Cattle Farmers Implementing the Production Sharing System

The influence of social capital, financial capital and human capital on the adoption rate of beef cattle farmers running a profit-sharing system in Bone District with the results in Table 2.

**Table 2.** Multiple Linear Regression Results

| Variabel                | B      | Std. Error | t      | Sig.  |
|-------------------------|--------|------------|--------|-------|
| Konstanta               | -0,292 | 0,256      | -1,141 | 0,256 |
| Trust (X1)              | 0,108  | 0,052      | 2,084  | 0,039 |
| Cooperation (X2)        | 0,203  | 0,059      | 3,416  | 0,001 |
| Norms (X3)              | 0,190  | 0,054      | 3,491  | 0,001 |
| Business Capital (X4)   | 0,455  | 0,083      | 5,485  | 0,000 |
| Farm Income (X5)        | 0,173  | 0,071      | 2,427  | 0,016 |
| Non-farm income (X6)    | 0,048  | 0,049      | 0,975  | 0,331 |
| Land Area (X7)          | -0,071 | 0,034      | -2,058 | 0,041 |
| Formal Education (X8)   | 0,080  | 0,052      | 1,523  | 0,130 |
| Farming Experience (X9) | -0,122 | 0,042      | -2,879 | 0,005 |
| Extension (X10)         | -0,025 | 0,029      | -0,860 | 0,391 |

Source: Primary Data After Processing, 2023.

The relationship between the independent variable and the dependent variable is in the strong category where the R value obtained is 0.682. The influence of independent variables (trust, cooperation, norms, business capital, farm income, non-farm income, land area, formal education, farming experience and counseling) on changes in value (the level of adoption of beef cattle farmers who run the profit-sharing system) can be seen from the adjusted R Square value of 0.662. This means that the effect of independent variables on changes in the value of the dependent variable is 66.2%, while the remaining 33.8% is influenced by other variables not examined in this study. Variables that have a significant effect ( $P < 0.05$ ) on the level of adoption of farmers are trust, cooperation, norms, business capital, farm income, land area, and farming experience. The variables of non-farm income, formal education and extension did not have a significant effect ( $P > 0.05$ ) on the level of adoption of farmers.

Land area is negatively correlated with the level of adoption of beef cattle farmers who run a profit-sharing system with a coefficient value of -0.071. This means that if the land area increases, there will be a decrease in the adoption rate of beef cattle farmers who run the profit-sharing system. The results of research by Baba et al [6], stated that the size of agricultural land affects the level of adoption of the profit-sharing system. In reality, this is not the case for beef cattle farmers in Bone Regency. Larger agricultural land does not guarantee a high adoption rate of beef cattle farmers who run a profit-sharing system. This occurs because the majority of farmers utilize agricultural land to grow horticultural crops such as vegetables and tubers that they can obtain the results themselves without going through other people's capital.

Breeding experience is negatively correlated with the level of adoption of beef cattle farmers who run a profit-sharing system with a coefficient value of -0.122. This means that if the farming experience increases, there will be a decrease in the adoption rate of beef cattle farmers who run the profit-sharing system. The longer the breeder runs the livestock business, the less interest the breeder has in adopting the farm, this happens because the longer the breeder runs the livestock business, the more income he gets and intends to improve his livestock business by doing the livestock business with his own capital and no longer doing the profit sharing system. The results of research by Alam et al (2014), said that farmers who have been breeding for a long time will be more skilled and tend to produce better results than inexperienced farmers.

Trust, cooperation, and norms are positively correlated with the adoption rate of beef cattle farmers who run the profit-sharing system with coefficient values of 0.108, 0.203 and 0.190. This means that if the level of trust, cooperation and norms increases, then the adoption rate of beef cattle farmers running the profit-sharing system will also increase. Social capital which includes trust, cooperation and prevailing norms can influence the level of adoption of farmers who aim to achieve mutual benefits. Binding social capital will strengthen group exclusivity to maintain homogeneity, binding social capital is more

emphasized on collective action for a common goal that can be used to build social capital linking with parties outside the group for the benefit of the group (Fathy, 2019).

Business capital is positively correlated with the adoption rate of beef cattle farmers who run the profit-sharing system with a coefficient value of 0.455. This means that if the business capital required by farmers increases, it will increase the adoption rate of beef cattle farmers who run the profit-sharing system. Farmers adopt a profit-sharing system because it has the potential to generate additional income. This is in line with the research of Zainabriani et al (2015) which states that the main factor of farmers doing the profit-sharing system is to increase income and family demands.

Farm income is positively correlated with the level of adoption of beef cattle farmers who run the profit-sharing system with a coefficient value of 0.173. This means that if the needs of life increase, it will increase the level of adoption of beef cattle farmers who run the profit-sharing system. Research by Nugraha et al (2020), said that the fulfillment of needs will encourage each individual to direct himself to work to meet his needs or respond to the pressure he is experiencing.

#### 4. Conclusion

The adoption rate of beef cattle farmers who operate a profit-sharing system in Bone Regency is in the very low category. Factors that influence the level of adoption are trust, cooperation, norms, business capital, farm income, land area and farming experience. Land area and farming experience have a negative effect ( $P < 0.05$ ) on the adoption rate of beef cattle farmers where the larger the farmer's land area and the longer the farming business, the lower the adoption rate of beef cattle farmers who run a profit-sharing system. Trust, cooperation, norms, business capital, farm income have a positive effect ( $P < 0.05$ ) on the adoption rate of beef cattle farmers where the higher the trust, cooperation, norms and the increasing capital needs and living needs of farmers, the higher the adoption rate of beef cattle farmers who run the profit-sharing system.

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