Transaction Cost: Institutional Efficiency of Sugar Cane Contract in Malang Regency

Asfi Manzilati[1]

[1]*Economic Department Faculty of Economic and Business, Brawijaya University, Malang, Indonesia*
[*]*Corresponding author. Email:asfi@ub.ac.id*

ABSTRACT

The purpose of this study is to determine the transaction costs that arise in contracts made by sugar cane farmers. The research method used to view transaction costs is a qualitative approach with unstructured interviews, observation, and documentation as data collection techniques. Transaction costs are a significant obstacle because farmers ultimately sacrifice their income margins from sugarcane harvest. The results of this study are the differences between contract farmers (participating in cooperatives) and non-contracted (with loggers) based on an institutional approach in terms of transaction costs.

Keywords— *transaction* cost, contract, agriculture

1. INTRODUCTION

Historically, Indonesia became the second-largest sugar exporter after Cuba in 1928. The high productivity of sugar cane at that time was 3 million tons of sugar and almost half. Even the biggest sugar producer in Indonesia is in Java. No wonder that for more than a century, the Javanese economy was a 'sugar economy' [1]. One of Indonesia's biggest sugar producers is in the province of East Java. In 2014, based on data from the Indonesian Plantation Statistics report, it was shown that in particular, Malang Regency occupied the highest sugarcane production or amounted to 273,540 tons.

In Indonesia, the sugarcane planting system has undergone four changes [2]. The first pattern is at the time of the Dutch East Indies government, where the prevailing system is the revolving commodity that is planted. Second, when the government led by President Soeharto imposed the People's Sugar Intensification (TRI) system with the legal umbrella of Inpres No. 9 of 1975. The policy aims to side with farmers to encourage production and income because the people own 79 percent of the sugarcane planting area. The third pattern is the enactment of Presidential Instruction No. 5 of 1998, where farmers were given the freedom to determine the types of commodities they planted. The fourth pattern is the system that has been put in place, namely a permanent planting pattern.

Since 1975 sugar cane farmers have faced the interests of PG (Sugar Mills). It is like the stipulation that sugar cane farmers are confronted with the position of the victims of the political system of interests with PG (Sugar Factory). PG's limited planting area makes it buy more from farmers or rent their land. However, due to the relatively weak position of sugarcane farmers, they often become laborers on their farm. Very difficult or as if the process is broken, the chain of farmers can deal directly with consumer demand. It takes a series of operations by farmers from sugar cane to sugar that is ready to be sold to consumers.

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planting area makes it buy more from farmers or rent their land. However, due to the relatively weak position of sugarcane farmers, they often become laborers on their farm. It is tough to break the chain of farmers who can deal directly with consumer demand. It takes a series of processes by farmers from sugar cane to sugar that is ready to be sold to consumers.

Further development of farmers has a stronger bargaining position with the formation of the People's Sugar Cane Farmers Association (APTR). Before the association, the negotiation process was only at the factory foreman level. When the APTR association is present, negotiations can be directly carried out with PTPN directors [3] The pattern is based on the principle of mutual benefit as a processor (processing sugar cane into sugar). The existence of both is parallel to each other. Integrating heterogeneous attitudes and behaviors will make farmers like the same vision and mission with the sugar factory builder [4] However, based on the results of research by Yustika (2008) shows that APTRI mostly acts as an intermediary trader between farmers and factories by utilizing milled access because of obtaining a Transport Felling Order (SPTA) from PG. This makes farmers have to increase transaction costs, especially for farmers with independent non-contractual status.

Since sugar is included in goods subject to 10% VAT tax after the issuance of the Director-General of Taxes circular in 2014, farmers inevitably have to pay for it. Whereas the government based on PP No. 31/2007 does not include sugar as taxable goods. So that sugar cane farmers can become chargeable entrepreneurs (PKP and can apply for restitution (overpayment of taxes), then they are asked to enter into cooperatives [5]. Finally, inevitably, farmers are faced with a series of long processes. Must bear the cost of reaching 60 percent of the expenses incurred, even though the cost of production (input) is higher than the amount paid, because of the impact of economic institutions that are unfair and not transparent.

Applying the transaction cost theory, in this case, is essential to see structural problems more critically in the case of the partnership between sugarcane farmers and PG [6]. Generally, transaction costs are costs incurred to ensure an exchange occurs. It is also essential in explaining the market and non-market structures in the form of economic organizations, including how the transactional chain starts from farmers to

reach the sugar factory. Also, the transaction costs that arise in contracts that (must) be carried out by farmers, such as with production facilities (production inputs), cooperatives, and others.

2. LITERATURE REVIEW

2.1. Theory of Contracts and Symmetrical Information

The ideal condition of the relationship between producers and consumers is a contract. This was done to anticipate cheating. In this context, the contract is used to formalize the commitment of the parties with the aim of their marketing activities [7]. In it, the contract explains the agreement between the two parties conducting the transaction with a countermeasure in the form of payment for the activity. Contracts can also be understood as authority, rules, and procedures for monitoring activities. In transaction cost economics (TCE) economics, the "contract" is the basis of the unit of analysis.

Put in describing this theory is when a consumer buys a product from a producer as if he is contracting with the company that sells it. The company provides the product with specific characteristics to the buyer, and the buyer pays an agreed amount of money. Although the contract is done freely, but lets the buyer be careful. That is because enforcing an entire contract is very difficult because of transaction costs. Anticipatory steps can include understanding the state of the product and its characteristics before the item becomes the owner.

When trading activities must be carried out by what is stated in the contract, and the buyer and seller make the contract as the basis of these activities. From there, the view of the contract must contain elements of truth [8]. This means that every transaction activity has no information hidden (symmetric information). In neoclassical theory, contracts are assumed to be in complete conditions which are made and enforced at no cost. Symmetrical information refers to situations where prices fully reflect quality because buyers and sellers have the same information [7].

2.2. Information as a Source of Transaction Costs

Transaction costs arise due to imperfect information and prices incurred to search for information [9]. Transaction costs assume the main problems of economic institutions are divided into two, based on the adaptation of Hayek's autonomous model of "Market Miracles" and Barnard's coordinated type of adjustment of "Miracles of Hierarchy." TCE (Transaction Cost Economics) agrees that adaptation is a major institutional economic problem and makes provisions both for autonomous and coordinated types [11]. Market governance refers to transactions that occur in the market. In this case, the way the net revenue flow works will be adjusted by each party during the execution of the contract.

The opposite view is shown by Barnard in the lower panel of Fig. 1. The picture shows that there is a more structured hierarchy. The new actor appears outside the two previous economic actors, thus creating another stage. If interruptions or problems that cause poor coordination will be handled by the Interface Coordinator.
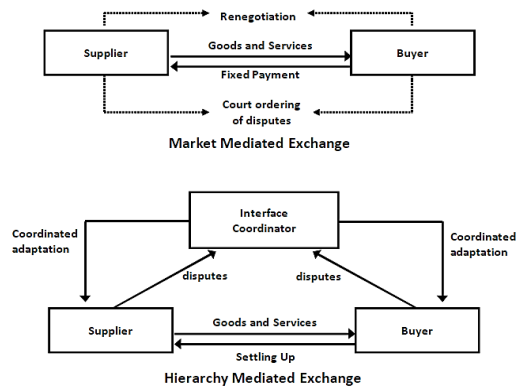

Figure 1. Market Vs. Hierarchy

Source: Tadelis & Williamson, 2010

Furthermore, transaction costs will be higher if there are hidden information and moral hazard. Eggertson in Bombo (2013) argues that transaction costs arise when asymmetrical market information is driven by activities such as information seeking, bargaining, market contracts, monitoring, enforcement, and protection of basically expensive property rights. The problem is that in the real world, the information possessed by economic actors is far from perfect, not all are one hundred percent rational, and more are cheating. Asymmetric information can direct decision-makers with an optimistic spirit towards adverse selection and moral hazard (Deliarnov, 2006). Deliarnov revealed that people who have information could exploit ownership of information to pursue personal or group interests.

2.3. Transaction Costs as a Measure of Economic Performance

According to TCE, the two adaptations described previously were carried out for efficiency. More efficiency is associated with productivity. From the size of the transaction costs, it can be seen as the efficiency of an institution. Transaction costs are considered necessary in the empirical analysis of market efficiency. An assessment of performance is seen through the relative output produced, then compared to the costs incurred to obtain that output [12]. The higher the efficiency, the better the productivity. Another assessment indicator to see efficiency is in terms of cost. Transaction cost analysis can be used to assess efficiency. If transaction costs get smaller, the more efficient they are. The same thing was said by Yustika that the higher the transaction costs, the more inefficient the institutional design [9].

It is said to be efficient if the transaction costs needed are lower. Various institutional forms in the economic system

always want to increase efficiency [13]. The measurement approach to see economic efficiency will be appropriate for the use of transaction cost analysis. Transaction costs are unavoidable costs [14]. Every exchange that occurs both the exchange of goods or services, and the transfer of information will result in an exchange fee that is the transaction fee. The existence of transaction costs will make the allocation of funds for expenses that must be incurred will increase.

3. METHODOLOGY

The method used in this research is interpretive qualitative. This method was chosen because of the urgency to explore further and illustrate the phenomenon of transaction costs that are borne by sugarcane farmers. This reasoning is in line with the statement of Cresswell related to the characteristics of qualitative research [15]. The unit of analysis in this research is about what and how transaction costs occur in contracts carried out by sugar cane farmers.

Through in-depth interview data collection, data interpretation is made by Miles and Huberman cycles [16], namely: reading and coding, data reduction, data displaying, and conclusion drawing and interpreting (verification). While testing the validity of the data using triangulation of sources and techniques.

4. DISCUSSION

4.1. Informant's Overview

This study aims to determine the transaction costs of contracts made by sugar cane farmers. Furthermore, the institutional approach will be used in terms of transaction costs as a form of problem identification to strengthen social capital in sugarcane farmers in Malang Regency. Before describing further what the transaction costs borne by sugarcane farmers are described in detail, the suitability of the research object. Then explained the key informants and supporting informants used in this study. Therefore, this section will reveal the profile of each informant.

4.2. Contract Scheme

The contract itself has the characteristics of arising from the limited capabilities possessed by entrepreneurs (business people). Limitations make entrepreneurs (business people) need other factors of production that cannot be produced by them. Entrepreneurs (business people), with their flaws, will try to direct the use of factors of production that he obtained from other parties. The types of contracts are divided into three types: first, the agency contract theory (agency-contract theory), namely the accuracy enforced legally between the principal and the agent.

Second, the self-enforcing agreement theory, which means that not all relationships or exchanges can be enforced legally, because the legal system may be imperfect or relevant information cannot be verified by the court. In this case, the contract contains an agreement that can be enforced

automatically. This model is synonymous with the term "implicit contract," which includes norms of behavior rather than risk-sharing. Third, relational-contract theory (relational-contract theory) is defined as a contract that cannot calculate all future uncertainties, but only based on past, current agreements and expectations of future relationships between actors involved in a contract.

TABLE I. KEY INFORMANTS

No	Name	Job	Information
1.	Mr. Mustofa	Land owner	Landowners who do not belong to the sugar cane farmer group. Land owned is around 0.50 Ha
2.	Mr. Sanusi	Land owner	The landowner who joined the sugar cane farmer group. Land owned is around 0,2 hectares
3.	Mr. Nidhom	Land owner	The landowner who joined the sugar cane farmer group. Land owned is around 6 hectares
4.	Mr. Kosim	Foreman	Is a resident of Putukrejo village

Source: Authors, 2019

In this case, the farmers are involved in a contract with the cooperative. As in the previous chapter, only cooperatives and loggers (traders) have access to the Sugar Factory (PG). So that farmers' access only stops when the harvest has been bought by both traders and cooperatives with specific agreements. This indicates that farmers are given a choice whether to use formal contracts (through cooperatives) or non-formal (non-cooperatives). Join formal and informal contracts certainly have differences. This is as explained by one of the sugar cane farmers, Mr. Mustofa if farmers choose a formal contract with the cooperative:

"If you want to join the group, the fertilizer will be supplied, given a debt of 2 million if one hectare is supplied with 2 million and a half, now you are given a 2.5 million debt and one ton of fertilizer."

Farmers who are members of the cooperative group do not need to worry about fertilizer supply and seek information related to the loggers. As Mr. Mustofa said:

"If you join a cooperative, a cooperative that collects, is bound by its language, you are given 2.5 million in cash and 1 ton of fertilizer, then the cooperative will cut down later."

So that farmer group members with a formal contract no longer need to worry. In addition, group members are given easy access to capital in order to support farmers' production. In this case, farmers are offered a certain amount of financing by cooperatives in collaboration with one of the banks in Indonesia. Based on information from one of the landowners, namely Mr. Sanusi, regarding bank loans.

"*Itu kadang-kadang itu ada anu apa itu eee apa ya.. eee apa itu ya namanya…eee BRI itu loh namanya BRI katanya, ya uang apa itu pinjaman gitu, ada pinjaman dari pabrik tapi tidak seberapa*"

(BRI sometimes gives loans, some from factories, but not large."

He also explained how the payment scheme for loans was carried out. Mr. Mustofa explained as follows;

"Later, if we go to the cooperative, we cut 2.5 debts that are given. That's basically cut when farmers want to receive net income. So how much do you get the income minus this fee, including the loan. and even then if you don't take it, it's okay"

On the other hand, for other farmers who enter into contracts with groups also have more benefits associated with giving or rations to fertilizers. For farmers who have a good relationship with the group, obtaining fertilizer for themselves gets specificity related to how much quintal is desired. This is like a statement by Mr. Nidhom where he is the owner of the land with an area of 6 hectares below.

"*Yo iso ae, tapi aku wes ngene ambek Haji Faruq, masalahe aku apik karo Haji Faruq, masalah e lek petani liyo dikek i jatah mess per kwintal, lek aku ora sak jaluk e*."

(Yes it is possible, but I am already good friends with Mr. Faruq, the problem is that I am on good terms with Mr. Faruq, if other farmers are given fertilizer quota, but if I can ask whatever I want)

Based on these statements can be associated with social capital. Social capital can be interpreted as a set of informal values and norms from a group of people with the possibility of a collaboration between them (Fukuyama, 2002). The elements of social capital include trust (trust), reciprocal (reciprocity), and social interaction. Trust can encourage someone to work together with others to bring together productive activities or actions. Trust is a product of the very important social norms of cooperation, which then gives rise to social capital.

4.3.Non-Contract Scheme

The scheme of non-contract does not differ much because the sugar factory is willing to grind sugar cane only from cooperatives and loggers (traders). Therefore, farmers are faced with preferences from using contracts or non-contracts with their advantages and disadvantages. As Mr. Mustofa said that farmers have the freedom to choose to join contracts or not. The statement is:

"*Gak terikat harus ngambil di koperasi atau boleh ngambil di yang lain. Sekeco koperasi, lek katah geh piyambak mawon. Lek kulo niku kan termasuk liar, kalau ikut koperasi geh maleh koperasi seng nebang*"

(Unrestricted must take in the cooperative or may be in another. Better cooperatives, if you have a lot of capital, it's better to be alone. In my case, it is informal, if I join a cooperative, then, in fact, it is a cooperative that creates a cooperative)

One of the advantages of this scheme is the relatively fast disbursement of funds. This makes it easy for farmers to manage the economic benefits of sugarcane production. This is as stated by Mr. Mustofa that disbursement of funds becomes faster and time-efficient when with non-contract:

"*Lek gadah kulo liar, nah mantun niku kulo tawakno ten penebas, cek cepet cair, luasnya 500 itu sekitar laku 30an, antara 33 atau 34*."

(If mine is informal, then I offer it to the loggers so that it will run out quickly, the area of 500 is around 30s, between 33 or 34)

Component heads identify the different components of your paper and are not topically subordinate to each other. Examples include Acknowledgments and References and, for these, the correct style to use is "Heading 5". Use "figure caption" for your Figure captions, and "table head" for your table title. Run-in heads, such as "Abstract," will require you to apply a style (in this case, italic) in addition to the style provided by the drop-down menu to differentiate the head from the text.

Not much different from Mr. Khalid where when harvesting, farmers have directly interacted with buyers. So farmers are faster to receive results (income). Described by Mr. Kosim:

"Yesterday, I felled Kebonagung people, when the sugar cane was good, twelve got"

In terms of costs incurred non-contract schemes are more straightforward because there are not many components. Mr. Mustofa explained in detail what the costs would be to become a farmer with a non-contract system.

"Mine is informal, just leave it to someone, then the fee will be the same truck with the loggers, the details are, you get 30 million, only the loggers and trucks are deducted, that's all, then the food allowance."

Not too much sugarcane farmers are spending if using a non-contract scheme. The costs that Mr. Mustofa said were valid for the period of production to post-production.

4.4.Institutional Efficiency

Through institutional efficiency is expected to increase productivity and competitiveness. To be able to achieve optimal productivity and efficiency, farmers must conduct collective business together. For this purpose, an understanding of institutions at the farmer level is needed. Traditionally, farmer institutions have evolved from generation to generation, but the challenges of the times demand an institution that is more appropriate in meeting the needs of the farming community. This effective farmer organization is expected to be able to support agricultural development. Farmer institutional capacity building aims at increasing economies of scale, business efficiency, and farmers' bargaining position. To see institutional efficiency can be seen in Table 2 below.

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TABLE II. TRANSACTION COSTS FOR CONTRACTED AND NON-CONTRACTED SUGAR CANE FARMERS

Items of Transaction Cost	Non-Contract		Contract	
	Price	Information	Price	Information
Seed	Seed price IDR 50.000 / quintal Planting costs IDR 1.200 / 10m²	Buy from the sugar factory Per hectare: 2 tons of seeds	Price of seeds IDR 50.000/quintal Planting costs IDR 1.200 / 10m²	Buy from the sugar factory that cooperates with the cooperative Per hectare: 2 tons of seeds
Fertilizer	The price is around IDR 180.000 to 190.000	Take it in the village hall Every 1 hectare requires 1-2 tons	IDR 160.000/quintal (From cooperatives) IDR 700.000/quintal (Urea) IDR 200.000/quintal (Price of fertilizer ZA + shipping)	Supply from cooperatives Urea fertilizer rations Allotment of ZA fertilizer Every 1 hectare requires 1-2 tons
Debt		Owner's equity		Owner's equity + Given a debt
Felling		Looking for loggers themselves or sold to collectors Telephone fees to search for logger info The harvest can be left to the cooperative or find a faller himself		Cut down by loggers from the cooperative
Supporting Costs	Trucks IDR 4.000/ quintal *Ngeroges* IDR 1.500/10m² *Kepras* IDR 2.000/m² Driver's meal costs IDR 20.000 irrigation with engine IDR 400.000/hectare Irrigation without engine IDR 300.000/hectare	Cigarettes Coffee Truck *Ngeroges* (cleaning sugar cane leaves) *Kepras* (cut sugar cane) Driver Irrigation Plow Lathe (clear weeds) Buy seeds	Production sharing to groups of IDR 5.000/quintal Truck IDR 4.000/ quintal Driver's meal costs IDR 20.000 *Kepras* IDR 2000/m² Lathe IDR 17.500/3 hours/person Plow IDR 1.500/10 m² Slash IDR 2.000/10 m²	Production sharing costs to groups (service fee) *Ngeroges* *Kepras* Seedlings Truck Driver Loggers Lathe Plow Slash laborers Security costs (police)
Others		Not obtaining natura sugar		Get natura sugar If in farmer groups For example, sugar from Krebet is 10kg, 5kg is for farmers and 5kg is given to the Krebet factory

				Every 1 ton yields five quintals to take home
Price of sugar cane		Depends on bargaining from collectors (traders)		The selling price of sugar cane is IDR 60.000/quintal
Net Income	Revenue - production costs		Grain income - (buy seeds + felling costs + fertilizer + supporting costs)	

Source: Author, 2019

Efficient is achieved when the same output but costs can be minimized (low). This is a reference to help improve the welfare of sugarcane farmers, especially in Malang Regency. Seeing the profits of farmers that are not comparable with the costs that have been sacrificed during pre-production to post-production. The following describes the differences between farmers with contracts and non-contracts to see transaction costs in the case of sugar cane farming.

5. RESULT AND RECOMMENDATION

The results of this study can be concluded in four things. First, the cost of farming for sugarcane farmers who have a milling contract turns out to be higher than the non-contracted sugar cane farmers. Although non-contract farmers must make more efforts to find information. Second, non-contract farmers have a time-efficient fund disbursement because income can be received more quickly. Third, there is a difference between the net income earned by sugarcane farmers between cooperative and non-contract contracts.

Based on the results of the study, the recommendation that researchers can give is for sugar factories should apply strict rules that the relationship between farmers and factories only through cooperatives. For cooperatives to improve governance regarding the speed of money disbursement from farmers' harvests. Farmers should prefer formal institutions because access and information to mills are available to reduce the cost of finding information.

Acknowledgment

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