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ROBUSTA COFFEE MARKETING EFFICIENCY ANALYSIS IN PASEMAH AIR KERUH DISTRICT, EMPAT LAWANG REGENCY

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ABSTRAK

Kecamatan Pasemah Air Keruh merupakan salah satu daerah penghasil kopi Robusta terbesar di Kabupaten Empat Lawang. Penelitian ini bertujuan untuk (1) mengetahui saluran dan fungsi pemasaran; (2) menentukan struktur, perilaku, dan kinerja pasar. Metode sampling yang digunakan adalah snowball dan simple random sampling. Metode analisis data yang digunakan adalah (1) analisis deskriptif untuk menjelaskan saluran dan fungsi pemasaran; (2) analisis struktur, perilaku, dan kinerja untuk menjelaskan efisiensi pemasaran berdasarkan survei, observasi, dan wawancara menggunakan kuesioner. Hasil penelitian menunjukkan bahwa terdapat dua jalur pemasaran, (1) petani kopi - pedagang pengumpul desa - pedagang pengumpul kabupaten - pedagang besar - eksportir; (2) petani kopi - pengecer - konsumen. Fungsi pemasaran tidak sepenuhnya dilakukan oleh lembaga pemasaran. Struktur pasarnya oligopsoni. Perilaku pasar menunjukkan bahwa harga didominasi oleh tengkulak, informasi pasar yang terbatas, dan tidak adanya kebijakan pemerintah tentang harga kopi. Kinerja pasar menunjukkan margin pemasaran yang tinggi, distribusi margin yang tidak merata, pangsa pasar petani yang rendah, dan rasio K/B yang rendah. Artinya pemasaran kopi tidak efisien. Pemerintah harus membuat kebijakan yang mendorong sektor kopi menjadi bisnis skala besar, seperti membuat regulasi, memperluas akses permodalan, jaringan pasar domestik dan ekspor.
Kata Kunci: Perilaku Pasar, Kinerja Pasar, Struktur Pasar, Kopi Robusta

ABSTRACT

Pasemah Air Keruh District is one of the biggest Robusta coffee-producing areas in Empat Lawang Regency. This research aims to (1) determine the channels and marketing functions; (2) determine the structure, conduct, and performance of the market. Sampling methods used were snowball and simple random sampling. The data analysis methods used were (1) descriptive analysis to explain the channels and marketing functions; (2) structure, conduct, and performance analysis to explain marketing efficiency based on surveys, observations, and interviews using a questionnaire. The results showed that there are two marketing channels, (1) coffee farmers - village collecting traders - district collecting traders - wholesalers - exporters; (2) coffee farmers - retailers - consumers. The marketing functions are not fully carried out by marketing agencies. The market structure is oligopsony. The market conduct shows that price is dominated by middlemen, limited market information, and the absence of government policy on coffee prices. The market performance shows high marketing margins, an uneven margin distribution, low farmers' share, and a low K/B ratio. It means that coffee marketing is inefficient. The government should make policies that encourage the coffee sector to become a large-scale business, such as making regulations, expanding access to capital, domestic and export market networks.
***Keywords**: Market Conduct, Market Performance, Market Structure, Robusta Coffee*

INTRODUCTION

Coffee has a relatively high economic worth in the global market. It is the second most traded commodity in the world after oil. Around 55 countries throughout the world produce coffee (Perez & Viana, 2012). Indonesia is the fourth largest coffee producer in the world following Brazil, Vietnam, and Colombia. Until 2017, coffee production in Indonesia was dominated by 81.87% of robusta species of which 95.56% was farmed by most of the People's Plantations (Perkebunan Rakyat/PR) or contributed to an average coffee production of 515.21 thousand tons (Kementerian Pertanian, 2017). In 2018, the largest PR production originate from South Sumatra Province of 193.51 thousand tons or roughly 25.59% of the entire national production (Direktorat Jenderal Perkebunan, 2019).

South Sumatra Province has the greatest coffee area in Indonesia with 251.027 thousand hectares or 20.04% of the total national coffee area (Direktorat Jenderal Perkebunan, 2019). One of the greatest coffee-producing center areas in South Sumatra Province is Empat Lawang Regency with a coffee plantation area of 62,017 hectares and production of up to 53,592 tons. This amount of production is the highest compared to coffee production in other regencies/cities in the South Sumatra Province (Badan Pusat Statistik Provinsi Sumatera Selatan, 2020). The coffee produced in Empat Lawang Regency is a type of Robusta coffee, also known by the community as Robusta Empat Lawang (Badan Pusat Statistik Kabupaten Empat Lawang, 2020).

Robusta Empat Lawang is the outcome of a hybrid between Robusta and Arabica coffee since the Dutch era. Each coffee tree trunk produces Robusta coffee beans containing 70% qualities of Robusta coffee and 30% qualities of Arabica coffee. Empat Lawang Robusta Coffee has a different coffee flavor compared to other regional Robusta coffees. Empat Lawang Robusta coffee has a strong bitter taste with a mild sour undertone of the characteristic of Arabica. This coffee has a chocolate and peanut (nutty) aroma. According to the findings of quality analysis and cup-testing of Robusta coffee samples from Empat Lawang Regency conducted at the Testing Laboratory of the Indonesian Coffee and Cocoa Research Center (LP Puslitkoka) in Jember in 2015, Empat Lawang Robusta coffee has a taste quality of 80 (excellent). Because of its distinct aroma and taste, Empat Lawang Robusta coffee is favored by various coffee drinkers (Dinas Pertanian Kabupaten Empat Lawang, 2019).

Empat Lawang Regency promotes coffee as a superior commodity of this region. In accordance with the development of regional potential, the determination of coffee as a leading commodity is expected to be able to support the enhancement of the community's economy, particularly for coffee farmers in Pasemah Air Keruh District as one of the biggest Robusta coffee-producing areas in Empat Lawang Regency. The district own the second largest area of land and coffee production following Talang Padang District that has a coffee plantation area of 11,719 Ha and production up to 10,159.70 tons (Badan Pusat Statistik Kabupaten Empat Lawang, 2020). Even though Talang Padang District becomes the largest Robusta coffee-producing area in Empat Lawang Regency, most of the land ownership of coffee plantations in this district belongs to Ulu Musi District and West Pendopo District residents as the border areas of the district. Meanwhile, 95% of the land ownership of coffee plantations in Pasemah Air Keruh District belongs to the local people of the district (Badan Pusat Statistik

Kabupaten Empat Lawang, 2019). It also becomes a consideration for the researchers in choosing Pasemah Air Keruh District as the research site.

The high coffee production in Air Keruh Pasemah District can be a contributor to fulfilling the demands of both domestic and international markets. However, it needs to be supported by a proper marketing system to make the overall coffee production absorbed by the market. The marketing system has a crucial role in supporting the distribution of coffee production to consumers. Marketing does not only aim to distribute goods/services to consumers but also to obtain profits from customer satisfaction (Sjarkowi, 2018). Pratiwi et al. (2019) stated that the marketing system is supported by a number of interdependent organizations in the distribution of goods/services from producers to consumers, which are referred to as marketing channels. The number of marketing agencies participating will have an influence on the length of the marketing channel as well as the marketing functions performed, resulting in an increase in marketing expenditures. The market structure formed in a market will determine the way marketing agencies behave. The establishment of a market structure and behavior leads to an assessment of a marketing system referred to as market performance. The difference in prices at the producer and consumer levels also determines the value of the marketing margin, farmers' share, and the profit-to-marketing-cost ratio which becomes indicators of market performance (Asmarantaka et al., 2017). Such a method can represent marketing efficiency.

Several studies have revealed that the Robusta coffee market in a number of regions in Indonesia is inefficient. Pratiwi et al. (2019) analyzed the marketing efficiency of Robusta coffee using a qualitative descriptive approach by looking at its structure, behavior, and marketing channels. The findings demonstrated that the marketing of Robusta coffee in Air Naningan District, Tanggamus Regency was inefficient according to the market structure formed, which is the imperfect competition market (oligopsony). Market behavior showed the dominance of wholesalers determined coffee prices. The majority of farmers chose marketing channels by selling the products to village collecting traders although these channels were inefficient. This is due to the closer distance to the collecting traders, the provision of loans offered by the collecting traders, and the lack of special treatment for the coffee sold.

A study by Kuswardhani et al. (2019) identified marketing channels and selection factors for marketing channels, as well as analyzed the marketing efficiency of Robusta coffee in Bangsalsari District, Jember Regency by measuring the margins, allocation of distribution margins, and farmers' share. The findings revealed that land area, farming experience, income, production, contract farming, and land tenure influenced the choice of marketing channels. The primary reason for farmers to sell coffee to their regular middlemen was because there is no special treatment needed for the coffee sold. Marketing efficiency showed that the profit margin for each level of traders was relatively higher compared to the marketing costs, making prices at the farmer level relatively low. Wholesalers have a dominant role in performing the marketing function as they provide most of the working capital and are exposed to the most marketing risks. It is frequently used as a justification to suppress coffee prices among the levels among village collectors and farmers, resulting in an ineffective marketing system. Efficient

marketing occurs when farmers' marketing margins are lower than other marketing channels, but farmers' profits are greater than other channels. Conversely, the higher the marketing margin, the lower and inefficient the share of the price obtained by farmers.

A study conducted by Rosiana (2020) examined the dynamics of coffee marketing patterns and the implications of coffee market development policies in five coffee production hubs in Indonesia. The analytical method employed a descriptive qualitative approach based on the findings of field surveys and desk studies in the five main coffee-producing hubs in Indonesia, including South Sumatra, Lampung, North Sumatra, Aceh, and East Java. The findings revealed that coffee farmers in five of Indonesia's major production hubs sell coffee by type of random coffee, which was commonly sold to middlemen. The convenience to obtain the cash economy and no special treatment for coffee sold become the primary reasons for farmers to sell their products to collectors, even if the prices gained are not in agreement with their wishes. The poor bargaining position of farmers shows their powerlessness in facing an imperfect competition market structure (oligopsony), resulting in an inefficient coffee marketing system.

Robusta coffee from the Pasemah Air Keruh District has a huge potentiality. This can be seen from the coffee's particular taste and the Geographical Indication (IG) certification for Empat Lawang Robusta coffee given by the Ministry of Law and Human Rights (Dinas Pertanian Kabupaten Empat Lawang, 2019). However, the lack of infrastructures, such as poor road facilities and connecting bridges between districts and the faraway distance of production locations from the port, have made coffee in this area claimed by other provinces. Most Robusta coffee originated from Pasemah Air Keruh District passes through Bengkulu and is sold to Lampung because Lampung has a large port for coffee commerce both at home and abroad.

The marketing aspect serves as a significant aspect in supporting the increase in farmers' income. The marketing problems of Robusta coffee found in Air Keruh Pasemah District have limited farming capital and market information. Generally, farmers have not used the credit provided by banking institutions in developing their farming business. The farmers' low interest in utilizing the advantages offered by the credit is caused by the absence of collateral for land certificates and the incompatibility of monthly credit payments with farming that provides seasonal production cycles. Furthermore, the credit is limited in quantity (slightly in value) so that it does not cover the economic value of farming. As a result, it does not provide a significant effect on enhancing farmers' income. It makes farmers reliant on village collectors who provide capital loans in a short period and without procedures such as those imposed by banking institutions. The existence of a capital loan payment agreement during harvest necessitates the farmers to sell their coffee harvest in the form of dry-processed coffee (green beans) to village collectors who provide capital loans. The next issue is the limited access faced by farmers to obtain market information because of the remote site of the farm. In addition, the low level of education of farmers results in limited ability to digest and analyze information. The majority of farmers have low education with 37.64% at elementary school level, 34.40% at junior high school level, 20.43% at senior high school level, and 7.53% did not finish elementary school. Farmers can only learn

about the market through collecting traders and fellow farmers. These marketing issues cause the revenue of coffee farmers in Pasemah Air Keruh District to be less than optimal. As a result, it is essential to conduct a marketing efficiency analysis to improve the economic benefits for farmers.

Seeing the significance of the marketing aspects in supporting the farmers' economy, this study aims to: (1) determine the marketing channels and marketing functions performed by marketing agencies; and (2) determine the structure, behavior, and performance of the Robusta coffee market in Pasemah Air Keruh District, Empat Lawang Regency.

RESEARCH METHOD

The study was conducted in Pasemah Air Keruh District, Empat Lawang Regency. The research site determination was done purposively considering that Pasemah Air Keruh District is one of the largest Robusta coffee production hubs in Empat Lawang Regency. Research respondents were coffee farmers, village-level collectors, district-level collectors, wholesalers, and retailers.

Sampling selection of coffee farmers was done by using simple random sampling by considering that farming conditions and activities were relatively the same or homogeneous. The total population of coffee farmers was 1,390. Based on calculations using the Slovin formula (Berliana (2012); Kuswardhani et al. (2019); Pratiwi et al. (2019) with a significance level (error tolerance) of 10%, the total sample of coffee farmers obtained was 93 people.

A sampling of supply chain actors was performed by using the snowball sampling method as the existence and number of populations of supply chain actors was not definite. This study found that supply chain respondents consisted of eight village-level collectors, two district-level collectors, one wholesaler, and 3 retailers. Therefore, the total number of research respondents was 107 people.

This study was conducted by using a survey method and direct observation in the field. The data collected consisted of primary and secondary data. Primary data were obtained through interviews and direct observations in the field. The type of interview employed was a structured interview by using a questionnaire (list of questions) given directly to farmers, village-level collectors, district-level collectors, wholesalers, and retailers as the research respondents. The researchers also employed unstructured interview guidelines based on two to three key questions that spontaneously emerged during the research process. This unstructured interview was carried out to determine more about information that was not yet known by the researchers. Furthermore, the researchers employed the observation method to determine up close and dig up real data to record and observe the phenomena being investigated directly related to marketing channels, marketing functions, market structure, and behavior. The primary data collected were (1) the characteristics of farmers, including age, education level, land area, and farming experience; (2) the characteristics of traders, including age, education level, and trading experience; (3) production, farming costs, and coffee marketing costs at the farmer level; (4) farming capital; (5) the business capital of a trader and the requirements that should be fulfilled to become a trader; (6) marketing costs incurred by each marketing agency; (7) the selling and buying price of Robusta coffee that applies during the analysis period of August 2020; (8) forms of relationships between farmers and traders and between fellow traders; (9) marketing channels and

marketing functions carried out by each marketing agency; (10) the mechanism for determining the price of coffee and conditions for entering and leaving the market; (11) the practice of buying and selling and the presence or absence of government regulations regarding coffee price policy.

Secondary data was obtained from a literature study through a collection of a variety of published information related to this study, including reports obtained from related institutions and agencies (data from the Statistics Indonesia, the Directorate General of Plantations, the Ministry of Agriculture, and the Empat Lawang Regency Agriculture Service), information from the internet, journals, and reports of various relevant research results in analyzing coffee marketing efficiency referred to in manuscripts published in the last ten years.

To answer the first objective, the researchers employed descriptive analysis to provide an overview of the condition of the marketing channels and functions carried out by every marketing agency. To answer the second objective, the Structure, Conduct, and Performance (SCP) approach model was utilized (Asmarantaka et al., 2017). The market structure was identified by using indicators of the number of marketing agencies, pricing mechanisms, as well as market entry and exit conditions. Market conduct was identified by referring to indicators of buying and selling practices, as well as government intervention of coffee selling price policies. Market performance was identified by measuring marketing margins, distribution margins, farmers' shares, and the ratio of profit and marketing costs.

Compared to studies conducted by Pratiwi et al. (2019) and Rosiana (2020) which examined the marketing efficiency of Robusta coffee through market structure and behavior, the current study adds an analysis of market performance to examine marketing efficiency. Compared to a study by Kuswardhani et al. (2019) which examined the performance of the coffee market only through the measurement of marketing margins, distribution margins, and farmers' share, the current study adds an analysis regarding the ratio of profit and marketing costs to examine marketing efficiency. Differences are also found in a study by Widyaningtyas et al. (2014) which utilized the SCP approach model in investigating the efficiency of the coffee market, but the market performance in their study only calculated the marketing margin, distribution margin, and farmers' share. Meanwhile, this study did not only calculate those three indicators but also calculated the ratio and profit of marketing costs.

Market performance in this study was identified by the following calculations:

1 Marketing margin is the difference between the price obtained by farmers and the price paid by consumers. Marketing margin analysis can be calculated by using the following formula (Kuswardhani et al., 2019) :

$M = P_r - P_f$

Notes:

M = Marketing margin (IDR/Kg)
P_r = Prices at retail level (IDR/Kg)
P_f = Prices at farmer level (IDR/Kg)

The decision-making criteria are that the smaller the value of the marketing margin, the more efficient the marketing, and vice versa.

2 Margin distribution is the distribution of marketing profits and costs obtained by each marketing agency. Marketing margin distribution analysis can be calculated by

using the following formula (Kuswardhani et al., 2019) :

$Sb_{ij} = [C_{ij} / (P_r - P_f)] \times 100\%$

The profit of the marketing agency of j is calculated by using the following formula:

$Sk_j = [\pi_j / (P_r - P_f)] \times 100\%$

$\pi_j = Hj_j - Hb_j - C_{ij}$

Notes:

Sb_{ij} = Share of the cost to perform the marketing function of i by the marketing agency of j

C_{ij} = Costs to perform the marketing function of i by the agency of j

Sk_j = Marketing agency profit share

π_j = of j

Hj_j = Advantages of a marketing agency of j

Hb_j = The selling price of the agency of j

The purchase price of the agency of j

The decision-making criteria are that marketing is considered efficient if $Sk_j > Sb_{ij}$. Conversely, if $Sk_j < Sb_{ij}$, then the marketing is inefficient.

3 Farmers' share is the percentage of the price obtained by farmers from the price obtained by consumers which are calculated by using the following formula (Kuswardhani et al., 2019) :

$F_s = (P_f / P_r) \times 100\%$

Notes:

F_s = The share of the price received by the farmer (%)

P_f = Prices at farmer level (IDR/Kg)

P_r = Prices at retail level (IDR/Kg)

The decision-making criteria are that marketing is considered efficient if the farmers' share acquired by the farmer is more than 50%. Conversely, if the farmer's share is less than 50%, then the marketing is inefficient.

4 The profit and cost ratio is achieved by dividing the profits earned by each marketing agency with the marketing costs incurred by each marketing agency, which is formulated as follows (Jumiati et al., 2013) :

$$\text{K/B ratio} = \frac{\pi_i}{C_i}$$

Notes:

π_i = Advantages of a marketing agency of level of i

C_i = Costs incurred by marketing agencies of the level of i

If $\pi_i/C_i > 1$, then the marketing activities are profitable, and vice versa. The decision-making criteria are that marketing is considered efficient if the ratio of profit share to the marketing costs of each marketing agency involved in the marketing process is evenly distributed and fairly logical, and vice versa.

RESULT AND DISCUSSION

Consumer demand for a product is highly affected by the marketing system. Without marketing activities, a transformation of physical results cannot be guaranteed to bring optimum financial results. The fundamental characteristic of this transformation process is the interaction regarding supply and demand forces. To assemble the two market forces, a product marketing mechanism is required through marketing channels (Sjarkowi, 2018). A marketing channel is the activity of a group of organizations that relies on each other to make a product or service available for use or consumption by consumers or business users (Kuswardhani et al., 2019). A marketing channel can deal with the time, place, and ownership gaps separating goods and services from people who need them (Desiana et al., 2017). Based on the research findings of Robusta coffee marketing in Pasemah Air Keruh District, Empat Lawang Regency, two marketing channel patterns were found as presented in Figure 1.

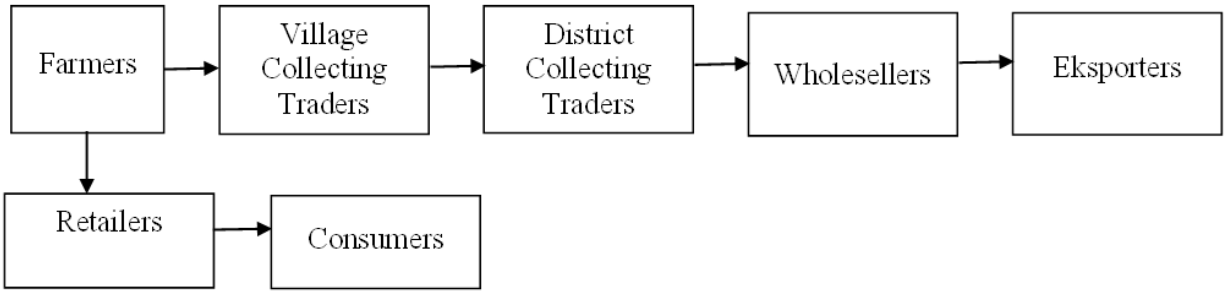

Figure 1. Marketing Channels of Robusta Coffee

Figure 1. shows that there are two patterns of marketing channels for Robusta coffee in Pasemah Air Keruh District, which are (1) Farmers – Village Collecting Traders– District Collecting Traders – Wholesalers – Exporters; and (2) Farmers – Retailers – Consumers.

The marketing channel of pattern 1 involves the village collecting traders who collect coffee (green beans) from coffee farmers. Then, the green beans are sold to district collecting traders and subsequently resold to wholesalers in Kepahiang Regency, Bengkulu Province. Then, the wholesalers sell the green beans to exporters in Lampung. Farmers sell Robusta coffee in the form of dry processed green beans, which are coffee cherries that are directly dried in the sun after harvested to particular moisture content, then ground (peeled) to obtain coffee beans/rice coffee. These green beans are mixed coffee beans with a non-uniform level of fruit maturity (random picking). Farmers commonly harvest coffee by random picking, meaning that besides harvesting ripe coffee (red coffee fruit), they also harvest those that are still yellow and even green. Random picking is mainly carried out during the harvest season because the volume of coffee cherries harvested is very large. Therefore, farmers do not have enough time and human resources to pick the red coffee cherries only. As a result, all the coffee cherries are picked simultaneously.

Problems of theft of red coffee cherries are highly concerning for farmers, causing them to prefer selling green beans from mixed coffee cherries to village collecting traders. This phenomenon is in accordance with research conducted by Rosiana (2020), that security becomes an obstacle if the farmers wait to harvest the cherries until all the coffee cherries are red. This pattern of marketing channel 1 is in accordance with a study by Listyati et al. (2017), that the coffee marketing channel involves farmers as producers, traders at village and district initial reservoirs, and wholesalers/agents and exporters as the final elements. Rosiana (2020) emphasized that coffee marketing in South Sumatra Province is performed by producers (farmers), collectors, wholesalers, processors, and finally exporters.

The marketing channel of pattern 1 was implemented by 84 respondents or 90.33% farmers. They have several reasons for choosing the marketing channel of pattern 1 due to several reasons. First, transportation costs. If they intend to sell to collecting traders directly at the district level or other traders outside their village, then the transportation risk that must be incurred is higher and is not commensurate with the amount of coffee sold. The distance between the coffee plantations and the farmers' residences and the district-level traders who

live in the district capital causes high transportation costs to be borne by them. Second, poor road and bridge infrastructure makes it extremely difficult for farmers to sell their coffee to other traders outside their villages. The phenomenon in the field reveals inadequate accessibility in Pasemah Air Keruh District. It is characterized by a number of potholes, landslide roads, and broken bridges between villages, resulting in difficult access for the community to pass. Third, the factor of economic (borrowing capital). The capital loan payment agreement at harvest necessitates farmers to sell their coffee harvest by type of dry-processed coffee (green beans) to village collectors who offered capital loans. Fourth, the cultural ties and kinship make the farmers hesitate to sell their Robusta coffee to traders who are not their customers.

The marketing channel of pattern 2 is a simpler marketing channel pattern compared to pattern one as it only uses one intermediary trader of retailers then sold to the final element of consumers. Retailers are traders who open a coffee shop and souvenir shop typical of Empat Lawang Regency located in Tebing Tinggi, the capital of Empat Lawang Regency. Farmers sell Robusta coffee in the form of coffee logs (red coffee cherries) to retailers by the pre-order system. Then, red coffee cherries are processed into green beans, roasting, ground coffee, and coffee perfume.

The marketing channel of pattern 2 was implemented by nine respondents or 9.67% farmers. They have several reasons for choosing the marketing channel of pattern 2. First, farming costs are lower than those when they have to process coffee into green beans. According to the findings of research analysis, the average cost of farming for farmers who sell coffee logs is cheaper of IDR 926.89/Kg than the cost of farming for those who sell green bean coffee of IDR 4,371.75/Kg. This difference is because coffee sold in the form of logs does not incur postharvest costs. Therefore, the costs for grinding/peeling, and drying the coffee are not included. Second, selling coffee by type of logs is considered more practical and economical as farmers can save time and post-harvest labor efficiency.

In this research, there are differences in the characteristics of farmers who implement the marketing channels of patterns 1 and 2. They are shown by differences in age, education level, land area, and farming experience. The findings of the analysis show that the age of farmers who choose the marketing channel of pattern 1 varies, ranging from the age of 17 years to more than 56 years. Meanwhile, the age of the farmers who choose the marketing channel of pattern 2 is in the age group of 36-45 years. The education level of farmers who prefer the marketing channel of pattern 1 also varies, including not completing elementary school, graduating from elementary school, graduating from junior high school, and graduating from senior high school. Meanwhile, those who choose the marketing channel of pattern 2 graduated from elementary and high school. Farmers who choose the marketing channel of pattern 1 also have varying land areas, ranging from less than 1 ha to more than 2 ha. Meanwhile, the land area of those who prefer to implement the marketing channel of pattern 2 is only 0.5-1 ha. The farming experience of farmers who choose the marketing channel of pattern 1 also varies, from less than 5 years to more than 10 years, while farmers who choose the marketing channel of pattern 2 have 5-10 years of farming experience.

The differences in farmers' characteristics cause differences in their perceptions of the two patterns of marketing channels. The perception of those who implement the marketing channel of pattern 1 compared to the marketing channel of pattern 2 is not good. It is influenced by a number of factors. First, the safety factor. Many farmers are at a loss as before the harvest season, many red coffee cherries are commonly stolen directly from the stems. Even though they have reported the incident to the authorities, so far there have been no follow-ups from the officials. Efforts made by farmers to deal with the theft are by staying up late guarding the coffee plantations, either by the farmers themselves or by hiring workers to guard the plantations. However, this strategy causes additional costs to be incurred by the farmers to maintain the plantations. Besides, this strategy affected the farmers' health as they need to stay up late. Second, the labor required is doubled in the harvest of picking red cherries as the harvesting is carried out not all at once, but is depend on the condition of the ripeness of the fruit. Third, red picking requires a longer harvest time as the coffee cherries must be picked in a perfectly ripe state of at least two months to obtain the best coffee results.

The perception of farmers who implement the marketing channel of pattern 2 to the marketing channel of pattern 1 is not good either. It is affected by several factors. First, the coffee quality. Coffee that is harvested by random picking can decrease the coffee quality. Eventually, it will affect the taste characteristics of the coffee cherries harvested. Second, random picking can interfere with the growth of coffee cherries for subsequent harvests. Carelessly picking coffee cherries might result in no more coffee cherries growing on the branches of the fruit during the next harvest season.

In terms of the selling price of coffee, the marketing channel of pattern 2 is more profitable for farmers as the selling price of red coffee beans is higher than green beans from mixed coffee cherries. It needs 4 kg of coffee to obtain 1 kg of green beans. The average selling price of red coffee cherries is IDR 7,866.67-/Kg while the average selling price of green beans from mixed coffee is IDR. 16,817.56-/Kg. It needs 4 Kg of coffee to obtain 1 Kg of green beans for IDR 31,466,67- (4 Kg x IDR 7,866.67-/Kg). Farmers should be able to obtain a higher selling price of coffee by selling green beans from red coffee cherries for IDR 31,466.67-/Kg. However, as the knowledge of farmers in fulfilling market demand for red coffee cherries remain limited and the obstruction of theft of red coffee cherries, the majority of farmers choose to sell green beans obtained from mixed coffee cherries through marketing channels.

Farmers' preference of the marketing channel of pattern 1 is also affected by the issue of the economic factor (capital borrowing) to village collecting traders. The phenomenon in the field reveals that generally, farmers have not taken advantage of the credit provided by banking institutions in developing their farming business. The low interest of farmers to utilize credit provided by banking institutions is because they do not have collateral for land certificates and incompatibility of monthly credit payments with coffee farming that provides seasonal production cycles. Coffee yields are affected by seasons and weather conditions that are difficult to predict, making the farmers' incomes to be difficult to determine with certainty. On the other side, the urgency of farmers' economic needs that must be

fulfilled straight away, such as the need for children's education costs, purchasing household needs, and celebration, has forced them to obtain business capital from village collecting traders who offer capital loans in a short period and without complicated procedures such as credit loans offered by banking institutions. The existence of a capital loan payment agreement at harvest necessitates farmers to sell their coffee harvest in the form of dry-processed coffee (green beans) to village collecting traders who offer capital loans. This phenomenon is in accordance with the results of studies conducted by Widyaningtyas et al. (2014) and Pratiwi et al. (2019) that there is a business capital loan commitment, requiring farmers to sell their coffee harvest in the form of dry-processed coffee/rice coffee to the party that provides the loan (intermediary trader) at a price imposed by the trader *(ijon).*

Marketing Function

Agricultural products, particularly those produced by the plantation subsector, need several treatments before being consumed by consumers. This is where marketing agencies come in to play since they must perform marketing duties in order to enhance product added value and consumer satisfaction. The marketing functions performed by the marketing agency of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency in detail can be seen in Table 1. The marketing functions identified in this study include exchange, physical, and facility functions.

The exchange function includes selling and buying activities performed by all marketing agencies, except farmers who have only done selling activities. Then, the physical functions done by marketing agencies consist of activities of transportation, loading and unloading, weighing, processing, and storage. Almost all marketing agencies do the physical function. However, loading and unloading activities are not carried out by farmers and retailers. In addition, the processing is performed by farmers and retailers while storage is not carried out by farmers. The facility function includes sorting activities, risk management, and price information. Sorting activities are only performed by retailers. Risk management and price information are performed by all marketing agencies, except for farmers as price takers from the above marketing agencies.

Following the harvesting, coffee is traditionally processed into green beans which are subsequently put into sacks, weighed, and delivered to village collecting traders using motorcycle taxi bikes. The village collecting traders perform loading and unloading and storage activities in their warehouses. The coffee is then mixed, put in sacks, weighed, transported, and sold to district collecting traders using pick-ups. The district collecting performs loading and unloading and storage activities. Subsequently, the coffee is blended, put into sacks, weighed, and sold to wholesalers using trucks. The same activities are also performed by wholesalers include physical function and then selling the coffee to exporters using fuso trucks. At retailers, coffee cherries that are bought from farmers directly at harvest time are subsequently put into sacks, weighed, and transported using pick up cars. Then, the coffee is sorted and processed into green beans, roasted, ground coffee, and coffee perfume to be sold to consumers.

Table 1. Marketing Function of Robusta Coffee Marketing Agencies

No	Marketing Agencies	Marketing Functions	Treatments
1	Farmers	Exchange Function	Selling of dry-processed coffee (green beans) and red logs
		Physical Function	Processing (dry-processed coffee), packaging, weighing, and transportation
		Facility Function	-
2	Village Collecting Traders	Exchange Function	Buying and selling of dry-processed coffee (green beans)
		Physical Function	Transporting, loading and unloading, weighing, and storage
		Facility Function	Risk coverage (price fluctuations) and price information
3	District Collecting Traders	Exchange Function	Buying and selling of dry-processed coffee (green beans)
		Physical Function	Transporting, loading and unloading, weighing, and storage
		Facility Function	Risk coverage (price fluctuations) and price information
4	Wholesalers	Exchange Function	Buying and selling of dry-processed coffee (green beans)
		Physical Function	Transportation, loading and unloading, weighing, and storage
		Facility Function	Risk coverage (price fluctuations) and price information
5	Retailers	Exchange Function	Buying and selling of coffee of red logs
		Physical Function	Transporting, processing (wet processing which then becomes green beans, roasting, ground coffee, and coffee perfume), packaging, weighing, and storage
		Facility Function	Risk coverage (price fluctuations), price information, and sorting

Sumber: Data Processing, 2020

Market Structure

Market structure refers to the institutional aspects of a market that govern the relationships between one seller and another seller, between buyers and sellers, and between sellers in the market and potential sellers who will enter and leave the market (Widyaningtyas et al., 2014).

The market structure of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency is identified according to three primary indicators, including the number of marketing agencies involved, pricing mechanisms, and market entry and exit conditions.

There are five marketing agencies involved in the marketing of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency. Details of the number of marketing agencies of Robusta coffee are shown in Table 2.

Table 2. Number of Robusta Coffee Marketing Agencies

No	Marketing Agencies	Total (People)	Percentage (%)
1	Farmers	93	86.92
2	Village Collecting Traders	8	7.48
3	District Collecting Traders	2	1.87
4	Wholesalers	1	0.93
5	Retailers	3	2.80
Total		107	100

Sumber: Data Processing, 2020

Table 2 shows the number of sellers and buyers of Robusta coffee that is far more than the number of buyers. Farmers as producers of Robusta coffee sellers of 86.92% only have Robusta coffee buyers of 13.08%.

The mechanism for determining the price of a product marketing will influence the amount of income obtained by marketing agencies (Widyaningtyas et al., 2014). Robusta coffee is a broadly-traded plantation commodity, both in the domestic and the international market. Any economic turmoil occurring in these two markets will affect the determination of Robusta coffee prices directly. The phenomenon in the field shows the farmers' inability to access any changes in coffee prices. Farmers only obtain information regarding coffee prices from fellow farmers and collecting traders. As an export commodity, the information related to the development of Robusta coffee prices is controlled by the exporter as the first party to receive the information. Moreover, the information is conveyed in stages to wholesalers and village and district collecting traders. The buying price determined by wholesalers to district collecting traders always refers to the amount of the exporters' buying price to wholesalers. The same condition applies in determining the buying price set by the district collecting traders to the village collecting traders who always refer to the wholesaler's buying price. It causes farmers to only function as price takers from marketing agencies above them.

A similar phenomenon occurs in the mechanism of price determination among retailers. The retailers have the power to determine the buying price of coffee among farmers according to the quality of the coffee cherries desired. The inability to determine the selling price of coffee produced because of the lack of access to information regarding the development of coffee prices has made farmers a subject with a weak bargaining position. This fact is in accordance with a study conducted by Juliaviani et al. (2017) that the existence of market power possessed by intermediary traders makes them feel more entitled to determine coffee prices than farmers as producers.

Market entry and exit conditions are affected by the size of the obstacles to entering the market, including the amount of business capital that must be possessed to obtain a role as a competitor in entering the market, as well as obstacles to access challenges with other marketing agencies. In this case, it is shown by the ability to develop cooperation, both with farmers and with other intermediary traders who have long been partnered. It is because to become a market participant requires some of quite difficult requirements for everyone to meet. The business capital needed to become a village collecting traders is around IDR 20,000,000, - up to IDR 50,000,000, -, that for district collecting traders ranging from IDR 150,000,000, - up to IDR 200,000,000, -, and that for wholesalers are more than IDR 450,000,000,-.

In terms of access with other marketing agencies, new traders should be able to develop cooperation, both with farmers and other intermediary traders to compete and survive with traders who have had partnerships for a long time. Generally, farmers already have a cooperation with village collecting traders that are binding although it is not written. A total of 69 farmers or 74.20% of respondents have ties to village collecting traders. Furthermore, bonding relationships commonly occur in the form of business capital loans in addition to cultural and kinship ties. This relationship necessitates farmers to sell their coffee to village collecting traders. Only 24 farmers or 25.80% of respondents do not have a relationship with village collecting traders. To obtain the supply of coffee from farmers who are not affiliated with the village collecting traders, these collectors perform a competing strategy for the buying price of coffee between fellow village collecting traders, which is by offering a higher coffee buying price, but by considering the coffee quality sold by the farmer. Therefore, to become village collecting traders, new traders should be able to penetrate these situations to compete and survive with the existing village collectors.

Furthermore, the difficulty of examining the Robusta coffee market to become a district collecting trader is getting bigger. District collecting traders are common partners of wholesalers. The partnership that has occurred between them has been going on for a long time. The existence of an attachment in terms of business capital led to supplying coffee for village district collecting traders to district collecting traders to become a binding necessity. It occurs because most of the business capital of village collecting traders is a loan from district collecting traders, making the village district collecting traders hesitate to sell their coffee to other traders who are not their customers, even though the price offered is higher. It makes it more difficult for new traders entering the market to compete for supplies from village collecting traders.

The difficulty of accessing the Robusta coffee market becomes even bigger for the market participant who wants to be wholesalers. Besides the amount of business capital needed to become a wholesaler, a variety of forms of licensing must be owned such as a Business Place Permit (SITU), a Company Business Permit (SIUP), and a Goods Transport Permit, as well as access to exporters. Therefore, these requirements are not easy to be met.

According to the identification of the three primary indicators for determining market structure, the market structure of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency is an imperfectly competitive market of an oligopsony. It is shown from the number of sellers who are far more than that of buyers. Farmers tend to be the price takers following the prices determined by the traders, and the difficulty of penetrating the existing network partnerships of marketing agencies makes it difficult for new traders to enter the market. This phenomenon is in accordance with a study conducted by Pratiwi et al. (2019) and Rosiana (2020) that the Robusta coffee marketing system has not been running efficiently as the market structure tends to be oligopsony. It is due to a number of factors, including farmers who lack market information so they cannot offer the products at a more favorable price, and wholesalers are extremely dominant in determining the price of coffee.

Market Behavior

Market behavior is a pattern of market habits involving the (mental) decision-making process and physical activities performed by several marketing agencies in a market (Pratiwi et al., 2019). The market behavior of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency is identified according to two primary indicators, including buying and selling practices, and the presence or absence of government intervention in the form of coffee selling price policies.

Robusta coffee marketing from the farmer level to exporters and final consumers includes a variety of marketing agencies. This involvement has resulted in the coffee price prevailing in the market not being directly accepted by farmers. The phenomenon in the field reveals that farmers tend to sell their coffee to the same middleman. This tendency happens due to an agreement (unwritten agreement) with the traders. Business capital loans offered by traders made farmers have no other alternatives to market the coffee they produce. They prefer to take advantage of traditional credit institutions (borrowing capital) provided by village traders as the requirements needed are easier and more flexible. Besides, there are cultural ties and kinship that make farmers hesitate to sell their Robusta coffee to traders who are not their customers, although they offer a higher price. Therefore, the space for farmers to move in the marketing of Robusta coffee is extremely limited. There are almost no other options because of these ties.

The same phenomenon occurred with traders at the next level. Generally, there is a cooperative relationship of providing business capital loans by the above traders. The working relationship between wholesalers, district collecting traders, and village collecting traders has become a marketing network that is tied to one another although in an unwritten work agreement. This strategy was deliberately established by these marketing agencies aiming at securing market stability, both in terms of coffee price and sustainable coffee supply.

Juliaviani et al. (2017) stated that adjustments in coffee prices in the domestic market are affected by those in coffee prices in the international market. This price transmission is associated with changes in the two primary factors in price formation, including supply and demand (Tomek & Robinson, in Juliaviani et al., 2017). It shows that changes in export prices should have an effect on prices at the farmer level. However, the structure and behavior of a segmented market leads to the asymmetrical transmission of changes in export prices at the exporter to the farmer levels, making the transmission of prices asymmetrical when they increase and decrease. Alternatively stated, the increase in coffee prices occurring at the exporter level is not passed on to farmers rapidly and completely. On the other hand, when there is a decline in coffee prices, it will be passed on to farmers rapidly and perfectly. Therefore, it is important to have government regulations regarding coffee selling price policies to protect farmers from low coffee prices at intermediary agencies.

Conditions in the field reveal that the government does not have a regulation that stipulates the mechanism for determining coffee prices yet as has been implemented for rice commodities by the government (Ministry of Trade Regulation 24/2020 concerning Determination of Government Purchase Prices for Grain or Rice) as well as corn, soybeans, sugar, cooking oil, meat, purebred chicken, and purebred chicken egg commodities (Permendag 58/208 concerning

Determination of Reference Purchase Prices at Farmers and Reference Sales Prices at Consumers). Therefore, the coffee price is only determined by the power of farmers as producers and consumers (intermediary traders) in the market. The government needs to play a role in setting the selling price of coffee to ensure the farmers' welfare and the sustainability of the commodity. Kuswardhani et al. (2019) stated that the role of price in farming is critical in the sustainability of farming as it determines revenue and the use of inputs in farming. The selling price becomes one of the incentives for farmers to perform their farming business, while the export price will influence the profits of the exporter. A price that serves as an indicator of market structure and behavior can describe efficiency in a marketing chain.

According to the identification findings of the two primary indicators for determining market behavior, the market behavior of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency is poor as farmers tend to be price takers by following the prices determined by traders, and there is no government intervention regarding policies of the coffee selling price.

Market Performance

Market performance is the result of final decisions determined associated with bargaining and market competition (Widyaningtyas et al., 2014). It represents the economic outcomes of market structure and behavior. In this study, market performance is identified by measuring the marketing margin, the distribution margin, farmers' share, and the ratio of profit and costs of marketing. The findings of the analysis of marketing margins, distribution of margins, farmers' share, and the ratio of profits and costs of marketing of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency in each marketing channel are shown in Table 3 and Table 4.

The marketing margin reflects the difference in income obtained by each marketing agency. The higher the marketing margin, the higher the income obtained by the marketing agency, and the smaller the price share obtained by the farmers on the price paid by the consumers. The difference in the value of the marketing margin occurring in every marketing channel is because of the difference in the number of marketing agencies involved and the difference in the number of marketing costs incurred by each marketing agency as a result of the marketing function and the costs of treatments performed.

Table 3 shows that the value of the marketing margin of the marketing channel of pattern 1 is IDR 29,448.11/Kg and Table 4. shows that the value of the marketing margin of the marketing channel of pattern 2 is IDR 42.133.33/Kg. The findings of the analysis revealed that the marketing channel of pattern 2 has a higher marketing margin than that of the marketing channel of pattern1. It is due to the number of treatments performed by traders in the marketing channel of pattern 2 that is more than those performed by traders in the marketing channel of pattern 1. It leads to increased costs of marketing costs and profits obtained by traders in the marketing channel of pattern 2. Coffee sold by traders in the marketing channel of pattern 1 does not experience further processing and sorting/grading and is only loaded in ordinary sacks unlike packaging done by retailers. Therefore, marketing costs incurred are smaller of IDR 3.135,-/Kg compared to the marketing cost of the marketing channel of pattern 2 of IDR 4.250,-/Kg.

According to the value of the marketing margin, the marketing channel of pattern 1 is more efficient than the marketing channel of pattern 2 as the marketing channel of pattern 1 has a lower marketing margin value so that it is able to provide a higher price share for farmers (farmers' share), although more marketing agencies involved than the number of marketing agencies in the marketing channel of pattern 2. The results of this analysis are different from the study conducted by Widyaningtyas et al. (2014) and Pratiwi et al. (2019) that the longer the chain of trade systems involved, the more inefficient a trade system channel is.

These findings revealed that farmers selling Robusta coffee as the type of rice coffee (green beans) are more profitable than those by type of coffee beans (red coffee cherries). It is because it has a lower marketing margin of IDR 29,448.11/Kg compared to the marketing margin of farmers who sell the product in the form of coffee logs of IDR 42.133.33/Kg. Therefore, it can provide a higher price share (farmers' share) received by farmers, which is 36.35% compared to farmer's share obtained by farmers by selling coffee logs of only 15.73%. Besides, the ratio of profit and marketing cost of farmers who sell coffee by type of green bean is also higher at 5.10 compared to those of farmers who sell coffee by type of coffee logs of only 4.99. This phenomenon is in accordance with the research results conducted by Fauziah & Ihwana (2015) and Listyati et al. (2017), showing that farmers can earn higher profits by selling coffee in the form of coffee beans than rice coffee. It indicates that farmers can participate in enjoying the added value of the marketed products.

Even though the marketing channel of pattern 1 is more efficient, it is difficult for farmers to choose that marketing channel because they have cultural ties and kinship with traders and some of them have attachments in the form of business capital loans to village collecting traders Besides, the high transportation costs that must be borne by farmers because of the long distance between the coffee plantations and the farmers' residences with district collecting traders located in the district capital, as well as the poor road and bridge infrastructure in Pasemah Air Keruh District, causing the majority of coffee farmers to prefer chooses to sell their coffee by type of green beans from mixed coffee cherries through marketing channel of pattern 1.

Table 3 shows that the marketing channel of pattern 1 has a share of marketing costs of IDR 3.135,-/Kg or 10.65% and the profit share of IDR 15.993.25-/Kg or 54.31%. It reveals that the marketing channel of pattern 1 is more profitable because the profits received are higher than the marketing costs incurred ($Sk_j > Sb_{ij}$). However, seen from the margin distribution, the marketing channel of pattern 1 is inefficient as it cannot hold a fair price distribution of the total price paid by consumers (exporters) to all parties participating in Robusta coffee production and marketing activities in Pasemah Air Keruh District.

Table 4 shows that the marketing channel of pattern 2 has a share of marketing costs of IDR 4.250,-/Kg or 10.09% and the profit share of IDR 21,223.11-/Kg or 50.37%. It reveals that the marketing channel of pattern 2 is profitable as the profits earned are higher than the costs ($Sk_j > Sb_{ij}$). However, the marketing channel of pattern 2 is not as efficient as the marketing channel of pattern 1 as it has a smaller profit share than the marketing channel of pattern 1.

Table 3. Marketing Margin, Price Share, and K/B Ratio of Marketing Channels 1

No	Marketing Agencies	Value* (IDR/Kg)	Marketing Margin (IDR/Kg)	Margin Distribution (%)	Price Share (%)	K/B Ratio
1	Farmers (Producer)					2.28
	a Farming Cost	4,371.75				
	b Transportation Cost	750,00				
	c Selling Price	16,817.56			36.35	
	d Profit	11.695,81				
2	Village Collecting Traders		1,182.44			1.78
	a Buying Cost	16,817.56			36.35	
	b Transportation Cost	250.00		0.85	0.54	
	c Loading and Unloading	75.00		0.25	0.16	
	Cost	100.00		0.34	0.22	
	d Storage Cost	18,000.00			38.91	
	e Selling Price	757.44		2.57	1.64	
	f Profit					
3	District Collecting Traders		1,750.00			1.59
	a Buying Cost	18,000.00			38.91	
	b Transportation Cost	500.00		1.70	1.08	
	c Loading and Unloading	75.00		0.25	0.16	
	Cost	100.00		0.34	0.22	
	d Storage Cost	19,750.00			42.69	
	e Selling Price	1,075.00		3.65	2.32	
	f Profit					
4	Wholesalers		3,750.00			1.92
	a Buying Cost	19,750.00			42.69	
	b Transportation Cost	1,000.00		3.40	2.16	
	c Loading and Unloading	85.00		0.29	0.18	
	Cost	200.00		0.68	0.43	
	d Storage Cost	23,500.00			50.79	
	e Selling Price	2,465.00		8.37	5.33	
	f Profit					
5	Exporter		22,765.67			
	a Buying Price	23,500.00			50.79	
	b Selling Price**	46,265.67			100.00	
Total Marketing Margin		29,448.11				
Total Marketing Cost (C_i)		3,135.00				
Total Profit (π_i)		15,993.25				
Total K/B Ratio (π_i/ C_i)		5.10				

Sumber: Data Processing, 2020

Notes:

* Green bean Robusta from mixed coffee cherries (random picking).

** Primary data processing from the spot market for the coffee commodity (product prices valid during the analysis period of August 28, 2020).

Table 4. Marketing Margin, Price Share, and K/B Ratio of Marketing Channels 1

No	Marketing Agencies	Value* (IDR/Kg)	Marketing Margin (IDR/Kg)	Margin Distribution (%)	Price Share (%)	K/B Ratio
1	Farmers (Producer)					3.69
	a Farming Cost	926.89				
	b Transportation Cost	750.00				
	c Selling Price	7,866.67			15.73	
	d Profit	6,189.78				
2	Retailer/MSMEs		42,133.33			4.30
	a Buying Price	7,866.67			15.73	
	b Raw Material Cost	31,466.67				
	c Transportation Cost	500.00		1.19	1.00	
	d Processing Cost	1000.00		2.37	2.00	
	e Sorting Cost	500.00		1.19	1.00	
	f Weighting Cost	250.00		0.59	0.50	
	a Packaging Cost	1,000.00		2.37	2.00	
	b Storage Cost	250.00		059	0.50	
	c Selling Price**	50,000.00			100.00	
	d Profit	15,033.33		35.68	30.07	
Total Marketing Margin		42,133.33				
Total Marketing Cost (C_i)		4,250.00				
Total Profit (π_i)		21,223.11				
Total K/B Ratio (π_i/ C_i)		4.99				

Sumber: Data Processing, 2020

Notes:

* Red coffee cherries

** Green bean Robusta from red coffee cherries

Farmers' share is negatively related to marketing margin, indicating that the higher the marketing margin, the smaller the share obtained by farmers. The findings of the analysis revealed that the marketing channel of pattern 1 provides a higher price share received by farmers than the marketing channel of pattern 2. Table 3 shows that the farmers' share in the marketing channel of pattern 1 is IDR 16,817.56-/Kg or 36.35%.

Meanwhile, Table 4 shows that the marketing channel of pattern 2 is only able to provide farmers' share of IDR 7,866.67-/Kg or 15.73%. The higher price share obtained by farmers in the marketing channel of pattern 1 indicates that the marketing channel is more profitable as it can deliver products to consumers (exporters) with lower marketing costs and profits taken by traders. However, seen from the farmers' share as a whole, it can be concluded that the marketing system of the Robusta coffee in Pasemah Air Keruh District is inefficient as the farmers' share is less than 50%, both in the marketing channel of pattern 1 and 2.

The profit and cost ratio is employed to examine the distribution of profits and marketing costs borne by each marketing agency in Robusta coffee marketing. Table 3 reveals that the total marketing costs borne by the marketing channel of pattern 1 are IDR 3.135,-/Kg. The highest marketing costs and

profits are borne by the exporters as seen from the selling price of Robusta coffee which increased by almost 100% of the selling price of the product at the wholesaler level. Moreover, the highest marketing costs are borne by wholesalers of IDR 1.285,-/Kg; farmers of IDR 750,-/Kg; district collecting traders of IDR 675,-/Kg; and village collecting traders of IDR 425,-/Kg. The highest profit from the marketing agency after the exporters are successively received by the farmers of IDR 11,695.81-/Kg; wholesaler of IDR 2,465,-/Kg; district collecting traders of IDR 1.075,-/Kg; and village collecting traders of IDR 757,44,-/Kg from the total profit received by the marketing channel of pattern 1 of IDR 15,993.25,-/Kg.

Table 4 shows that the highest marketing costs and profits in the marketing channel of pattern 2 are borne by retailers with marketing costs of IDR 3,500.-/Kg and a profit of IDR. 15,033.33-/Kg. It is because, at the retail level, coffee logs (red coffee cherries) is processed into green beans, roasting, ground coffee, and coffee perfume which in the processing, sorting, grinding, roasting, and packaging processes are carried out leading to increased marketing costs and coffee selling prices. This phenomenon is in accordance with a study conducted by Thana (2017), stating that the advancement of technology like milling machines, peeling machines, frying machines, and packaging are activities that can maximize the revenue obtained by the coffee agroindustry.

The findings of the analysis reveal that the total ratio of profit and marketing costs received by each marketing agency in Robusta coffee marketing in the marketing channel of pattern 1 is 5.10 and the marketing channel of pattern 2 is 4.99. Jumiati et al. (2013) stated the value of π_i/C_i of more than 1 ($\pi_i/C_i>1$) indicates that marketing activities are profitable. Conversely, the value of π_i/C_i of below than 1 ($\pi_i/C_i<1$) indicates that the marketing is not profitable. Seen from the ratio of profits and marketing costs, marketing activities for Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency are profitable ($\pi_i/C_i > 1$). However, seen from the distribution of the ratio of profit and marketing cost, the marketing system is inefficient as the ratio of profits and marketing costs received by all parties participating in coffee production and marketing activities is not evenly distributed both in the marketing channel of patterns 1 and 2.

Based on the analysis of the overall market manifestation, it turns out that the marketing system of Robusta coffee in Pasemah Air Keruh District, Empat Lawang Regency has not been flowing efficiently. It can be seen from the high marketing margin, the uneven distribution of the margin, the low farmers' share, and the low K/B ratio borne by the farmers. The poor bargaining position of the farmers shows their powerlessness in encountering the imperfect competition market structures in the form of oligopsony and the reliance of farmers on village collecting traders as alternative financial agencies for farmers to borrow their farming capital loans. The inability of farmers to set the selling price of the coffee produced because of a lack of access to information on the development of coffee prices and the existence of relationships to the capital borrowed from collecting traders. It causes farmers to become price takers from marketing agencies above them.

CONCLUSION

The results of the study revealed that there are two patterns of marketing channels for Robusta coffee in Pasemah Air Keruh

District, including (1) Farmers - Village Collecting Traders – District Collecting Traders – Wholesalers – Exporters; and (2) Farmers – Retailers – Consumers. The marketing function carried out by marketing agencies involve exchange, physical, and facility functions. However, these marketing functions are not completely performed by each marketing agency involved in Robusta coffee marketing. The market structure in Robusta coffee marketing is an imperfectly competitive market structure of oligopsony. Market behavior reveals that the practice of setting the price of Robusta coffee is dominated by intermediary traders, limited market information by farmers, and the absence of government intervention regarding making policies of coffee price. it makes farmers become price takers from marketing agencies above them. Market performances reveal high marketing margins and uneven distribution of margins, low farmers' share, and low K/B ratio borne by the farmers. Therefore, it can be concluded that the Robusta coffee marketing in Pasemah Air Keruh District, Empat Lawang Regency has not been efficient. The government needs to make policy steps that can encourage the enhancement of farmers' welfare, such as establishing coffee price regulations, expanding access to capital, and developing domestic and export coffee market networks by enhancing the quality and quantity of infrastructure. Efforts are required to improve farmers' assistance from relevant government agencies/institutions directed at a sustainable coffee certification process both in terms of production and the economy by enhancing the quality of green beans.

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