RESEARCH PAPER

Investigation of saba banana marketing efficiency: structure, conduct and performance approach

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Abstract

Smallholders, including saba banana farmers, often find it difficult to sell their produce to high-value markets and generally sell to intermediaries. However, intermediary traders can eliminate the opportunity for farmers to get high profits, so the market becomes inefficient. This study investigates banana saba's channel pattern and marketing efficiency holistically, which has not been widely studied using the structure, behavior, and performance (SCP) approach. A random sampling technique was determined to find 254 farmer samples. A total of 149 traders have been found, consisting of 13 collectors, 26 wholesalers, and 110 retailers spread over several banana saba marketing destinations. Based on the findings, seven marketing channels are divided into two marketing areas, namely rural and urban markets. The structural analysis results show that the rural market structure is characterized by a monopolistic market, while the urban market is perfectly competitive. Market conduct analysis shows that the price of saba bananas is determined by market equilibrium in rural markets and by traders in urban markets. Performance analysis shows that farmers' share is highest in rural markets and lowest when sold to urban markets. Under the SCP approach, rural markets are efficient, while urban markets are inefficient. This study highlights the need for future research to determine the distribution of saba banana farmers' produce directly to the market.

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Introduction

Agricultural marketing is one of the smallholders' main issues, especially in developing countries (Yankson *et al.*, 2016). Smallholders often find it difficult to sell their products to higher-value markets (Fafchamps and Hill, 2005); (Markelova *et al.*, 2009); (Chigusiwa *et al.*, 2013) due to long distances and poor road conditions (Ruijs *et al.*, 2004); (Ouma *et al.*, 2010); (Magesa *et al.*, 2014); (Fan and Salas Garcia, 2018); (Migose *et al.*, 2018), poor transportation network (Negi *et al.*, 2018), high marketing costs (Minot and Hill, 2007), difficulty in obtaining market information (Svensson and Drott, 2010), low managerial ability (Ebata and Hernandez, 2017), and weak bargaining position (Courtois and Subervie, 2014), which ultimately forced farmers to sell to middlemen (Chigusiwa, 2013).

Although intermediary traders have a role in bridging farmers with consumers (Abebe *et al.*, 2016); (Chigusiwa, 2013), intermediary traders can also eliminate the opportunity for farmers to get high profits because of the high margin between the price paid by consumers and the price received by farmers so that the market becomes inefficient (Tarekegn *et al.*, 2020); (Gebre *et al.*, 2020); (Akinyemi *et al.*, 2017). Hence, choosing the right marketing channels and minimizing market inefficiencies can improve farmers' food security (Panda and Sreekumar, 2012); (Mmbando *et al.*, 2017).

Studies on the marketing efficiency of farmers' products in developing countries are mostly assessed in terms of revenues and costs, without explicitly considering other variables that may simultaneously affect the marketing of agricultural products. This article contributes to the literature on marketing channel patterns and analysis of saba banana marketing efficiency with a holistic approach starting from market structure and behavior, which ultimately has implications for market performance.

Saba banana is one of the banana cultivars from the Philippines that has an important role, especially in Southeast Asia. Saba bananas [Musa 'Saba' (Musa acuminata × Musa balbisiana)], have other names in other countries, namely kepok (Indonesia), abu nepah (Malaysia), kluai hin (Thailand), chuoi mat (Vietnam), and cardaba (Philippines) (Lim, 2012). Saba bananas have economic potential, especially in industrial exports (Reginio *et al.*, 2020). In contrast to other types of bananas, some of the advantages of Saba bananas, besides being consumed directly, are also often consumed by boiling, steaming, or frying (Olawoye *et al.*, 2017). Some processed products from Saba banana include chips, flour, syrup, and sauce (Lustre *et al.*, 1976).

Many other researchers have researched marketing channel patterns and banana marketing efficiency in the past. However, research on holistic marketing efficiency assessment using the structure, conduct, and performance (SCP) approach is still very limited, especially for the saba banana commodity. In fact, according to (Harriss, 1979), SCP is a standard tool for market analysis. On the other hand, according to (Nzima and Dzanja, 2015); (Dynasari *et al.*, 2010); and (Giroh *et al.*, 2010), SCP can be used to measure market efficiency. Indeed, according to (Rego, 1998), the SCP approach can explain market efficiency.

Initially, the SCP approach was used to study the formation of industrial organizations (Mason, 1939). However, the SCP Paradigm has been confirmed for a wide range of markets, and this approach is relatively simple and popular for studying agricultural markets. Several studies, such as those conducted by; (Ordofa *et al.*, 2021); (Ahmed, 2020); (Mebrate and Worku, 2019); (Akinyemi, 2017); (Nzima, 2015); (Dynasari, 2010); (Enibe *et al.*, 2009) as well as many other researchers, use the SCP approach in measuring the marketing of agricultural products. Therefore, this study aims to determine the marketing channel pattern of Saba bananas selected by farmers to market their harvests and conduct a holistic investigation of the marketing efficiency of Saba bananas using the SCP approach. A new aspect of this study is a holistic investigation of marketing efficiency focused on Saba bananas which have not been widely studied.

Methodology

Study area

This research was conducted in Seruyan Regency. Located 450km from the capital city of Central Kalimantan Province, Indonesia, and lies at 00 77' to 30 56' South Latitude and 1110 49' to 1120 84' East Longitude (Fig.). The research location was selected using purposive sampling as the central saba banana production in Central Kalimantan. In 2020 the production of saba bananas in Seruyan Regency reached 8,377.6 tons; even in 2017, it advanced by 18,457.1 tons (Badan Pusat Statistik Kalimantan Tengah, 2021). There are 3 villages that are centers of saba banana plantations in Seruyan Regency, namely Sungai Bakau, Pematang Panjang, and Bangun Harja. The plantation area in the three villages is 1,316,8 hectares (Seruyan District Food and Agriculture Security Office, 2020).
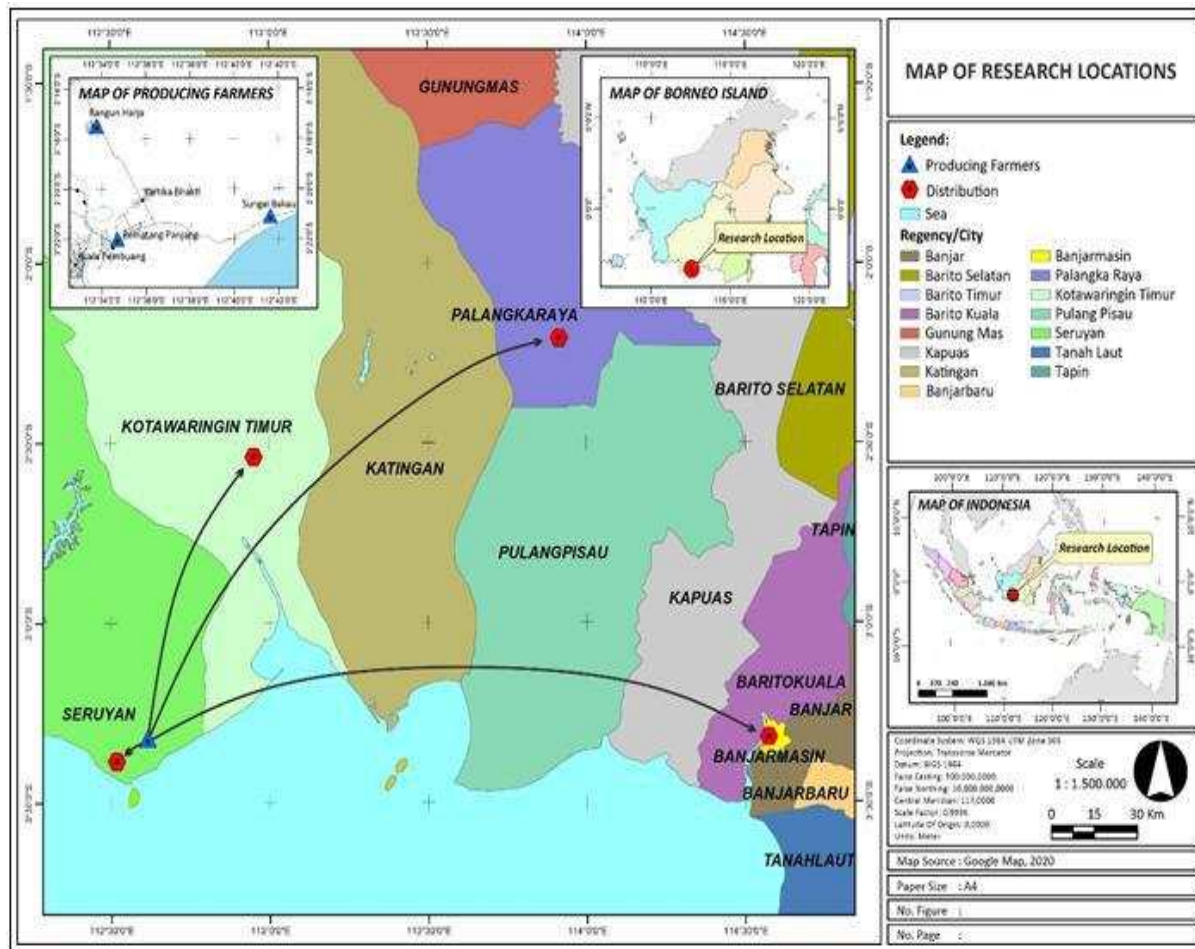

Fig. 1. Research area map.

Sampling procedures of farmers and traders

A two-stage sampling procedure was used for determining the sample for this study. A random sampling technique was determined to find 254 farmers samples from three selected villages (Bangun Harja, Pematang Panjang, and Sungai Bakau). The sample of traders is selected at different stages based on the marketing destination for the saba bananas from Seruyan Regency. The sample size of traders included in the study was determined based on information obtained from the farmers with the snowball sampling method. Accordingly, a total of 149 samples of traders have been found, consisting of 13 collectors, 26 wholesalers, and 110 retailers spread over several banana saba marketing destinations (Fig. 1). A structured questionnaire was distributed to a sample of farmers and traders to find data on socio-demographic characteristics, aspects of production and marketing of farmers, and trade activities performed by traders.

Analytical techniques

The market structure, conduct, and performance were analyzed using several different indicators so that the level of efficiency of the banana saba market is known. Based on research done by (Enibe, 2009);(Eronmwon *et al.*, 2014); (Akinyemi, 2017); (Ahmed, 2020); In this study, the market structure is analyzed with indicators of the number of participating farmers and traders to market, barriers to market entry, and market concentration. The market conduct is determined by the degree of price collusion, pricing strategies, and price formation criteria. Meanwhile, market performance is assessed using several indicators such as the farmers" share, distribution of marketing margins, market integration, and price transmission elasticity. The Market Share and the Hirschman Herfindahl Index were used to measure the degree of market concentration. The Market Share was calculated following *(Aliyi et al.*, 2021) :

$$Ms_i = \frac{Ac_i}{\sum Ac_i}$$

Where: MS_i = Market share of trader i^{th}; Ac_i = Product absorption capacity handled by the trader; $\sum Ac_i$ = Total product absorption capacity by the n traders. As a rule of thumb suggested by Kohls and Uhl (2002), concentration ratios of 50 percent or more indicate a strongly oligopolistic industry, 33–50 percent a weak oligopoly, and less than that, an unconcentrated industry. On the other hand, according to (Ukav, 2017), the Herfindahl-Hirschman Index (HHI) is another important index used to measure concentration in a market. This index is the sum of the squares of the relevant company shares, which is determined as a ratio (percentage) of the market's total volume. HHI is calculated according to the following formula:

$$HHI = \sum_{i=1}^{n} S_i^2$$

Where: HHI = Herfindahl-Hirschman Indeks; S_i = Market Share of trader i^{th} (i=1, 2, 3, ..., n). if IHH = 0,

the market leads to a perfectly competitiv; 0 < IHH <1, the market leads to an oligopsony/oligopoly; and IHH = 1, the market leads to a monopsony/monopoly.

The distribution of marketing margin is essential indices in evaluating market performance (Tarekegn, 2020). According to (Myers *et al.*, 2010), marketing margin (MM) refers to the difference between the price paid to the farmer and the price paid by the consumer, and it is given by the formula shown below :

$$\% \, MM = \frac{Consumer \, Price - Farmer \, Price}{Consumer \, Price} \times 100$$

Farmers" share (Fs), according to Busch and Spiller (2016), is the share received by farmers of the price paid by consumers. It is obtained through the equation :

$$Fs = \frac{Consumer \, Price - Marketing \, Margin}{Consumer \, Price} \times 100$$

Market integration is one indicator that measures market performance. Barrett (2001) An integrated market indicates an efficient marketing system, while a market that is not integrated both spatially and intertemporal may indicate marketing inefficiency, resulting in price games and price distortions in the market. According to *(Marwa et al.*, 2017), the level of market integration is measured by a linear regression model with the following regression equation:

$$Pf_{it} = a_0 + b_1 Pr_{it} + U_i$$

Where: Pf_{it} is the price at seller/producer level I in period t; Pr_{it} is the price at consumer level I in period t; a_0 constant; b_1 is a parameter, and U_i is an error term. Referring to (Monke and Petzel, 1984), if the two markets are independent of each other, then the price movements in each market will be random or unrelated, so it can be said that the market is not integrated. This is indicated by coefficient b, which is not significantly different from zero. On the other hand, if coefficient b differs significantly from zero,

this indicates an interdependence between the prices being analyzed.

Results and discussion

Characteristics of the farmers

Characteristics of farmer respondents are socio-demographic descriptions of farmers involved in the production and marketing of saba bananas at the research site. (Tarekegn, 2020) and (Pamphile *et al.*,

2018) state that socio-demographic factors play a role in determining farmer participation in the market.

On the other hand (Lee *et al.*, 2020) also said that socio-demographic characteristics influence the selection of marketing channels. As indicated in Table , It is known that most of the saba banana farmers are male (>90%), married (>96%), active economic age (>90%), with education still relatively low, dominated by primary education (>60%).

Table 1. Socio-demographic characteristics of the farmers.

Variable	Bangun Harja	Sungai Bakau	Pematang Panjang
Age of household (year)			
0-25	4,49% (4)	3,16% (3)	1,43% (1)
26-45	57,30% (51)	54,74% (52)	51,43% (36)
46-65	35,96% (32)	35,79% (34)	45,71% (32)
>65	2,25% (2)	6,32% (6)	1,43% (1)
Sex			
Female	5,62% (5)	8,42% (8)	28,57% (20)
Male	94,38% (84)	91,58% (87)	71,43% (50)
Marital Status			
Single	2,25% (2)	3,16% (3)	0,00% (0)
Married	97,75% (87)	96,84% (92)	100,00% (70)
Education			
No formal education	1,12% (1)	1,05% (1)	0,00% (0)
Primary education	73,03% (65)	63,16% (60)	77,94% (53)
Secondary education	19,10% (17)	35,79% (34)	22,06% (15)
University level	6,74% (6)	0,00% (0)	0,00% (0)
Farming experience(year)			
<5	14,61% (13)	41,05% (39)	32,86% (23)
5-10	75,28% (67)	51,58% (49)	54,29% (38)
11-15	6,74% (6)	3,16% (3)	7,14% (5)
>15	3,37% (3)	4,21% (4)	5,71% (4)
Farm Land (Ha)			
<2	25,84% (23)	64,21% (61)	65,71% (46)
2-5	71,91% (64)	32,63% (31)	34,29% (24)
>5	2,25% (2)	3,16% (3)	0,00% (0)

Source: Field survey (2021).

It can be attributed to the fact that men are the head of the family responsible for their household and the farmers are in the economically active age where they can actively participate in the production and economic activities.

The results of this study are in line with the 2018 Indonesian Inter-Census Agricultural Survey, which states that in Indonesia, the number of male farmers is more significant than female farmers, with the most dominant being in the range of 35-64 years. This finding is also consistent with the 2013 Indonesian Agricultural Household Income Survey results, where

it was found that 70% of Indonesian farmers only graduated from elementary school. While we see from the experience and the area of land owned by farmers, most of the saba banana farmers in the three villages have experienced between 1-10 years with a percentage of more than 90% with most of the land area owned is 2-5 ha (> 70%) in Bangun Harja village, and < 2 ha (> 64%) in Pematang Panjang and Sungai Bakau villages.

Characteristics of sample traders

Error! Reference source not found. presents the results for the socio-demographic characteristics of traders.

Table 2. Socio-demographic characteristics of the traders.

Variable	Collectors	Wholesalers	Retailers
Age of trader (year)			
0-25	0,00% (0)	11,54% (3)	0,91% (1)
26-45	46,15% (6)	42,31% (11)	59,09% (65)
46-65	46,15% (6)	46,15% (12)	39,09% (43)
>65	7,69% (1)	0,00% (0)	0,91% (1)
Sex			
Female	0,00% (0)	61,54% (16)	85,45% (94)
Male	100,00% (13)	38,46% (10)	14,55% (16)
Marital Status			
Single	0,00% (0)	0,00% (0)	0,00% (0)
Married	100,00% (13)	100,00% (13)	100,00% (110)
Education			
No formal education	0,00% (0)	0,00% (0)	0,00% (0)
Primary education	92,31% (12)	57,69% (15)	73,64% (81)
Secondary education	7,69% (1)	34,62% (9)	26,36% (29)
University level	0,00% (0)	7,69% (2)	0,00% (0)
Trading experience(year)			
<5	38,46% (5)	44,00% (11)	20,91% (23)
5-10	61,54% (8)	36,00% (9)	49,09% (54)
11-15	0,00% (0)	4,00% (1)	15,45% (17)
>15	0,00% (0)	16,00% (4)	14,55% (16)

Source: Field survey (2021).

The sex of the collector is known to be all-male (100%). Meanwhile, wholesalers (61,54%) and retailers (85,45%) are dominated by women. On the other hand, most trader's respondents are also in the active economic age category (dominant range from 26 to 64 years), and all (100%) of traders in this study stated that they were married.

(Akinlade *et al.*, 2016) revealed that education significantly increases the ability to make accurate decisions, including participation in the market. Most of the collectors (92,31%) only have primary education. Only a few (7.69%) collectors have a secondary education level. Likewise, most (73,64%) are also educated at the primary education for retailers. An exciting thing happened to wholesalers, and it was found that 7.69% had taken university level. From the trader's experience, the respondents had diverse experience in trading saba bananas (from 1 to 29 years).

Saba banana marketing channels
A marketing channel is a pattern chosen by farmers to distribute bananas from the farm gate to the final consumers. According to (Robbins, 2011), the complexity of a market system usually reflects the volume and value of trade, the types of products traded, and the number of market participants who want to take advantage of the system. Therefore, the pattern of marketing channels is related to the number of intermediaries involved between producers and consumers. According to this study, the banana saba marketing channel in Seruyan Regency involves several institutions distributing saba bananas from the farm gate to the market. Some of the main actors in the banana saba marketing channel are farmers, collectors, wholesalers, retailers, and consumers.

Table 3. Market Share and Herfindahl Hirschman Index.

Traders	Rural Market		Urban Market	
	Market Share (%)	HHI	Market Share (%)	HHI
Collectors	-	-	16,73	0,09
Wholesalers	100	1	11,76	0,05
Retailers	15,00	0,09	2,60	0,01

Source: Field survey (2021).

The selected marketing channel may differ from one farmer/trader to another. Differences in marketing channels will reflect differences in marketing efficiency (Mgale and Yunxian, 2020). As shown in Fig., the results reveal that the destination areas for the saba banana marketing channel can be grouped into rural and urban areas. The distribution of saba bananas in the rural area is carried out directly to consumers (consumers come in the field or farmers who distribute themselves to consumers at the nearest market) and through traders. This fact is in line with (Kohls, 2002) that the rural farmers follow different channels to reach the consumer. Meanwhile, the distribution of saba bananas in the urban area is carried out in two schemes: collectors who come to the farm gate/roadside or the farmers who distribute saba bananas to wholesalers outside the region.

Seven saba banana marketing channels were identified in the study areas are reported in Fig. 2. Different marketing channels of the saba banana trade can be defined as follows. (1) marketing channel 1 direct distribution from producers to rural consumers; (2) marketing channel 2 from producers to rural consumers through two types of rural wholesalers and rural retailers; (3) marketing channel 3 from producers to rural consumers through rural wholesalers; (4) marketing channel 4 from producers to rural consumers through rural retailers; (5) marketing channel 5 from producers to urban consumers through three types of collectors, urban wholesalers and urban retailers; (6) marketing channel 6 from producers to urban consumers through two types of collector and rural wholesaler; (7) marketing channel 7 from producers to urban consumers through two types of urban wholesaler and urban retailer (without collector).

The collectors play the most critical role in the distribution cycle of saba bananas, from farmers to final consumers. It is known that most of the saba bananas produced (83,07%) are then transported by collectors using pickup trucks to distribute them to the urban market. The collectors meet with the saba banana farmers (the meeting is usually preceded by a notification by the farmer to the collector that they will harvest) in the farm gate or roadside to buy freshly harvested bananas and transport them to other traders outside the area. The results of this study are in line with research (Pamphile, 2018) and (Tarekegn, 2020), which state that collectors have a central role in the distribution of bananas from farmers to markets outside the region.

Market structure, conduct, and performance of saba banana

This study carried out the marketing efficiency assessment using a structure, conduct, and performance (SCP) approach to the rural and urban banana saba market with differing distances, volumes, and the number of institutions involved.

Market structure
Number of farmers and traders
The demand for saba bananas, especially in rural areas, is relatively less than in urban ones, as seen from the few marketing actors involved. Based on the study results, there were no collectors in the rural market. Only 1 wholesaler, 16 retailers, and 17 farmers stated that they directly distribute their saba bananas to local consumers. In contrast, it was found that 13 collectors and 25 wholesalers distributed saba bananas to urban markets. At the same time, the number of retailers in urban areas is 94 people, and 16 farmers could directly distribute saba bananas to

wholesalers in the urban market.

Barriers to market entry

There is no official requirement to trade saba bananas at the rural and urban markets. All respondents (100%) stated that no administrative requirements (license, cover letter, or certain membership cards issued by the relevant government) must be met when trading saba bananas at both markets. It means that there are no barriers for anyone to enter and exit the saba banana trading activities, especially in

government-managed markets. Apart from administrative requirements, barriers to entry can also be in the form of technical and managerial skills are assessed using education level and business experience. The socio-demographic characteristics of traders are reported in Table 2. It shows that no technical and managerial barriers (experience or education) hinder traders from entering the rural and urban market. It is proven that even though they only have little experience and basic education level, they can still participate in the saba banana trade.

Table 4. Price determination strategy.

Price Determination	Traders (%)			
	Total	Collectors	Wholesalers	Retailers
Rural market				
Market equilibrium	88,24	-	100,00	87,50
Communication with other	-	-	-	-
Bargaining	-	-	-	-
Themselves	11,76	-	-	12,50
Urban market				
Market equilibrium	80,30	30,77	72,00	89,36
Communication with other	3,03	30,77	-	-
Bargaining	4,55	38,46	4,00	-
Themselves	12,12	-	24,00	10,64

Source: Field survey (2021).

Market concentration

As presented in Table, there is only 1 wholesaler in the rural market. The value of the market share reaches 100.00%, which indicates a high concentration. The entire market at the wholesale level is controlled by one person only. It means that for the level of wholesalers, there is a monopoly market structure. It is different at the retailer level, where the highest market share value is only 15.00%. Based on the HHI, wholesalers are known for 1, while for retailers, it is 0.09. It can be concluded that there is a monopoly market structure at the wholesale level and perfect competition at the retailer level.

Based on the analysis of market share and the HHI in the urban market, at the level of collectors, it was found that the market share value was 16.73%, and

the HHI value was 0.09. Meanwhile, the market share value is evenly distributed at the wholesale level, with the highest value of 11,76% and HHI of 0.05. Meanwhile, the highest market share value is only 2,60% at the retailer level, with an HHI value of 0.01. Based on the market structure criteria, if the market share value is <20%, it means that the market structure in the urban market is perfectly competitive (competitive). If the HHI value leads to 0, then the banana saba in urban leads to a perfectly competitive market.

Market conduct

Price determination and formation

There is no price limit officially determined by the local government, and there are no saba banana traders associations that affect the selling price in the

market. Of the total traders involved, there are various mechanisms in determining prices. In Table , prices at all marketing institutions in rural and urban markets are mainly determined through market equilibrium. In the urban market, 30,77% of the collectors stated that the price determined was obtained from a mutual agreement between collectors. 38,46% stated negotiated, and 30,77% followed the prevailing market price. As for

wholesalers and retailers, most said they only followed market prices with percentages of 72,00% and 89,36%. On the other hand, although the wholesalers seem to monopolize in rural markets, they cannot price themselves as they wish. Likewise, at the retailer level, most respondents (87,505) stated that they only act as price takers based on price formation in the market, so few retailers (12,50%) set prices themselves.

Table 5. Profit, margins, and farmer share along rural saba banana marketing channels.

Actors	Marketing channel (IDR)						
	I	II	III	IV	V	VI	VII
Farmers							
Sale price	7.000	4.800	4.800	4.942	4824	4824	6217
Collectors							
Purchase price	-	-	-	-	4824	4824	-
Marketing cost	-	-	-	-	542	542	-
Sale price	-	-	-	-	6510	6510	-
Profit	-	-	-	-	1144	1144	-
Margin	-	-	-	-	1686	1686	-
Wholesalers							
Purchase price	-	4.800	4.800	-	6469	6469	6217
Marketing cost	-	655	655	-	305	305	305
Sale price	-	6.000	8.000	-	7914	9786	7914
Profit	-	545	2.545	-	1507	3013	1392
Margin	-	1.200	3.200	-	3090	4962	1697
Retailers							
Purchase price	-	6.000	-	4.942	7914	-	7914
Marketing cost	-	693	-	693	836	-	836
Sale price	-	8.500	-	8.750	9962	-	9962
Profit	-	1.807	-	3.115	1211	-	1211
Margin	-	3.700	-	3.808	5138	-	3745
Consumers							
Purchase price	7.000	8.500	8.000	8.750	9962	9786	9962
Marketing margin (%)	-	43,53	40,00	43,52	51,58	50,71	37,59
Farmers' Share (%)	100,00	56,47	60,00	56,48	48,42	49,29	62,41

Source: Field survey (2021).

Especially for the rural market, there is no specific standard in setting the selling price. The difference in selling prices at the retail level is not based on fruit standards but the costs incurred or the purchase price to wholesalers or direct farmers. In contrast to the

rural markets, the urban market was standard in setting the selling price. There is a price difference between wholesalers and retailers based on fruit size, although determining fruit size is subjective because there is no definite measuring instrument.

Table 6. The regression analysis for market integration and price transmission variable.

Variable	Parameter	Coefficient	Std. error	t-value	p-value
Rural Market					
Constant	b_0	1700,00	613,46	2,77	0,07
Consumers Price	χ_1	0,40	0,08	4,90**	0,02
R Square	0,89				
F-value	24,00				
Number of observations	5				
Urban Market					
Constant	b_0	2806,25	849,56	3,30	0,05
Consumers Price	χ_1	0,19	0,08	2,24	0,11
R Square	0,63				
F-value	5,00				

**Significant at 5% level of probability.
***Significant at 1% level of probability.
Source: Field survey (2021).

Collusion practices

The degree of collusion is determined by evaluating whether there are coordinated restrictions on banana saba to increase the market price. Collusion can be observed where traders form trade associations to control the market by setting prices or lowering them to prevent the entry of new entrants into the market, thereby resulting in uncompetitive practices in the market. In the rural and urban markets, no collusion was observed among traders.

It may be because market participants do not belong to trade groups or associations, which usually allow buying and selling agreements between them, including determining prices. However, as explained in the previous sub-chapter, where the collectors have a central role in the saba banana trade, especially outside the region, the collectors have potential power in determining the price of saba bananas. This fact, indications of collusion between some collectors when they communicate and negotiate in determining prices (Table).

Market performance
Farmers' share and marketing margin
As previously explained, there are four marketing channels from farmers to final consumers in rural markets and three marketing channels in the urban market. Each marketing channel shows different

farmers' share and distribution of marketing margins. (Mgale and Yunxian, 2020) states that the higher share received by the farmer, the more efficient the marketing from the farmer's point of view. As shown in Table, the value of the farmer's share in the rural market (Channel I, II, III, and IV) is above 50%, meaning that the share received by farmers is still relatively larger than the proportion of selling prices at the consumer level. However, things are different in the urban market (Channel V and VI), where farmers receive a small share (< 50%) from the price paid by consumers so that the distribution of marketing margins is also higher. Some of our most exciting findings are that when farmers deliver directly to wholesalers in urban markets (Channel VII), they have a much larger share of farmers even when compared to rural markets.

Market integration and price transmission elasticity
Market integration and price transmission elasticity are measured using regression analysis that relates farm-level prices to consumer-level prices in certain markets for the last 5 months from January to May 2021. Based on the regression analysis results (Table), the relationship between farm prices and consumer prices in the rural market was obtained t-*value* 4,90 (*p-value* = 0,02), meaning that the price factor at the consumer level does significantly affect farmer prices.
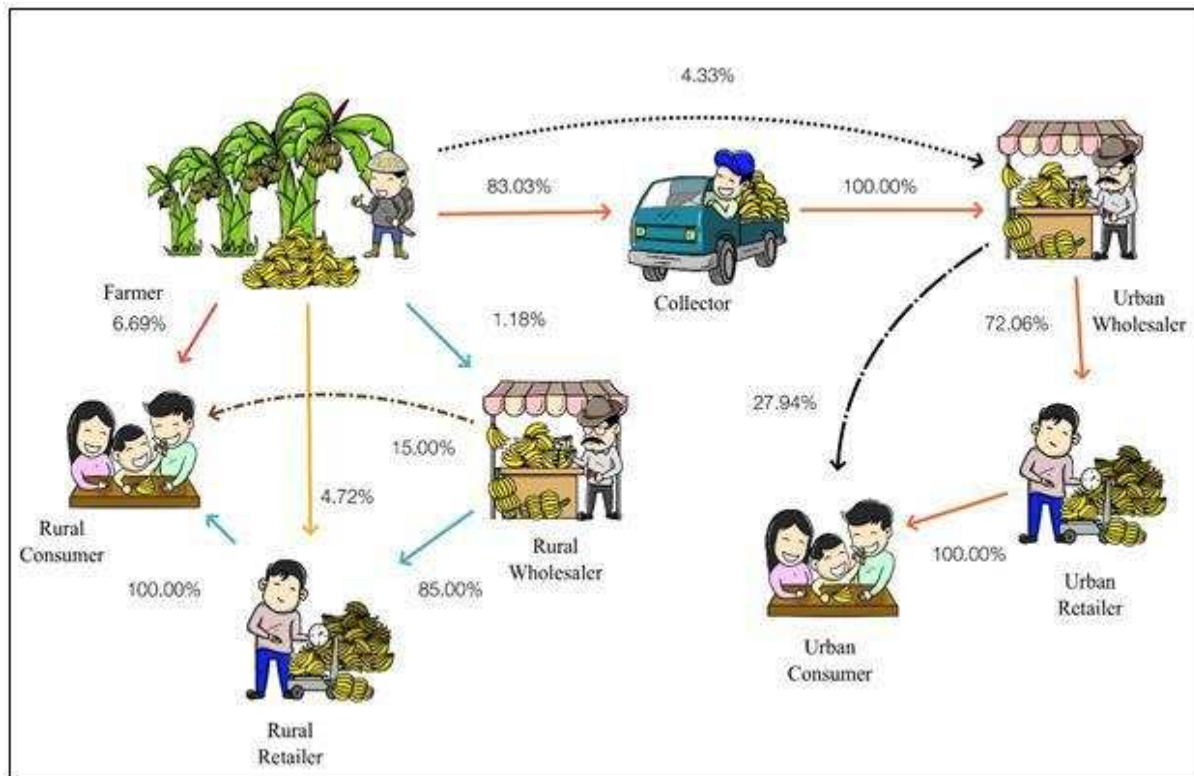
Fig. 2. The pattern of saba banana marketing channels from farmers in Seruyan Regency to final consumers (Source: Authors" illustration and field survey (2021)).

Therefore, the price of saba bananas in rural markets is integrated. In contrast, prices at the consumer level do not significantly affect farm prices in the urban market, with a t-*value* of 2,24 (*p-value* = 0,11). On the other side, the positive regression coefficient shows the elasticity of price transmission, revealing that price movements at the consumer level are in the same direction as those at the farm level. The regression analysis results found that the regression coefficient value was close to zero in rural (0.40) and urban (0,19) markets. ETH < 1 means that price changes of 1% at the consumer level are only transmitted by less than 1% at the farm level. It indicated that the market faced by all market participants is not perfectly competitive.

Conclusion

This paper has investigated the efficiency of the saba banana market with structure, conduct, and performance (SCP) to assist in determining which marketing channels are best for saba banana farmers with a more comprehensive approach. The data reveal that seven kinds of banana marketing channels were

divided into rural and urban areas. The result of structure analysis indicated that the market structure for rural markets was characterized by a monopolistic market, while the urban market was perfectly competitive. The market conduct analysis showed that the price of saba bananas was determined by market equilibrium in rural markets and by traders in the urban market. Performance analysis demonstrated that the farmer's share was highest in rural markets and the lowest when sold to urban markets. Based on the SCP approach, the rural market is efficient, while the urban market is inefficient. The finding suggests strengthening farmers' bargaining position against marketing institutions so that there is a fair distribution between farmers and marketing institutions involved through revitalizing agricultural institutions such as farmer groups. There is a need for further research that can determine what factors prevent farmers from distributing their harvests directly to the market. There is a need for a comprehensive model that can describe the complexity of marketing channel problems to be defined. The problem points are

found, especially regarding farmers' accessibility to the market.

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