

MARKET STRUCTURE AND ANALYSIS OF SEA FISH MARKETING AT DISTRICT OF JEMBER

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MARKET STRUCTURE AND ANALYSIS OF SEA FISH MARKETING AT DISTRICT OF JEMBER

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Abstract

Fisherman at District of Jember had not been enjoyed profit yet because there was restrictiveness to access market opportunities, such as low productivity, low quality of product, low price and low support from corporate world. This study purposed: (1) to determine market structure of sea fish; (2) to know performance of marketing channel and to analyze marketing margins of sea fish at Jember. In order to achieve those puposes, we used quantitative and qualitative descriptive through survey techniques, accidental and snowballing sampling according to the type of population being sampled. There were two types of population in this study, they were fisherman and marketing agencies which were involved. Data collected by indepth interviews and observation techniques and analyzed by descriptive analysis, marketing margins and elasticity of transmission price. The results were: 1) The market structure of sea fish at Jember lead to market Monopolistic Competition (between perfect competition and monopoly); 2) there were five pattern of marketing channel of sea fish at Jember and all were running inefficiently because of elasticity of transmission price was less than one; and 3) Marketing margin of sea fish at Jember reached Rp 14,550, - per kg, which share of marketing costs only 10.96%, share of marketing profit reached 61.79% and share of margin which was received by fisherman 27.25% (<50%), it meaned marketing of sea fish in study area run inefficiently.

Keywords: market structure, marketing margin, and elasticity of price transmission

INTRODUCTION

The phenomenon of rising trend on economic business development at fisheries centers in Indonesia seems have not occurred yet at District of Jember. This is related to the limited fishing access to market opportunities, so fisherman have not much enjoyed profit yet. It because the amount of captured fish still low, quality standards have not been fulfilled yet, price of fish are low and less support from the corpotrare world. The next implication is market structuredoes not stand up to fisherman and last consumer because marketing channel of sea fish at Jember has high enough marketing margin (Department of Animal Husbandry, Fisheries and Marine at District of Jember, 2015). The existence of fish auction place as wholeseller market which is expected to be a center of fish trade is less than optimall functioning.

Pengambek as a financier (skipper) and also middle trader has dominant role that disservice fisherman. Pengambek could organize distribution of fish by elongating marketing chain through collaboration with marketing agency of central region of sea fish at outside of the district even province. The logical consequence are the selling price of sea fish is very disproportionate compared with the high operational costs and high risks of work at the sea to catch fish.

Research results of Suwandi (2014) in fish auction place at Sub District of Puger, Jember revealed that government role on that instution was not categorized as a very good program or superior on increasing sea fish sales. Moreover, the role of pengambek was very strong which could concentrate more than 70% of captured fish and distributed them to large marketing agencies including exporters, there was even an attempt to integrate vertically. The weak role of government

could be indicated by low selling price at fisherman level and the high price at last consumer. This means that sea fish marketing in Jember still can not satisfy last consumer, because of the relatively high marketing margin.

Based on the above phenomenon, the objectives of this study were as follows: 1) Determining market structure of sea fish at District of Jember, 2) Determining performance of marketing channel of sea fish at District of Jember, and 3) Analyzing marketing margin of sea fish at District of Jember.

METHODS

Method, Time and Location of Research

This was descriptive research using survey and continuity descriptive methode by panel, accidental and snowbolling sam-pling technique (Nazir, 1985). Research was started at Sub District of Puger Ken-cong, Gumukmas, Ambulu and Tem-purejo as regions of sea fish at District of Jember, continued at traditional main market named Pasar Tanjung and then market at District of Ambulu, Jenggawah, Ajung, Pa-trang, Kaliwates, Summersari until retailer.

Sources, Types and Data Collection Techniques

Based on the source, data in this research included primary and secondary data. Primary data were obtained from the fisherman, traders (marketing institution), last consumer and businessmen at the fish auction place by combining some several techniques of collecting data included: Focus Groups Discussion, indepth interview and observation. Whereas secondary data collected from some institution related to this research.

Determining Population and Sampling

Polulation type consisted of six groups, named: 1) Fisherman, 2) Marketing institution, 3) last comnsumer and 4) related institutions. Sample from population of fisherman and marketing institution were taken by snowbolling sampling. Sample from last consumer was taken by continuity descriptively with

panel technique and convenience sampling (Accidental). Meanwhile, sample from related institutions was taken by purposive sampling which authorized respondents represented their institution (Singarimbun and Effendi, 1987).

Analysis of Data

The first and second goal were answered by qualiative descriptive analysis for knowing markets structure and marketing channels of sea fish which were formed in District of Jember (Singarimbun and Effendi, 1987). Furthermore, to answer the third goal about which marketing channels that had the highest level of efficiency, using mathematical analysis with following formula:

$$\text{Marketing Efficiency} = \frac{\text{Marketing Cost}}{\text{Selling Price}} \times 100 \quad (1)$$

The lower the Marketing Efficiency value, the more efficient marketing in the marketing channel. Furthermore, to measure marketing efficiency can also be done by transmission price elasticity analysis approach. Price elasticity of most agricultural commodities at farmer level is lower than at retail level, so transmission price elasticity is smaller than one (George, P.S and G.A.King, 1980 in Masyrofi, 1994). Furthermore, for determining marketing margins (MM) was used marketing margin analysis with following mathematical formula (Masyrofi, 1994):

$$MM = \sum_{i=1}^m C_{ij} + \sum_{j=1}^n \pi_j \quad (2)$$

Description: MM = Marketing margin m; Cij = marketing costs to carry out function at i-th by marketing institution at j-th; πj = received profit by marketing institution at-j-th; m = Number of marketing costs type and n = number of marketing institution.

Furthermore, to determine received share of marketing margin by fisherman can be calculated by formula:

$$SMM = \frac{P_p}{P_s} \times 100\% \quad (3)$$

P_k

Description : SMM = Share of marketing margin (%); P_p = received prices by farmers, traders at i -th and price of each component of marketing costs; and P_k = paid price by the end user.

Based on the statement made by Gultom (1996) in Bisuk Son (2009) that generally business administration system for some agricultural products can be judged efficient when fisherman margin share (fisherman Share) is above 50%.

RESULT AND DISCUSSION

Sea Fish Market Structure

Results of this study revealed that market structure in traditional market of sea fish at District of Jember tended to **monopolistic competition market**. This condition was accordance with Teguh and Muhammad opinion (2010) that monopolistic competition market is basically a market between the two types of extremes market, that are perfect competition and monopoly market. Some indications supported the results of this research included:

Based on market structure concentration aspect, there were 6,170 fisherman, but only 157 fisherman per day in average which was recorded sold fish at traditional market such as auction place (TPI). Meanwhile, average number of traders per day at that market was 307 to serve 539 consumers per day in average.

Based on market structure characteristics, there were product differentiation because every fisherman always got more than one type of fish which was sold fresh and preserved, although in specific seasons almost all fisherman obtain same types, such as only swordfish, squid, anchovies and tuna. According to Teguh and Muhammad (2010), this characteristic was the most important thing to distinguish between monopolistic competition with perfect competition.

Based on barrier aspect, there was relatively easy to enter and exit at sea fish traditional market at Jember. Fisherman sold their fish to traders easily at fish auction place (TPI), so did consumer which was free to enter and

exit, especially most of fisherman had skipper which would buy their fish, but not new traders, except they coordinated the skipper. Faced obstacles was not as heavy as in oligopolies and monopolies competitive market, but was not as easy as in perfect competitive market. Meanwhile, there were almost no fish specialization, but there were some kind of fish which being a specific characteristic such as shrimp, bump (*benggol*), Spanish mackerel (*tengiri*), *sulung*, *galumah*, *selingsing*, *dorang*, *janglus*, snapper (*kakap*), grouper (*kerapu*), *pare*, anchovies (*teri*), tuna and mackerel (*lemuru*).

Fish specialization occurred in three seasons: (a) drought season on January to April was dominated by mackerel, tuna, gerongan, grouper and layur; (b) middle season on May - July was dominated by tuna, snapper, shrimp, anchovies, mackerel, squid and *pare*; (c) harvest season on August to December was dominated by swordfish, snapper, *dorang*, *selingsing*, spanish mackerel, and *kenyar* tuna. Anyway, there was no binding rules for selling fish diversification because basically type of fish that could be caught occurred naturally, depended on fish season where fisherman go fishing. But on processed products, shrimp paste (*terasi*) was a special characteristic product of research field known as "Terasi Puger".

Based on information distribution aspect on traditional fish market at Jember, there was information apportionment relatively on institution marketing level but maldistribution at fisherman and last consumer level. That caused selling price was very expensive on last consumer level but very cheap on fisherman level. On the contrary to the firm in perfect competitive market that did not have power to influence the price, the skipper in this markets structure could affect prices, even relatively strong when compared with marketing companies in oligopolies and monopolies market.

Marketing channels

Result of the study revealed that there were five patterns of sea fish

marketing channels at research field as follows: First pattern was: fisherman sold to retailers at fish auction place which would sell straight to last consumer (Fisherman ----- Retailers in fish auction place ----- Last Consumers). Generally, these fisherman had limited and no related with the skipper, so they were free to sell to anyone. Second pattern was: fisherman did not sell to fish auction place, but directly sold to the skipper which had given loan as working capital for fishing to them. Pengembek directly sold to middle traders or retailers around fish auction place, furthermore middle traders distributed to retailers at traditional markets at Jember (Fisherman ----- the skipper ----- middle traders and retailers ----- last consumer). These fisherman were powerless to sell directly to retailers and middle traders, because they were ensnared never ending capital loans. Selling price at the skipper level was lower than market price but they had to, beside fisherman had to pay Rp 500 per kg sold fish to the skipper. Third pattern was relatively similar to second pattern, but without involving the skipper, fisherman directly sold to middle traders at auction place (Fisherman ---- middleman --- retailers ----- Last consumer), it because fisherman did not related or had no cooperation with the skipper. This meant fisherman were free to sell to anyone without depended on pengembek.

Fourth pattern was actually extended third pattern by adding one more market institution. Inter-regional traders distributed to retailers at traditional markets outside of Jember, such as

Banyuwangi, Situbondo, Bondowoso, Lumajang, Pasuruan and Probolinggo (Fisherman ----- Middleman ---- Trader of inter-regional ---- End User). Fifth marketing channel pattern is similar to the pattern relatif fourth, only increased by one more marketing agency that pengembek. (Fisherman ---- collector traders-----middle traders ----- inter-regional traders ----- Traditional market retailers ---- last consumers). Marketing channels pattern of sea fish in research field sistimatically can be presented in Figure 3.1 below.

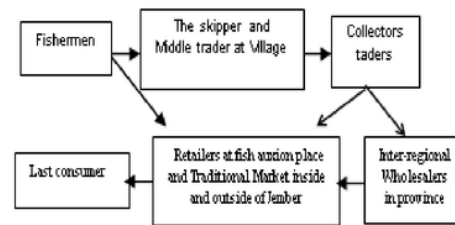


Figure 3.1. Marine Fish Marketing Channels in Jember

Sea Fish Marketing Margin Analysis *Share Margin and Marketing Efficiency*

Share margin discussion would be explained based on previous formed marketing channels pattern, and so marketing efficiency would to answer hypothesis. Table 1. revealed that first pattern provided share margin 54.42% to fishermen, it was high enough. It meant that first pattern marketing channel at research field was efficient. This condition was accordance with Gultom (1996) in Putra Bisuk (2009) that generally most of agricultural products were efficient if farmers share margin was higher than 50 %.

Table 1. Sea Fish Marketing Margin Analysis Results of First Pattern Marketing Channel (MC I) at District of Jember 2015

No.	Type of Sea Fish Marketing Institution	Purchasing price (Rp/kg)	Selling Price (Rp/kg)	Marketing Cost (Rp/kg)	Profit (Rp /kg)	Marketing Share Margin (%)	Marketing efficiency [(Marketing Cost : Sales) x 100%]
1	Price at Fisherman (Pf)	5,000				54.42	
2	Retailers at FAP	5,000	9,188	327	3,861		3.56
3	Share Margin of Marketing (%)				3.56	42.02	
Marketing Margin (MM)		4,188	Total of Share Margin			100.00	3.56

Source: Processed Primary Data, 2015

Marketing margin of second pattern channel presented in Table 2 showed that marketing margin reached Rp 12,750,- / kg or 72.86% of total price at consumers level. This share margin was very disproportionate because marketing

institution just paid low marketing costs but received high profits, especially the skipper and retailers. Overall in the light of fisherman, 2nd pattern was very inefficient marketing process.

Table 2. Sea Fish Marketing Margin Analysis Results of Second Pattern Marketing Channel (MCII) at District of Jember 2015

No.	Type of Sea Fish Marketing Institution	Purchasing price (Rp/kg)	Selling Price (Rp/kg)	Marketing Cost (Rp/kg)	Profit (Rp /kg)	Marketing Share Margin (%)	Marketing efficiency [(Marketing Cost : Sales) x 100%]
Price of Fisherman (Pf)			4,750			27.14	
1	The Skipper	4,750	10,000	416	4,834		4.16
2	Collector taders	10,000	12,500	651	1,849		5.21
3	Retailers at Traditional Markets	12,500	17,500	395	4,605		2.26
Share Margin of Marketing (%)				8.35		64.50	
Marketing Margin (MM)		12.750	Total of Share Margin			100.00	3,88

Source: Processed Primary Data, 2015

Marketing efficiency in 3rd marketing channel pattern, was almost same as 2nd pattern (Table 3), but share margin at fisherman level was very low 72% and 71.82% at Tegal. Low share margin at fisherman level in 3rd pattern (27.14%). On the contrary, Pamungkas (2013) revealed that fisherman share margin on marketing of tuna, *layang* and *kembung* respectively reached 79.7 %, was caused by the strong role of skipper

on sea fish distribution. In the light of marketing efficiency, 3 rd pattern had lower average than 2 nd pattern. The highest marketing efficiency was at retailers level and the lowest at collector traders, because marketing cost was highest than other marketing institution. This condition caused fisherman motivation getting weaker and weaker to go fishing.

Table 3. Sea Fish Marketing Margin Analysis Results of Third Pattern Marketing Channel (MC III) at District of Jember 2015

No.	Type of Sea Fish Marketing Institution	Purchasing price (Rp/kg)	Selling Price (Rp/kg)	Marketing Cost (Rp/kg)	Profit (Rp /kg)	Marketing Share Margin (%)	Marketing efficiency [(Marketing Cost : Sales) x 100%]
Price of Fisherman (Pf)			5,000			27,03	
1	Middleman	5,000	9,500	418	4,083		4.39
2	Collectors	9,500	12,500	651	2,349		5.21
3	Retailers in Traditional Markets	12,500	18,500	400	5,600		2.16
Share Margin of Marketing(%)				7.94	65.04		
Marketing Margin (MM)		13.500	Total of Share Margin		100,00		3,92

Source: Processed Primary Data, 2015

Table 4 was 4th marketing channels out look, which had marketing efficiency lower than the pattern II and III, so it could be said that sea fish marketing process in this pattern went more inefficient. Although fisherman enjoyed higher prices,

but price changing at consumer level was also higher. It meanted that retailers at this pattern achieve the highest efficiency level, but this condition was just pseudo efficiency because fisherman only received share margin less than 50%.

Table 4. Sea Fish Marketing Margin Analysis Results of Fourth Pattern Marketing Channel (MC IV) at District of Jember 2015

No.	Type of Sea Fish Marketing Institution	Purchasing price (Rp/kg)	Selling Price (Rp/kg)	Marketing Cost (Rp/kg)	Profit (Rp /kg)	Marketing Share Margin (%)	Marketing efficiency [(Marketing Cost : Sales) x 100%]
Price of Fisherman (Pf)			6,500			32.50	
1	Middle trader	6,500	10,000	418	3,083		4.18
2	Collector trader	10,000	12,000	651	1,349		5.43
3	Traider of Inter-regional	12,000	15,500	785	2,715		5.06
4	Retailers at Traditional Markets	15,500	20,000	415	4,085		2.08
Share Margin of Marketing (%)				11.34		56.16	
Marketing Margin (MM)		13.500	Total of Share Margin		100.00		4.18

Source: Processed Primary Data, 2015

Marketing channel V pattern which was mentioned in Table 5, showed same performance as pattern IV despite fisherman margin share was lower. In this pattern some fisherman sold fish to middle trader and also to the skipper, it caused fisherman received worse price and last consumers must pay higher, but on the

other side retailers made the most benefit. That condition could be compared with Lopulalan result research (2010) which revealed that fisherman margin share on skipjack (*Katsuwonus pelamis*) marketing on various marketing channels models, both in fish season or not reached more than 50%.

Table 5. Sea Fish Marketing Margin Analysis Results of Fifth Pattern Marketing Channel (MC V) at District of Jember 2015

No.	Type of Sea Fish Marketing Institution	Purchasing price (Rp/kg)	Selling Price (Rp/kg)	Marketing Cost (Rp/kg)	Profit (Rp /kg)	Marketing Share Margin (%)	Marketing efficiency [(Marketing Cost : Sales) x 100%]
Price of Fisherman (Pf)			6,000			27.27	
1	Middle trader - The Skipper	6,000	10,000	419	3,581		4.19
2	Collector trader	10,000	12,000	651	1,349		5.43
3	Traider of Inter-regional	12,000	16,000	785	3,215		4.91
4	Retailers at Traditional Markets	16,000	22,000	400	5,600		1.82
Share Margin of Marketing(%)				10.25		62.48	
Marketing Margin (MM)		10,500	Total of Share Margin		100.00		4.08

Source: Processed Primary Data, 2015

Conditions in the study area is quite different when compared with the results of research Pamungkas (2013) on Commodity Chain Analysis Distribution of Marine Fisheries Catch Fish in Tegal. The difference is such that there are three distribution patterns of fish caught, first; fisherman to the traders to wholesaler to retailer to consumer; second, the fisherman to the traders to retailers to consumers; Third, the fisherman to the wholesaler to retailer to consumer. Another difference is that the highest marketing margin on the dominant fish varieties happen to wholesalers by 7.23 percent, 6.75 percent and then retailers,

and traders 6.32 percent of the total catch of fish marketing margins. Table 6 explained that average marketing efficiency of involved marketing institution was 3.98%. This results accepted the hypothesis that sea fish marketing at Jember was inefficient. This fact was supported by result of transmission price elasticity analysis which was only reached 0.46, it meanted marketing was inefficient because less than 1 (Sutarno (2014). On that condition price changing at last consumer level was much higher than at fisherman level.

Table 6. Sea Fish Marketing Margin Analysis Results Based on Marketing Channel Pattern
Compilation at District of Jember 2015

No .	Type of Sea Fish Marketing Institution	Purchasing price (Rp/kg)	Selling Price (Rp/kg)	Marketing Cost (Rp/kg)	Profit (Rp /kg)	Marketing Share Margin (%)	Marketing efficiency [(Marketing Cost : Sales) x 100%]
1	Fisherman		5,450	500	4,950	27.25	
2	Middle trader-The Skipper	5,450	10,250	419	4,381	24.00	4.09
3	Collector trader	10,250	12,500	687	1,563	11.25	5.49
4	Traider of Inter-regional	12,500	15,500	711	2,289	15.00	4.59
5	Retailers at Traditional Markets	15,500	20,000	350	4,150	22.50	1.75
Marketing Margin (MM) (Rp)		14,550	Transmission Price Elasticity ($\eta = (1/b) \times (P_f/Pr)$)		0.46	100.00	3.98

Description:

b = regression coefficient between Marketing Margin and Retailer Price (Pr)
Source: Processed Primary Data, 2015

CONCLUSION

Formed sea fish market structure at research field was monopolistic competition markets, which was between perfect competition and monopoly competition market.

Formed Sea fish marketing channels at District of Jember consist of five patterns, and the most efficient was channel I (first channel). Generally all kind of marketing channels patterns was inefficient because of the price transmission elasticity reached 0.46 ($\eta = Et < 1$); and

Sea fish marketing margin at District of Jember reached Rp 14,550, - per kg, which marketing cost share was only 10.96% and marketing profits share was 61.79%. Fisherman margin share was

27.25% of price which was paid by last consumer.

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