DETERMINANTS OF NET RETURN AMONG FISH MARKETERS IN PORT HARCOURT LOCAL GOVERNMENT AREA OF RIVERS STATE, NIGERIA

Offor, E.I., Okpara, B. O. and Ibeagwa, O.B

Department of Agricultural Economics, Michael Okpara University of Agriculture, Umudike
Email:offorevelyn53@gmail.com.phone:08035979508

Abstract
The challenges fish marketers in Rivers State encounter while performing their marketing activities and functions lead to losses. This study therefore set out to investigate the determinants of profit level among fish marketers in the study area. It also estimated the profit levels, marketing margin and marketing efficiency of the marketers. 30 fish marketers were randomly selected from two major markets in the area. Data were collected by means of questionnaire. Descriptive statistics, marketing margin, marketing efficiency and net return models were used to analyze data collected. The ordinary least squares multiple regression technique was also used to estimate the determinants of net returns of the marketers. The result showed that fish marketing in the area is profitable and has a return on investment of ₦1.17. Educational level and marketing experience positively and significantly influenced the net returns of the marketers. Transportation cost and other costs negatively and significantly influenced net return. The study recommended the provision of basic infrastructure to ensure better and cheaper transportation for the marketers.

Keywords: Fish, Marketers, Net returns and Rivers State

Introduction
Fishes are sources of animal protein required for the proper growth and development of mankind. They are one of the most diverse groups of animals known to man with over 2500 species that live and breathe in water by the means of gills (Ali *et al.*, 2008). Animal protein sources such as beef, chicken, Turkey presently are beyond the reach of the average man (Samson, 1997). Hence, many people prefer fish as a cheaper source of animal protein. Adekoya (2004) and Abah *et al*. (2013) has it that fishes represent about 55% of the protein sources intake of Nigerians. A good proportion of Nigerians are fish consumers with an estimated demand of about 1.4 million metric tonnes per year (Abah, *et al.,* 2013). Fishes contain high level of essential sulphur containing amino acids with low cholesterol and fat content, thus they are often recommended in the diet of high blood pressure, diabetic and obesity patients (Nwosu *et al*., 2001). More so, fishes serve as sources of raw material for livestock feed and fish oil used in pharmaceutical industries (Eyo, 2007).

Apart from the nutritional value of fish to man, its production and marketing provides employment opportunities to a good proportion of the populace. Millions of people earn their livelihood worldwide from fish farming and marketing. The marketing of fishes involve performing some marketing functions. These functions range from assembling, processing and preserving that ensures all year round supply when demand arises. Those that perform the various functions are the middle men or intermediaries. Each middle man performing a function within the marketing system, does it with a cost which when aggregated create a significant difference between what fish farmers received and what the consumers pay (marketing margin). Ali *et al.* (2008) stated that if the margin, that is, the difference between the farm gate and consumers price is very high, then producers or consumers are being exploited. According to Adekanye (1988) and Adeleke *et al.* (2012), small margins can be regarded as proof that distribution or marketing is efficient. Marketing efficiency is often used in

evaluating the performance of the marketing process (Offor and Nse-Nelson, 2015). An efficient marketing system is a one in which producers receive a proportionate amount of profit above production cost, middle men make proportionate profit on marketing functions performed and consumers pay a proportionate/commensurate amount on products and services consumed. Hence, the broad objective of the study is to evaluate the determinants of net return of fresh fish marketing in Port Harcourt City Local Government Area of Rivers State, Nigeria. The specific objectives are to: (1) estimate the marketing margin of the marketers (2) determine the marketing efficiency of the marketers; (3) estimate the net returns of the marketers; and (4) determine the factors influencing net returns of fresh fish marketing in the study area.

Methodology
The study was carried out in Port Harcourt City Local Government Area of River state, Nigeria. The area has a population of over 1,947,000 million people according to National Population Commission (NPC, 2006).The area lies between latitude of $4^0.45^/$ and $4^0.75^/$ North and longitudes East $7^050^/$ and 8^0 $0^/$ (Ministry of Lands and Survey, 2003) The area is bounded on the North and East by Obio/Akpo and Oyigbo Local Government Area on the West. The Atlantic Ocean forms the southern boundary. It has a land mass of 360km^2.The people in the area are mostly civil servants and marketers. Many staple foods are produced in the area including cassava, plantain and yam. Fishing is also an important occupation in the area because of the abundance of rivers, streams, ponds and the ocean. The area has a good road network.

Two major markets in the area were purposively selected for the study. They are Oil Mill Market and Mile Three Market. The markets were chosen because they are the market with the highest concentration of fish marketing activities. They also serve as a meeting point for urban and rural fish marketers. Fifteen (15) fresh fish marketers were randomly selected from each market to give a total number of 30 fish marketers for the study. Data collection was by means of structured questionnaire administered to the marketers. Data collected were analyzed using descriptive statistics, including tables, frequency distribution and percentages. Marketing margin, marketing efficiency and net return model were also used. The determinant of net return was achieved using multiple regression model.

The marketing margin of the marketers was computed using the marketing margin model adopted from Olukosi and Isitor (2005). The model is specified as:

$$Marketing\ Margin\ (MM) = \frac{Sp - Pp}{Sp} \times \frac{100}{1} \dots 1$$

Where,
Sp = selling price
Pp = purchasing price.
MM = Marketing Margin
The marketing efficiency of the fresh fish marketer was determined with the model adopted from Olukosi and Isitor (2005).

$$Marketing\ Efficiency\ Index = \frac{NR}{TMC} \times \frac{100}{1} \dots 2$$

Where,
NR = Net Return
TMC = Total Marketing Cost incurred
The net returns of the marketers was estimated using the profit function model. The profit function is stated thus :

$$Net\ return(\pi) = Total\ revenue - total\ marketing\ cost$$

The determinants of net returns was estimated using the ordinary least squares multiple regression technique. The implicit form of the model is specified as:

$Y = f (X_1, X_2, X_3, X_4, X_5, X_6)$

X_1 = age of the marketers in years

X_2 = marketing experience in years

X_3 = educational level of fish marketers in years

X_4 = purchasing price

X_5 = transportation cost

X_6 = other cost (tax, rent, feeding, handling/preservation cost)

Results and Discussion

Socioeconomic Characteristics of the Fish Marketers

The socioeconomic characteristics of the fish marketers in the study area were analyzed as shown in Table1. Table I showed that majority of the marketers were in their active age with a mean age of 44 years. This is similar to the findings of Abah *et al.* (2013) and Bassey *et al.* (2015) in their studies. They reported that marketers were in their economically active age. It was observed that women dominated the business of fish marketing with about 63.3% being women and 36.7% of the marketers being males. This implies that females participation in fish marketing is high. This is in consonance with the findings of Adeleke and Afolabi (2012) who reported that women dominated the marketing of fresh fish. The result showed that about 80% of the marketers were married and 20% were single. This finding also agrees with the study of Bassey *et al.* (2015) who reported that majority of the fish marketers were married. This indicates a sense of responsibility of the marketers. The results also showed that majority of the marketers in the study area were educated with 80% of them attaining secondary education. This implies that, they were better positioned to take advantage of new marketing technique and innovation that could boost their business. This corroborates the finding of Offor and Nse –Nelson (2015) who found out that egg marketers were highly literate with about 82% attaining secondary and tertiary forms of education. The result further showed that the marketers were relatively experienced in their business. The marketers had a mean marketing experience of 7 years. This indicates that the marketers had adequate marketing experience that could help them to overcome some marketing challenges in the course of the business. This result also agrees with the work of Ali *et al.* (2013) who found out that fresh fish marketers had adequate marketing experience. The result in the table also showed that the marketers had a mean household size of 5 persons. This represents a moderate household size. This is also similar with the result of Offor and Nse –Nelson (2015).

Table 1: Socioeconomic characteristics of fish marketers in the study area

Variable	Frequency	Percentage
Age		
31-40	12	
41-50	10	33.5
51-60	8	26.7
Mean	44	
Total	30	100.0
Sex		
Male	11	36.7
Female	19	63.3
Total	30	100
Marital Status		6.7
Single	2	80.0
Married	24	13.3
Widowed	4	30
Total		100
Educational level		
Primary education	4	13.3
Secondary education	24	80.0
Tertiary education	2	6.7
Total	30	100
Marketing experience		
1-5	3	10
6-10	13	433
11-15	11	367
16 and above	3	10
Mean	7	
Total	30	100
Household size		
1-2	3	10
3-4	8	26.7
5-6	15	50.0
Mean	5	
Total	30	100

Source: 2015 field survey

Profit, Marketing Margin, Marketing Efficiency of Fresh Fish Marketers
Table 2: Shows profit, marketing margin, marketing efficiency of fresh fish marketers in the the study area. Table 2 shows that the marketers incurred average cost of ₦132,484 and the revenue of ₦155,100. They made a profit ₦22,616 .This implies that fish marketing is profitable because it is believed that if a business is able to cover its variable cost, it is capable of continuing in the short run. This agrees with the findings of Ebewore (2015) and Osarenren and Ojor (2014) who reported that fish marketers were able to make an average profit of about N900 after deducting total variable costs from the total revenue. The marketers had a marketing margin of 24.24.This is a good margin however, higher margin implies higher profit.This is in consonance with the finding of Bukenya, *et al*., (2012) who reported that marketers made profit, that gross profit   USh358.40 per kilogram (kg) of fish sold was realized. They estimated a marketing margin 19.32.This result is similar to the findings of Onyemauwa (2012) who reported that fish marketers in the study area had a marketing efficiency of 12.5%.The rate of return on investment of 1.17k which implies that for every Naira invested in the business the marketers made a return of ₦1.17k.

Table 2: Average net returns, marketing margin, marketing efficiency of fish marketers

Variable	Value
Unit price/kg	500
Quantity bought	235.0
Purchasing cost	117500
Transportation cost	5758
Other cost	9226
Total cost	132484
Selling price/kg	660
Quantity sold	235
Total revenue	155,100
Profit	22616
Marketing margin	24.24
Marketing efficiency	17.07
Rate of return on investment	1.17

Sourced field survey 2015

Determinants of Net Return (Profit) of Fresh Fish Marketing in the Study Area

The result for the analysis of the determinants of net returns for fish marketing is presented in Table 3. Four functional forms namely linear, double-log, exponential and semi-log, were estimated and the exponential functional form was chosen as the lead equation because of it gave the best fit. The coefficient of multiple determination R-square value was 0.918, implying that about 91.86 of total variation in the profit of fish marketers was explained by the independent variables. The F-statistics was 106.080 and was significant at 1% level of significance.

The coefficient of marketing experience was significant at 1% ad had a positive relationship with profit. This implies that the more experienced the marketers, the higher the profit made from fish marketing. This result is in line with *a priori* expectation. The result also agrees with the finding of Onyemauwa (2012) who stated that increase in marketing experience leads to increase in profit. The coefficient of educational level of the marketers was positive and significant at 1%. This indicates that as the educational level of the marketers increase, their profit levels also increase. This may be attributed to the knowledge gained by the educated marketers which equip and enable them perform their marketing activities more efficiently. The higher marketing efficiency will invariably lead to an increase in total revenue from the business hence increase in the profit. This result agrees with the findings of Adeleke and Afolabi (2012) that also reported that educational level was significant and positively related to total revenue and hence profit of fresh fish marketers in Ondo state. Again the coefficient of purchasing price was significant at 1 % level of significance and had a negative relationship with profit, This is in line with *a priori* expectation This implies as the purchasing price of fish increase the profit made by marketers reduces. The coefficient of transportation cost and other cost were significant and had a negative influence on the profit of fresh fish marketers. These agree with *a priori* expectation and implied that as the transportation and other cost incurred by marketers increased, their profit level decreases. This is similar to the findings of Bassey *et al.* (2015) who reported that increase in transportation and storage cost reduce the profitability of fish marketers.

Table 3: Determinants of profit level of fish marketers in the study area

Variables	Linear	Exponential+	Semi log	Double log
Constant	28712.237	10.646	-567.075	11.034
	(6.84)***	(15.228)***	(-3.608)	(44.529)***
Age	0.63	0.0057	1.015	0.334
	(1.009)	(0.732)	((8.911)***	(0.470)
Marketing exp	0.42	0.367	0.500	0.747
	(0.390)	(3.052)***	(4.215)***	(2.061)**
Educational level	0.325	0.822	-0.151	0.015
	(2.615)***	(10.219)***	(1.323)	(0.036)***
Purchase price	0.851	-0.521	0.027	-0.731
	(9.413)***	(-5.352)***	(0.323)	(-3.972)**
Transp. Cost	0.397	-0.306	0.051	0.496
	(7.218)***	(2.934)***	(0.626)	(-2.144)**
Other cost	-0.108	0.546	-0.070	-1.373
	(-0.850)	(-4.304)***	(-1.304)*	(-2.120)***
R^2	0.839	0.918	0.715	0.866
Adj R^2	0.839	0.842	0.678	0.749
F-stat	52.260***	106.08**	39.280***	48.945***

Source: Field survey, 2015

Figures in parenthesis are t ratios; ***significant at 1%, **significant at 5% and *significant at 10%

Conclusion

The study examined the determinants of net returns fresh fish marketing in Port-Harcourt City Local Government Area of Rivers State. The results showed that fish marketing in the area is profitable. Marketing experience, educational level and others were the variables that significantly influenced the profit of marketers. The study recommends that more young people should be encouraged to venture into fresh fish marketing in the study area since the business is profitable and may serve as a veritable source of livelihood. Secondly education and other basic skills acquisition programmes should be provided for the marketers to help improve their knowledge and skills. Basic transportation infrastructure should be provided as this will help to reduce the cost of transportation and hence improve the profit level of the marketers.

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