

# Marketing Margin and Determinants of Net Returns to Garri Marketers in Ohafia Local Government Area, Abia State, Nigeria

Nduka M. U.<sup>1</sup>, Udah S. C.<sup>1,2</sup>

<sup>1</sup>Department of Agricultural Economics and Extension, Abia State University, Umuahia Location, Abia State, Nigeria

<sup>2</sup>Division of Resource Management, West Virginia University, Morgantown, West Virginia, U. S. A.

## Email address

[christdliberator@yahoo.com](mailto:christdliberator@yahoo.com) (Udah S. C.)

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## Abstract

The study was carried out to establish the nature of marketing and determinant of net returns to garri marketers in Ohafia Local Government Area of Abia State, Nigeria. Sixty respondents were selected at random with 10 respondents from each of the five purposively selected community markets in the study area. The selected communities were Abiriba, Nkporo, Amangwu and Okamu. The respondents were selected from one major market from each of the community using questionnaire as the data collection instrument. Data were analyzed using descriptive statistics and ordinary least square regression technique. The study examined the marketing cost and returns of retailed garri; factors influencing the marketers' net returns; the problems associated with garri marketing and the socio-economic characteristics of the respondents. Result of the study showed that the gross margin for marketing of garri was N30, 427.13 with a net return of N28, 856.22 and average sales receipt of N352, 519.86. The average total cost incurred by the marketers was N1, 570.91. 99.14% of the total cost was borne by the purchase of garri, 0.19% by transportation, while the remaining 0.672% was spent on marketing cost such as packaging, depreciation on marketing equipment, marketing charges/levies, and marketing experience among others. The regression result indicated that 93.92% of the variation in net returns of garri marketers was explained by the explanatory variables fitted in the model. The cost of garri purchased and transport cost are statistically significant at 10%. Other costs (depreciation, packages, rentage and marketing charges) experienced in the trade were not statistically significant on the marketers' net return. High cost of garri purchased, high transportation cost and price fluctuations were identified as the major problems associated with garri trading in the study area. Other constraints include information dissemination, poor marketing facilities, and high marketing charges. Provision of basic infrastructural facilities and formation of a viable cooperative society by the marketers were recommended based on the study.

## Keywords

Marketing Margins, Transport Cost, Infrastructural Facilities, Cooperative Society, Net Returns

## 1. Introduction

Garri is a staple food prepared from the roots of cassava (*Manihot esculenta* crantz). Its importance in bridging the food gap in Nigeria cannot be overemphasized [1]. In recent times, many rural households have anchored their livelihood on the frames of garri processing and marketing. This is because of the strategic position of garri in the food systems of Nigerians [2]. It is the most common form in which cassava is consumed and marketed [3].

Garri appeals mainly to low income household because it

is believed to offer the cheapest source of food calories compared to other tubers. In marketing, garri passes through various market channels and exchange points before reaching the final consumer. These market intermediaries are the wholesalers and retailers, both playing important role in the marketing chain. Processed garri has to be packed and unpacked, loaded and unloaded to meet consumer demand [4].

The sum of all handling cost will be significant depending on the length of the chain. This makes a greater difference in price paid between consumers at the end of the chain and farm gate price at the beginning of the chain, leading to

greater or wider marketing margin between producers and final consumers. If the marketing margin is high, it may be used to argue that consumers are being exploited. However, high margin cannot often be fully justified unless costs are reasonable and fully understood [4].

The middlemen performing the role of marketing are accused of earning higher profits in the marketing system [5]. The agencies (middlemen) involved in the marketing of garri appear to be on the increase as a result of increase in population. Demand, therefore tends to be high. Thus, increase in population implied more scope for the middlemen to exploit the consumer by charging high price or the producer by paying them low price. Thus marketing margin is an important indicator of market performance [6].

Inadequate marketing system for garri and other food commodities have continued to constrained agricultural development in Nigeria, particularly in rural community [7]. Given that the price of garri is getting beyond the reach of consumers, yet large number of marketers seems to be engaged in the marketing of garri, [1] necessitated the need for evaluation of marketing margin and determine net returns to garri marketers in the study area.

The specific objectives of the study are to:

- i. describe socio-economic characteristics of garri marketers in the study area;
- ii. determine the costs and returns associated with the marketing of garri in the study area.
- iii. estimate the marketing margin and efficiency associated with the marketing of garri in the study area.
- iv. estimate the factors affecting net returns to garri marketers in the study area and
- v. identify the constraints facing garri marketers in the study area.

## 2. Materials and Methods

Eight autonomous communities in Ohafia Local Government Area of Abia State Nigeria were listed for sampling. Five out of the eight were purposively selected for the study because of their involvement in garri marketing. They are Abiriba, Nkporo, Amangwu, Ebem Oha, and Okamu communities. Five markets selected from each of the communities were sampled for the study. Simple random sampling techniques were therefore used to select 10 respondents from each of the five markets. Thus, sixty (60) respondents of garri marketers were sampled for the study. Objectives (i) and (v) were analyzed using descriptive statistics such as percentage, mean and frequency distribution. Objective (ii) was analyzed using cost and net return analysis, while objective (iii) was analyzed using marketing margin and marketing efficiency model. Objective (iv) was achieved with regression model.

Specification of Model

$$\text{Marketing margin (MM)} = \frac{\text{selling price} - \text{purchase price} \times 100}{\text{Selling price}}$$

$$\text{Marketing Efficiency (ME)} = \frac{\text{Value of Output}}{\text{Value of Input}}$$

Where

Value of Output = total revenue

Value of input = input cost or cost of performing marketing services[8].

Net Return Analysis Model

This is expressed as  $NR = TR - TC$

Where: NR is net return

$TR = P \times Q$  = Total revenue realized from the sale of Garri in Naira.

$TC = TFC + TVC$  = Total Cost incurred by the garri marketers in Naira

$P$  = price per unit of output.

$Q$  = Quantity of garri

TFC = Total fixed cost

TVC = Total variable cost

Ordinary least square OLS multiple regression procedure was used to analyze the socio-economic factors that affected the net returns of garri marketers. Four functional forms were tried on the model and these were linear, semi-log, Cob Douglas and exponential functions. The functional form with the best fit was selected and used for discussion;

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, e_i)$$

Where:

$Y$  = Net returns of garri marketers in the area (₦)

$X_1$  = Age in years (years)

$X_2$  = Household size

$X_3$  = Educational qualification

$X_4$  = Marketing experience (years)

$X_5$  = Cost of garri purchased (₦)

$X_6$  = Cost of transportation (₦)

$X_7$  = Depreciation cost of marketing implements (₦)

$X_8$  = Cost of packaging material (₦)

$X_9$  = Quantity of garri sold

$X_{10}$  = Storage rent and marketing levy/dues (₦)

$e_i$  = Stochastic error term

## 3. Results and Discussions

Table 1 showed that 16.67% of the garri marketers were between 20-30 years of age. 35% and 38.33% were within 31-40 and 41-50 years respectively. This showed that 70% of garri marketers fell within the age range of 31 and 50 which were within the proactive age range. This is a productive age group that can absorb the shock and likely well positioned for the challenges involved in garri marketing in the study area.

Table 2 showed that 48.33% of respondents were males, while 51.67% were-females. This showed that the marketing of garri is gender sensitive involving mostly women. Table 3 showed that 68.33% of the respondents were married showing a preponderance of married women in the marketing of *garri*. This portrays married respondents as being stable. This result corroborates with Nwaru's [9] assertion that family stability creates conducive environment for good

citizenship training, development of personal integrity and entrepreneurship. These are very important for efficient use of resource.

Table 4 showed that (35%) of the respondents had primary school education while 30% had secondary school education. 16.67 had tertiary school education. This showed that garri marketers in the study area were literates. This will help them to adapt to certain changes that will positively improve their marketing strategies leading to higher profits. This is in line with the findings of Food and Agricultural Organization (FAO) [10] that higher educational level is synonymous with higher level of business attainment and higher income.

Table 5 shows the distribution according to household size. 50% of garri marketers had a household size of 3 and 5 persons while 41.67% had 6-7. The result suggests that labour may not be a limiting factor. Hence, higher family size has implication to the supply of labour to serve as canvassers [11].

Table 6 showed that majority (36.67%) of the marketers had marketing experience of 5 to 10 years. 26.67% of them had less than 5 years of experience in garri marketing. This result indicated that the respondent had considerable training years of experience and had spent a long period of time in marketing. Hence, they can predict possible problems and likely solutions towards higher income with regards to the enterprise. This is in line with Oputa [12] who stated that experience count more than education for increased efficiency.

The cost and returns associated with garri marketers are presented in Table 7. The total revenue (average monthly revenue) was pooled at ₦352519.86. This is from the sale of garri. The total cost is 323662.92; comprising the total variable cost (TVC) which is 322092.93 and total fixed cost (TFC) which is 1570.92. The gross margin derived from subtracting the TVC from The total revenue is 30427.13 while the net income is 28856.22. The profit is plausible showing that garri marketing can be used as a poverty alleviation measure more especially with the unemployed youth.

Table 8 presents marketing margin and percentage market share of the producers, wholesalers and retailers of garri marketers in the study area. The marketing price for producers, wholesalers and retailers for (1000Kg) bag were ₦6800, ₦7500 and ₦8600 respectively while their marketing margin was ₦ 6800, ₦700 and ₦1100. The market share for the three categories was 79.06%, 8.13% and 12.79%.

The producers marketing margin and share of the market were seen to be the highest when compared with others. The implication is that the wholesalers' tendency in exercising high economic power on price at the expense of producer is somehow checked. Another plausible explanation that marketing cost was considerably reduced due to low transportation and other related costs.

Table 9 presents the regression result of the determinant of net returns from garri marketing. The result of the diagnostic test and the number of significant explanatory variables present in each functional form as shown in Table 9 favoured

double log form as the lead equation. The  $R^2$  in the lead equation explained 94% of total variations in revenue. The F-statistic of 49.61 is significant at 1% level, indicating that  $R^2$  in the lead equation is significant and this implied that the selected equation has goodness of fit.

The result of regression showed a positive significant relationship between occupation, cost and yield with revenue. An increase in any of these variables will increase the revenue. The variable marketing experience was positive and significant at 10.0% level, indicating that the more experience the marketer is, the more he is able to take rational decision that will increase his income. This is in line with the findings of Ozigbo [13]. The coefficient of purchase cost was positive and significant at 1.0% alpha level. The sign of the result implies that as the cost of purchase of garri increase the income will also increase because these garri are sold at premium prices when demand is highest. This is an aspect of imperfect market where speculations hoard goods (in store) thereby creating artificial scarcity that results in higher prices hence increase income when such goods are sold.

The coefficient of transportation cost is negative and statistically significant at 10.0% risk level. The negative sign associated with the variable is in consonance with *a priori* expectation and implies that a high transportation cost (of which is a reflection of poor market access) would reduce the income of the marketers [14]. Therefore better rural road network would encourage sustainable income acquiring to the marketers.

The coefficient of the cost of packing (0.996) is positive and statistically significant at 10.0% alpha level. The sign of the variable does not conform to *a priori* expectation. The result implies that as cost of packaging increases the income will also increase. The coefficient quantity of garri sold (0.0267) is positively related to the return at 1.0% level of significant. The implication is that as more investment are made on the quantity of garri purchased, the quantity of garri sold also increases hence increase the net returns of garri marketers. This result agrees with *a priori* expectation and with the findings of Uma [15].

Table 10 showed the problems which hindered the marketing of garri in the study area. The major problem was inadequate capital for both wholesaler and retailer with percentage of 45% and 41% respectively. They also share common problem of high cost of transportation (38.33 and 33.33% respectively). The result also shows that 35% of the wholesaler and 28.33% of the retailers has problem of price fluctuation; while 21.67% of the wholesaler and 18.33% of the retailers had constraints of inadequate storage facilities. This is in line with the finding of Ozigbo [12].

## 4. Conclusion

From the findings of the study it is clear that garri market is perfect competitive market and the business is easy to start with moderate initial capital. Garri marketing is quite profitable with high net margin and marketing margin which

are subject to increase if suggested recommendations are adopted and strictly adhered to.

Therefore garri stands on the pedestals of leading from a lowly status of being a poverty management commodity to the towering posture of being an economic empowerment commodity.

## Recommendation

In view of the findings from the study, the following recommendations are made;

- (1). Researchers/students should be encouraged and assisted by governments, agricultural research intuitions, marketing unions among other in providing the adequate information and data needed for research purposes. If this information and data are made available to them it would help the researcher carry out research activities without difficulties.
- (2). Basic infrastructural facilities such as good rural roads network to curtail marketing cost; and credit facilities to provide financial needs of the marketers, should be in place. These will help to enhance marketing efficiency.
- (3). Formation of co-operative society that will create an enabling environment for the development of growth and of garri market through bulk purchase protected members against exploitation.
- (4). The government should endeavor to build roads in areas where they do not exist and maintain them already existing ones for easy access to market and thus reduce transportation cost, in order to boost the revenue of the marketers.
- (5). Marketing channels and market structures should be developed in the study area as a means of assisting rural households optimize the benefits of garri marketing enterprises for enhancement of their livelihoods.

**Table 1.** Age Distribution of Garri Marketers in Ohafia local Government Area Abia State, Nigeria.

Age (year)	Number of Marketers	Percentage of marketers
20-30	10	16.67
31-40	21	35
41-50	23	38.33
51-above	6	10
Total	60	100.00

Source: Field Survey Data, 2012 by author.

**Table 2.** Distribution of Marketers According to Age in Ohafia local Government Area Abia State, Nigeria.

Gender	Number of Marketers	Percentage (%)
Male	29	48.33
Female	31	51.67
Total	60	100.00

Source: Field Survey Data, 2012 by author

**Table 3.** Distribution of Respondents according to Marital Status.

Marital status	Number of producers and marketers	Percentage (%)
Married	41	68.33
Single	9	15
Widowed	5	8.33
Separated	5	8.33
Total	60	100.00

Source: Filed Survey Data, 2012 by author

**Table 4.** Distribution of Respondents according to their Educational level in Ohafia local Government Area Abia State, Nigeria

Level of Education	Frequency	Percentage (%)
No formal Education	11	18.33
Primary School Edu.	21	35
Secondary School Edu	18	30
Tertiary Inst. Edu.	10	16.67
Total	60	100.00

Source: Field Survey Data, 2012 by author

**Table 5.** Distribution of Respondents according to their Household Size in Ohafia local Government Area Abia State, Nigeria.

Family Size (NO)	Frequency	Percentage (%)
< 3	4	6.67
3-5	30	50
6-7	25	41.67
8 and above	1	1.67
Total	60	100.00

Source: Field Survey Data, 2012 by author

**Table 6.** Distribution of Respondents according to Years of Experience in Ohafia local Government Area Abia State, Nigeria.

Marketing Experience (yr)	Frequency	Percentage (%)
< 5	16	26.67
5-10	22	36.67
11-15	11	18.33
16-20	6	10
20 and above	5	8.33
Total	60	100

Source: Field Survey Data, 2012 by author

**Table 7.** Cost and Returns of Garri Marketers in Ohafia local Government Area Abia State, Nigeria.

Item	Unit cost/bag	Quantity	Value ₦
Revenue(A)	8393.33	42	352519.86
Cost of purchase(AA)	7640.43	42	320898.06
Total Variable Cost(B)			322092.73
Total Fixed Cost(C)			1570.92
Gross Margin D=(A-B)			30427.13
Net Returns(profit)(D-C)			28856.22
B=(AA+Marketing cost			

Source: Field Survey Data, 2012 by author

**Table 8.** Marketing Margins and Percentage Share of the Producers, Wholesalers and Retailers of Garri Marketers in Ohafia local Government Area Abia State, Nigeria.

Item	Producer	Wholesalers	Retailers
Measurement	1000kg	1000kg	1000kg
Marketing Price (₦)	6800	7500	8600
Marketing Margin (₦)	6800	700	1100
Market share (%)	79.06	8.13	12.79

Source: Field Survey Data, 2012 by author

**Table 9.** Determinants of Net returns from Garri Marketers in Ohafia LGA.

Explanatory Variable	Functional Forms			
	Linear	Exponential	+Cobb-Douglas	Semi-log
Constant	34558*** (2.29)	12.269 (22.67)	7.75 (1.35)	34.97*** (-4.93)
Age in (Yrs)	-477.65 (-0.47)	-0.008 (-0.25)	-0.58 (-0.63)	66896 (0.60)
Household size	-589.43 (-0.12)	-0.0126 (-0.73)	-0.05 (-0.71)	-10191 (-1.09)
Education	-23405.15 (-2.76)	-0.043 (-1.43)	0.0111 (0.19)	-15206.85 (-2.07)
Marketing Experience	-315.5 (-0.22)	-0.0025 (-0.05)	0.3044* (2.48)	20704.58 (1.37)
Cost purchase	41.0 (1.26)	-0.0025 (-2.18)	0.644*** (5.23)	36795*** (15.87)
Cost of Transportation	-27.57 (0.58)	0.0031 (1.92)	-0.0008* (1.84)	3978.08 (0.35)
Depreciation Cost	-2089.28* (-1.90)	-0.0033 (-0.83)	-0.43 (-0.95)	-159211** (-2.87)
Cost of Packaging	0.497 (0.54)	-53385 (-0.16)	0.0996* (2.22)	8385.42 (1.52)
Quantity of Garri Sold	-0.008*** (-2.60)	0.0267 (19.14)	0.0267*** (19.84)	8481.17 (1.52)
Rent and Marketing Charges	-136.24 (-0.53)	-0.0042 (-0.46)	0.37133 (0.32)	169475.5 (1.19)
R <sup>2</sup>	0.92	0.91	0.94	0.99
R	0.91	0.89	0.92	0.99
F-Ratio	65.14***	65.39***	49.61***	303.62***

Note: Y = Revenue from Garri Marketing

\*\*\* = Coefficient is statistically significant at 1.0%

\*\* = Coefficient is statistically significant at 5.0%

\* = Coefficient of statistically significant at 10.0% level

+ = Lead equation

The numbers in parenthesis are the t-ratios

**Table 10.** Problems of Garri Marketers in Ohafia LGA Abia State Nigeria.

Constraints	Wholesaler Frequency	%	Retailers Frequency	%
Inadequate Capital	27	45.0	25	41.67
High transport Cost	23	38.33	20	33.33
Inadequate storage facility	13	21.67	11	18.33
Price Fluctuations	21	35.00	17	28.33
High Marketing Charges	10	16.67	11	18.33

Source: Field Survey Data, 2012 by author \*Multiple response recorded

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