Effects of consumer bargaining power on price flexibility of gari in Imo State, Nigeria

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Abstract. The study examined the effect of consumer bargaining power on price flexibility of gari in Imo State, Nigeria. Data were drawn from the three agricultural zones in the state. A functional market in each of the zones was randomly selected. Primary data were obtained by means of interview schedule (questionnaire) administered to consumers of gari at retailers' shops. Data were analyzed using descriptive techniques and ordinary least square (OLS) multiple regression analysis. The result showed that mean weekly consumers unit price of gari was ₦47.340/kg with a mean weekly purchase of 5.5 kg/week. About 53.33% of gari consumers have a weak bargaining index of 18.09, while the mean bargaining power of gari is 64.09% and this gave a baseline for gari retail price. The result of multiple regressions showed that the co-efficient of price of substitute (X_1) household size (X_6) and consumers income (X_7) are positive and have significant relationships with consumers' bargaining power. Consumers' awareness of their bargaining power and good understanding of marketing system and its modus operandi, price trends, formation and fixing could help them take their proper place as price givers and kings in the market place hence, this study recommends the need for consumers' to improve their level of education in order reposition themselves to make good use of market information to their advantage in bargaining. Consumers should form co-operative societies through which they can share market information, buy gari in bulk to reduce retail prices and at the same time play a key role in price formation.

Keywords: Bargaining power, consumers, retailers, price flexibility, gari commodity.

INTRODUCTION

Manihot esculenta (cassava) is known to have originated from Brazil and thus spread to other continents of the world. Cassava is very useful edible and household crop grown virtually by every household farmer around the world (Olutosin and Barbara, 2018). It is widely cultivated in the tropical regions of Africa due to its capacity to store edible mature roots in the ground for a long period of time. Lately, the world cassava production is estimated at 291 million tonnes with leading countries like Nigeria, Congo DR, Thailand, and Indonesia with Africa's production of about 177 million tonnes (Odunze, 2019). Nigeria however has remained the highest producer of

cassava in the world with about 59 million tonnes of output. Cassava being staple crop in nature is largely processed into different forms by household farmers (Aidoo *et al.*, 2019). Amongst the processed forms includes (gari, fufu, tapioca, flour, starch, etc). Cassava is cultivated virtually in all the states in Nigeria amongst which the study area (Imo State) is inclusive. In Nigeria, Consumers demand for high quality processed form of cassava (gari) as food commodity has remained on the increase and largely influenced by market forces of which price flexibility is imminent (AMIS, 2020). Increased knowledge of market situation as well as the price and

cost of production of various commodities has a way of strengthening the bargaining powers of consumers. Access to information on new production and processing technologies equally determine consumers influence on price variations and market flexibilities (Eguma *et al.*, 2019). Consumers in a bid to satisfy their utility make stringent bargains on commodity and market prevailing prices in relation to their limited income. A consumer is that individual who buys goods and services, which are offered for sale to satisfy some personal and household needs, wants, and desires considering their disposable income (FAO, 2020). Hence, for this to be achieved price bargaining is absolutely inevitable and of necessity. Consumers bargaining power is the ability of consumers or buyers to have some degree of influence on the level of prices that are demanded for various goods or services (Eze *et al.*, 2017). The degree and extent of this bargaining power rest on the number of options open to consumers at all times. In developed countries, changes in food commodity prices usually affect consumers' welfare, perception and market expectations thereby triggering price bargaining at all times (Fewsnets, 2020). The situation is quite similar in developing countries like Nigeria where consumers are generally assumed to be price takers. In a market structure where both parties (sellers and buyers) have equal bargaining power, the potential to negotiate a resolution that is acceptable to both parties is usually much easier to accomplish (FGN, 2017). Should that balance of power not be equal, one party will have a decided advantage over the other, and be in a better position to dictate the term (Del *et al.* 2001 and Iddrisu *et al.* 2019). As a result, the party with less bargaining power often has to settle for less than what he or she desires in order to receive benefits from such transactions (Eric *et al.*, 2002). For example, in situations where there are relatively few suppliers of goods or services, the bargaining power rest on the suppliers to determine the market prices and call the shot and this leaves consumers with few choices and may ultimately result in the creation of a monopoly (Pranav and Peter, 2015). At the other hand, the bargaining power rests with the consumers in situations in which there are many sellers or producers of such goods or commodities occasioned by market competitions (Katie, 2020). It is worthy of note that the effect of consumers bargaining power on price flexibility of gari in Imo State has not been documented, hence the essence of this study.

MATERIALS AND METHODS

Imo State is located in the south eastern of Nigeria, occupying the area between the lower River Niger and the upper and middle Imo River. It is bounded by the states of Anambra in the North, Abia in the east and Rivers in the south. Imo State has an estimated area of 5,150 square kilometers. The state has 27 local government areas with 3 agricultural zones namely Orlu,

Okigwe and Owerri (IBD, 2001). Each zone was purposively chosen for this study to give a total representation of the state. Again from each agricultural zone, a metropolitan city was purposively selected because of the presence of central market where buyers and sellers of gari dominated. Therefore relief market Owerri, in Owerri zone, International market Orlu in Orlu zone and Okigwe central market in Okigwe zone were selected for this study. The list of retailers of gari commodity in each of these markets were gotten and compiled with the help of the market leaders across the various zones. From this, 6(six) gari sellers were randomly selected from each market identified above. 5(five) consumers who patronized each selected gari retailers were selected using convenient sampling technique. This gave a total of 90 gari consumers which were administered with awell-structured questionnaire to elicit information on the objectives of the study. Data were analyzed using descriptive techniques such as mean, frequency and percentages, as well as other appropriate statistical and econometric tools such as simple ratio and multiple regression techniques (Henri-ukoha, 2020). Determinants of consumers' bargaining power for gari were isolated using an ordinary least square method of multiple regression analysis. The degree of consumers' bargaining power was estimated using a 'yes' response to the features of consumers' bargaining behaviour for gari. The strength of consumers towards price acceptance for food commodities depends on the outburst of some latent behaviors of the consumers. This is expressed as:

$$Y = \frac{AYR}{TEYE} \times 100 \quad (1)$$

Where
Y = Consumer bargaining power index for the ith commodity.
AYR = Actual 'yes' response to features of consumers bargaining power for an ith commodity
TEYE = Total expected 'yes' response for consumers bargaining power for an ith commodity.

The degree of bargaining power was categorized into strong and weak based on the mean level of bargaining power. Any person with a degree less than the mean is declared weak otherwise high. The factor affecting the degree of consumers bargaining power can be isolated using tobit regression or ordinary least square regression analysis. The later was preferred to the former because of the easiness to give the percentage change rather than probabilities. The consumer bargaining power model is implicitly expressed as:

$$Y = f(X_1, X_2, X_3, X_4, X_5, X_6, X_7, X_8, X_9, e) \quad (2)$$

Where

Y = Consumer bargaining power index
X_1 = Quantity bought (kg)
X_2 = Price of substitute (Naira)
X_3 = Sex dummy variable, (Female 1, otherwise 0)
X_4 = Age (years)
X_5 = Education level (years),
X_6 = Household size (No of persons),
X_7 = Income (Naira),
X_8 = Marital status (Married as 1, otherwise 0),
X_9 = Dummy variable: membership of cooperative society (membership 0, otherwise 1)
e = error term.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the respondents

Table 1 shows that majority of consumers patronizing gari sellers were females constituting of 61.11% while the males accounted for 38.89%. This is quite true because females mostly does household purchases than their male counterpart and often make profitable bargains, this agrees with (Eze *et al.*, 2014) who observed that female gender buys more of household needs than their male counterparts. The result showed consumers within the age bracket of 51-60 years as majority accounting for 33.33%. This could suggest that majority of regular visitors to the market in the area were mostly elderly people who frequent the market to make purchases for their families (Griffith *et al.*, 1999). Consumers with secondary level of education dominated with 44.44%, they were followed with consumers who had tertiary level of education with 42.22%. This implies that the consumers were literate enough to exercise their bargaining powers and this corroborates with (Henri-ukoha and Osuji, 2017). It further revealed the highest household size of gari consumers to be between 4 and 6 persons accounting for 42.22%. Large household size could induce the consumers to bargain properly to push down the purchasing price. It further showed that consumers who earned between ₦41,000 to ₦60,000 were the most paid accounting for 24.44%. This could imply that gari consumers within the earning bracket could have weak bargaining powers due to their limited incomes which might not be sufficient enough to make larger purchases and might end up buying on credits. The result further showed that greater numbers of consumers were married with 61.11% as against 38.89% that were still single. This implies that married consumers tend to make more purchases than single consumers who are likely to make lesser purchases (Oluwatusin, 2017). Further result showed that only 27.77% of the consumers belong to co-operative society as against 72.22% who do not belong to any co-operative society. This indicates that consumers bargaining power will be weak since they cannot come together to make bulk

purchases thereby forcing down the purchasing price and increasing consumers utility. The result further showed that majority of the gari consumers in the market are mostly civil servants with 38.88%. This could be attributed to the fact that civil servants have more purchasing power relative to other consumers such as farmers, traders, artisans, etc.

Consumers weekly unit retail price of gari in Naira/kilogram

Table 2 shows the consumers weekly unit retail prices of gari in Naira/kilogram. It could be observed that the weekly unit retail prices of gari ranged from ₦25.000 to ₦50.000 Naira/kg with a mean of ₦47.340kg/week. The Table showed that consumers who purchased between ₦25.000 and ₦50.000 worth of gari dominated in the study area accounting for 61.11%, and the least are consumers who could afford more than ₦50.000 worth of gari accounting for 15.55%. This indicated that consumers in the area purchased gari in relatively small quantities causing a decrease in the demand for gari which may also be attributed to their financial strength. It also implies that their purchasing strength is weak or that consumers are looking for substitutes either because of its starchy content or a change in lifestyle or on diet. This result is entirely in contrast with the findings of Ettah *et al.* (2019) who reported otherwise.

Volume/quantity of consumers purchase for gari

Table 3 shows a weekly distribution of volume/quantity of consumers purchase for gari in the study area. The quantity purchased ranged from ≤ 3kg to ≥ 9kg. It shows a mean of 5.5 kg/week indicating that majority of consumers in the area purchased between 6.10 and 9 kg of gari accounting for 44.44%. They were followed by those who purchased between 3.10 and 6 kg of gari accounting for 24.44% and the least are those who bought more than 9.10 kg of gari accounting for 11.11%. This showed that the purchasing power of gari consumers in the study area were weak as majority of consumers purchased in relatively small quantities even though gari was a stable food commodity that is consumed daily in most families. This result also contradicts the findings of Ettah *et al.* (2019) who reported an increase in demand and purchase.

Levels of consumers' bargaining power for gari

Table 4 shows the degree of consumers' bargaining power for retail price of gari in the study area. The result shows that about 46.67% of consumers indicated a strong bargaining power of above mean level, 65% for

Table 1. Socioeconomic characteristic of the respondents.

Variables	Frequency	Percentage
Gender		
Male	35	38.88
Female	55	61.11
Age		
20-30	20	22.22
31-40	15	16.66
41-50	25	27.77
51-60	30	33.33
Level of Education		
1-6	12	13.33
7-12	40	44.44
13-18	38	42.22
Household Size		
1-3	23	25.55
4-6	38	42.22
7-9	29	32.22
Consumers Income		
5000 – 20000	12	13.33
21000 – 40000	16	17.77
41000 – 60000	22	24.44
61000 – 80000	17	18.88
81000 – 100000	13	14.44
101000 – 120000	10	11.11
Marital Status		
Married	55	61.11
Single	35	38.88
Cooperative society		
Yes	25	27.77
No	65	72.22
Consumers major occupation		
Farming	11	12.22
Trading	17	18.88
Civil Servant	35	38.88
Students	13	14.44
Artisans	14	15.55
Total	90	100

Source: Field survey data, 2017.

unit retail price of gari while majority 53.33% of consumers indicated a weak level of consumers bargaining power of below mean level of 65%. The high proportion of consumers with weak bargaining power for gari is a pure indication that retailers still have more control of the market prices. Hence, FAO (2019) noted that consumers are not regarded as key factors in price-fixing by the retailers especially when the motive of the retailers is profit maximization. Thus, consumers are at a very disadvantage in bargaining strength when majority

Table 2. Distribution of consumers' weekly unit retail price of gari in Naira/kilogram.

Weekly unit prices in Naira/kg	Frequency	Percentage
≤ 25,000	21	23.33
25,000 – 50.000	55	61.11
> 50,000	14	15.55
Total	90	100

Note: Mean of consumers unit price of gari = ₦47.340
Source: Field survey data 2017

Table 3. Distribution of volume/quantity of consumers purchase for gari.

Weekly quantity purchased (kg)	Frequency	Percentage
≤ 3	18	20.00
3.10 – 6	22	24.44
6.10 – 9	40	44.44
≥ 9.10	10	11.11
Total	90	100

Mean of consumers' volume of purchase; 5.5 kg
Source: Field survey data, 2017.

Table 4. Distribution of levels of bargaining power for gari.

Level	Class boundaries	Frequency	Percentage
Strong	0.00 – 64.09	42	46.67
Weak	> 64.09	48	53.33
Total		90	100

Mean bargaining power 64.09
Source: Field survey data, 2017

of the sellers are faced with such motives. This assertion corroborates with Mike (2020).

Multiple regression analysis of the determinant of consumers bargaining power for gari

Four functional forms (linear, double-log, semi-log, and exponential) were fitted into the model in equation 2. From a prior, the lead functional form is chosen based on the magnitude of the co-efficient of multiple determinant (R^2), the model that has the highest number of significant explanatory variables in conformity with the a prior expectation and the model with best fit. Thus, the semi-log fitted into the above criteria and was preferentially selected as the lead equation and used for further data interpretation. The coefficient of multiple determinant (R^2) of 0.55 implies that 55% of the total variation in the degree of consumers' bargaining power were perfectly explained by the joint actions of the included exogenous variables. Again, the F-value was significant at 0.01 critical values implying that the model was the best fit. The model is represented as follows:

$$CBP_R = -153.19 + 30.71\ln X_1 + 3.06\ln X_2 + 3.36\ln X_3 + 27.15\ln X_4 + 10.82\ln X_5 - 9.55\ln X_6$$

    (2.98)   (4.11)   (0.74)   (0.60)
(1.78)   (3.25)   (1.84)

$$+ 15.66 n X_7 - 1.96\ln X_8 + 0.57\ln X_9$$

    (3.66)   (0.25)   (1.59)

F – cal= 6.22***
R^2 = 0.55

Table 5 shows that the co-efficient of price of substitute (X_1), household size (X_6) and consumers income (X_7) were positively related and have significant relationships with consumers' bargaining power implying that as price of substitute increase, it increases the consumers' bargaining power for gari thus encouraging more household to buy more of gari than any other commodity substitute. This agrees with the findings of Osuji (2017). Notably, as the number of household increases, it increases consumers' capacity to bargain perfectly in the market as to maximize utility function due to increase feeding expenditure of the consumers. This corroborates with the findings of Osuji *et al.* (2017). Consequently, increases in consumers' income, increases the consumers'

Table 5. Multiple regression analysis of the determinants of consumers bargaining power for Gari.

Explainable variables	Linear	Double log	Semi log	Exponential
Constant	43.09**	-3.38	-153.19***	3.04***
	(2.52)	(1.52)	(2.98)	(3.72)
Price of substitute (X_1)	0.16***	0.72*	30.71***	0.01**
	(4.35)	(2.22)	(4.11)	(2.26)
Quantity of gari (X_2)	0.06	0.06	3.06	-0.02
	(0.06)	(0.31)	(0.74)	(0.42)
Sex (X_3)	7.51	0.34	3.36	0.45
	(1.31)	(1.39)	(0.60)	(1.64)
Age (X_4)	-0.37	-1.21*	-27.15*	-0.01
	(1.02)	(1.83)	(1.78)	(0.31)
Educational level (X_5)	-1.72***	-0.37	-10.82***	-0.05*
	(2.88)	(2.59)	(3.25)	(1.82)
Household size (X_6)	3.04**	0.54**	9.55*	0.14
	(2.13)	(2.38)	(1.84)	(2.09)
Consumer's income (X_7)	0.00***	0.75***	15.66***	9.9x10-2
	(2.92)	(4.04)	-1.96	(1.89)
Marital status (X_8)	-11.50	-0.11	-1.96	-0.60*
	(1.60)	(0.32)	(0.25)	(1.76)
Co-operative membership (X_9)	-6.17	-0.15	-8.30	0.01
	(1.19)	0.68	(1.59)	(0.02)
R^2	0.53	0.52	0.55	0.39
Adj R^2	0.44	0.42	0.46	0.27
F – value	5.72***	5.47***	6.22***	3.21***
N	90	90	90	90

purchasing power since more disposable income is readily available for consumption and thus may literally bridge the bargaining powers of the consumers at large. It's obvious that consumers do bargain more when there is limited disposable income and thus can purchase at length whenever there is rise in income. This confirmed the works of (Henri-ukoha and Osuji, 2017). On the other hand, age (X_4) and educational level (X_5) are negatively related to consumers' bargaining power but are significant. These imply that any increase in age and educational levels of the consumers' will invariably lead to a decrease in the consumers' bargaining powers.

CONCLUSION AND RECOMMENDATIONS

The findings of the study revealed that consumers in the area earned relatively low as majority of the consumers do not belong to co-operative societies and are mostly civil servants. Result showed that consumers who purchased between ₦25,000 and ₦50,000 worth of gari dominated in the study area accounting for 61.11%, and the least are consumers who could afford more than ₦50,000 worth of gari accounting for 15.55%. It further showed that a mean of 5.5 kg/week indicating that majority of consumers in the area purchased between 6.10 to 9 kg of gari accounting for 44.44%. Price of gari is elastic and consumers have weak level of bargaining power and influence on prices of gari in the area. The need for consumers to become more aware of their right as king in the market and stakeholders in retail prices is imperative. This will give them the deserved courage to persuade sellers of these commodities to follow optimal prices in lowering their selling price in order for consumers' to

optimally maximize their utilities. Consumers' should improve in their educational level so that they can make good use of market information to their advantage in bargaining. There is need for consumers to form co-operative societies which consumers can buy food products in bulk to reduce retail prices and play a key role in price formation and fixing, sharing market information in order to increase their bargaining power since majority of retailers are only interested in profit maximization to the detriment of consumers.

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