CONSUMER INFLUENCE ON RETAIL PRICES OF RICE IN IMO STATE OF NIGERIA

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ABSTRACT

The increasing prices of rice in Imo State seem to emanate from retailers without consumers considerations as they are regarded as the king. Consumers' bargaining power influence on retail prices most times appear latent, hence the need to analyze consumer influence on retail prices of rice in Imo State. The study aimed at estimating consumers bargaining power and its effect on price flexibility of rice in the area. A multi stage sampling technique was used in the selection of 90 retailers and 81 consumers drawn from three metropolitan cities within the agricultural zones. Primary data were obtained by means of interview schedule administered to consumers of rice at retailers' shops and the data were analyzed using descriptive techniques and multiple regression analysis (OLS). The results show that the mean purchase volume of rice consumers was 5kg at an average monthly unit price of ₦163.09. However, consumers indicating a weak level of consumers bargaining power accounted for 64.20%. The result of the multiple regression revealed that rice consumers show that the co-efficient age (X_4) is positive and has significant relationship with consumers bargaining power. Result of estimation of rice revealed that quantity demanded (Qty) has negative relationship with price and it is significant. Showing the need for consumers to be more aware that increase in quantity bought reduces retailers selling price and to be aware of their position as price givers and king while making purchases. Consumers' influence on food pricing and with the knowledge of consumers bargaining power helps consumers' understanding of marketing systems and its modus operandi, price trends, formation and fixing, become more aware of their right as price givers and king in the market place in order to maximize utility. More research needs to be carried in the area of food pricing, consumers' influence bargaining power and behaviour to help consumers minimize profit accruing to retailers by educating consumers on technicality involved in marketing.

Keywords: Consumer, retail prices and Rice

INTRODUCTION

Consumers make daily decisions on how to spend their limited income (Hyman, 1992), in purchasing goods in the market. 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 (*David et. al., 2002*). The term is also used in employment situations and refers to the ability of a prospective employee to bargain for better employment wages and benefits based on his or her perceived value to the employer. The degree of bargaining power present will depend a great deal on the number of options open to consumers, or the number and quality of prospective employees who are competing for the same position (Ayuba, 2005). In a setting where both parties have more or less equal bargaining power, the potential to negotiate a resolution that is acceptable to both parties is usually much easier to accomplish. Should that balance of power not be equal, one party will have a decided advantage over the other, and be in a much better position to dictate terms *(Del et. al., 2001)*. 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 any benefit at all from the transaction (*Eric et. al., 2002*). For example, in situations where there are relatively few suppliers of a good or service and each supplier sells goods at prices very similar to those sold by his or her competitors, it is seen as an inequality in bargaining power (*David et. al., 2002*).

The consumer has little opportunity to demand lower rates, since the competitors have set their prices to mirror one another. In this scenario, the consumer has only two real options: pay the prices set by the entities that monopolize the market, or forgo purchasing the goods altogether (Kotler, 2002). Bearing in mind that consumers' demand for high quality food commodity has been on the increase in most developed countries. According to *Oni et al (2005)*, this is based on their increased knowledge of market situation as well as the price and cost of production of various commodities. It is linked to access to information on new production and processing technologies (Ekerete, 2002) which would help consumers in making better choices in the market to increase his bargaining power (Dacul, 2008).Hyman (1992) stressed that consumers make their daily decision on how to spend their limited income.

A consumer could be defined as an individual who buys goods and services, which are offered for sale by the seller in order to satisfy some personal, household needs, wants and desires (Ekerete, 2002). Consumers' income is expected to affect prices of commodities (with their taste and preferences inclusive). But it should also be noted that buyers are rational and as such, they have a clear-cut goal of getting as much personal benefit as possible from purchasing goods and services (Hyman, 1992). Understanding consumers' purchasing decisions and preferences is therefore important. Consumers compare the satisfaction gained from different activities and products, and they prefer some to others. Consumer analysis in Nigeria has been focused recently on the influence on food prices. In a purely competitive market, the seller is the price taker, while the consumer is the price giver through the instrumentality of demand and supply (*Pindyck et. al., 2005*). Unfortunately in this case, the consumer is the price taker, Consumers who are unaware of their position as price givers are not in a position to dictate the prices of goods and services offered to them in market places.

Therefore, what are the final selling prices of rice? What quantity of rice do consumers buy in the area? What are the budget shares for rice and what proportion of this share do consumers spend actually in the market. What is the extent of consumers bargaining power on prices of rice and what actually influenced it. What effect do quantity and level of bargaining power have on retail prices of rice? The broad objective of this study is to analyze consumers' influence on retail prices of Rice in Imo State. The specific objectives are to. i. social economic characteristics of consumers in the study area ii. describe retail prices and volume of consumers' purchases of rice in the area. iii. determine the level of consumers bargaining power for rice and isolate the factors that affect it. iv. determine the price flexibility based on quantity bought and factors of consumers bargaining power in the area.

METHODOLOGY
The study was conducted in Imo State. Imo State is located in the South-Eastern part of Nigeria, occupying the area between the lower River Niger and the upper and middle Imo River. She is bounded by the states of Anambra in the north, Abia in the east and Rivers in the south (IBD, 2001). Imo State has an estimated area of 5,150 square kilometres. The State has 27 local government areas with 3 senatorial zones as Orlu, Okigwe and Owerri (IBD, 2001). A multi – stage sampling procedure was adopted in this study first, the three zones were chosen for this study to give a total representation of the State. From each agricultural

zone, a metropolitan city was purposively selected because of the presence of central markets where buyers and sellers of rice dominated. Therefore, Eke – Ukwu Owerri, in Owerri zone, International market Orlu in Orlu and Okigwe central markets in Okigwe zone were selected for this study. The list of retailers in each of these markets was gotten and compiled with the help of market leaders association. From the sample frame 6 rice sellers were randomly selected from each market identified. 5 consumers who patronized selected rice retailers were selected using accidental sampling technique. Each 30 consumers from rice retailers in each market were drawn. These give a total 30 consumers of rice drawn from each market and L.G.A visited. A total of 90 consumers were drawn from 18 rice sellers in the three markets in each zone. A well structured questionnaire that elicited information on socio-economic feature of the consumers' budget share for rice quantity purchased and price of each product and their bargaining powers was used for the study. The study found only 81 responses useful and was subjected to data analysis. 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. Objectives 1 which is analysis of social - economic characteristics of consumers' in the study area were analyzed using descriptive statistics such as mean, relative percentages and Charts. Objective 2 which were to describe the retail prices and quantities of rice purchased by the consumers in the area were analyzed using descriptive statistics such as mean, relative percentages and Charts. Objective 3 which is determining the level of consumers bargaining power on prices of rice isolate factors that affect it was analyzed using descriptive statistics such as mean, relative percentage which determined level of bargaining power. The determinant of consumer bargaining power for rice was estimated using an ordinary least square multiple regression analysis. The equation as

$$Y = \frac{AYR}{TEYR} \dots\dots\dots\dots\dots\dots\dots\dots eqn\ 1$$

Where

Y   =   Consumer bargaining power index

AYR = Actual 'yes' response to features of consumers bargaining power.

TEYR = Total expected 'yes' response for consumers bargaining power (David, 2002).

   The determine consumers bargaining power were isolated using ordinary least square regression analysis. The consumer bargaining power model is implicitly expressed as

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

Where

Y = consumer bargaining power index

X_1 = quantity bought (kg)

X_2 = price of substitute (Naira)

X_3 = Sex (dummy: female = 1; otherwise 0)

X_4 = age (years)

X_5 = educational level (years)

X_6 = household size

X_7 = income (Naira)

X_8 = marital status (married = 1; otherwise = 0)

X_9 = membership of cooperative society (yes = 0; otherwise = 1)

e = error term

Objective 4, which was to estimate the price model for rice. The effect on consumers' volume of rice bought and the consumers bargaining power on prices of rice formed the component of this model. The demand model was stated with price as a function of quantity demanded, consumers' bargaining powers. The model is fitted into Cobb–Douglas function before

subjecting to ordinary least square regression analysis to ascertain price flexibility. It is explicitly specified as follows

$$LnP = a_0 + LnQty + LnCbp + e \qquad \text{------------------------------- eqn 3}$$

Where

Qty = quantity bought by consumers in kg

Cbp = consumers bargaining power captured as dummy ''yes'' = 1 and others wise = 0

RESULTS AND DISCUSSION

Socio – economic characteristics of the respondents

This shows that female dominated as regular visitors to the market in the study area with 70.37% while males accounted for 29.63% of regular customers to the market which collaborated with Griffith et. al., (1999) who said that its mostly female genders associated with household purchases than their male counterparts. The results revealed that consumers within the ages 50years and above dominated the regular consumers, who visited the markets accounting to 34.57% with a mean of 34 years. It further showed that consumers with tertiary level of education dominated regular visitors to the market accounting to 43.21% in which Schward (2004) collaborated it that basic literacy is important in carrying out marketing activities which raises his skills, helps in market information tracking, narrow his information gaps increasing his allocation efficiency. It shows further that the majority household of rice consumers who fell between 4 – 6 persons dominated accounting 40.74% with a mean of 6 persons. It further showed that consumers who earned between ₦41, 000 -₦60, 000 dominated accounting to 24.69% with a mean of ₦ 46.64 in the study area. It showed further that 67.90% of the consumers are married who dominated customers meet in the study area. It showed further that majority of consumers that accounted up to 75.31% do not belong to any co-operative society. It showed the different major occupations of consumers who responded indicated that civil servants constituted more of the consumers who visited the markets in the study area constituting 40.74%.

Retail Price and Volume of Consumers' Purchase for rice

The consumers were grouped according to the affordability of rice consumers indicating a mean of ₦163.09 revealing that majority of consumers who could afford a monthly average of ₦220 and above bought large quantities of rice accounting 48.15% which collaborated Onu (2000) who averred that household income expenditure on rice constituted a larger share of the household total food expenditure ranging from 18% to 28 %. This further showed that the quantity purchased of rice in the study area indicated that 54.32% of consumers bought between 31kg/₦ – 40kg/₦ with a mean of 5kg showing that demand for rice is very high in the study area.

Analysis of consumers' level bargaining power

This shows the distribution of consumers' base on the degree of bargaining powers on retail rice prices. The result shows that majority (64.20%) of the consumers indicated a weak (below 50.1%) consumers bargaining power on retail rice prices in the market while 35.80% of consumers who are above 50.1% have a strong level of consumers bargaining power to influence the retail price of rice. The mean bargaining power of rice is 50.1% ±29.7%. It could be deduced from this result that rice consumers in the area have a weak bargaining power and may not control the retail prices of the product. Given the prevailing circumstances, retailers may be playing a significant role in price fixing for rice as the majority of the consumers exert low influence in price discovery for rice in the area (Oni et, al., 2005, Pindyck et. al., 2005). Again, rice is standardized and so people may not see

reasons to go into bargaining when they already know that the prices are fixed at a particular measure.

OLS estimates on the determinants of consumers bargaining power of rice
Four functional forms (linear, double – log, semi – log, exponential) were fitted to the data. According to Eze *et. al*., (2012), the linear and semi – log forms were transformed to permit direct comparison with the double –log and exponential form, based on the magnitude of the coefficient of multiple determinations (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. The exponential form function was chosen as the lead equation and used for further analysis of the data. Based on the values of R^2 the coefficient of multiple determination (R^2) of 0.314 implies that 31% of the variations on consumers' bargaining power are explained by the joint action of the independent variables.
The model is represented as follows

$$Ln\ CBP = 2.156 + 4.8\ x10^{-5}X_1 - 3.5\ x\ 10^{-5}X_2 - 109X_3 + 0.010X_4 + 0.009X_5 - 0.025X_6 - 3.59\ x\ 16^{-6}X_7$$
$$(12.164)\quad (0.858)\qquad (0.012)\qquad (1.795)\quad (2.662)\quad (1.130)\quad (1.615)\quad (2.662)$$
$$+ 0.106X_8 - 0.044X_9 = 0$$
$$(1.531)\quad (0.646)$$

F-cal = 3.664***
R^2 = 0.314

The analysis shows that coefficient of age (0.010) is positive and has significant relationship with consumers' bargaining power. This implies also that as consumers advance in age, they gain more life experiences which increase their bargaining power which collaborated (CPI, 2007, Okoh *et. al.*, 1999) that the experienced gained over time increased the consumers' courage to adjust retail prices to his favour. This suggests that consumers' bargaining power will increase significantly if this variable is increased above its present level of use. On the other hand, the coefficient of sex (– 109) and consumers' income ($-3.59\ x\ 16^{-6}$) are negative and inversely related to consumers' bargaining power but they are significant. Oni *et. al.*, (2005) stated that consumers' incomes are not considered in fixing retail prices of food commodities in the market and that retailers do not care about the effect of retail prices on consumers income and their accruing big profit margin on consumers income while Ekerete (2002) asserted that the smaller the consumers income the more he would bargain to make more purchases with his meager income. This suggests that if these factors are increased above their present levels, consumers' bargaining power will decrease significantly. This implies that as the income of house hold increases due to the lifestyles of people, they tend to pose and change their lifestyles with increased income, and buying without pricing to prove to people that they are wealthy. This would make them not to bargain. On the other hand, quantity of rice ($-3.5\ x\ 10^{-5}$) and household size (–0.025) and co-operative society membership (-0.044) are negatively related to consumers' bargaining power but are not significant. This implies that as these factors decrease, consumers' bargaining power increases, so since consumers have substitutes to buy from, consumers' bargaining power increases. The increased bargaining power of the consumer forces retailers to lower prices of their goods so as to keep the consumer from leaving or buying the substitute from another retailer. Also price of substitute ($4.8\ x10^{-5}$), educational level (0.009) and marital status (-0.044) are positively related to consumers' bargaining power but they are not significant. This shows that as consumers acquire educational skills and are knowledgeable, it increases the quantity of rice demanded. Belonging to a co-operative society increases consumers' bargaining power because they buy in bulk and as a group thereby forcing down retailers' selling price.

Distribution of Estimation of Price of Rice

This shows the result of combined effect of quantity demanded and consumer bargaining power of rice on the unit retail price of the product in the area. The result showed that only quantity bought by the consumer is significant at $p < 0.01$ critical level. It could be deduced from the result that with a percentage increase in quantity of the product bought, a more than proportionate decrease in price of rice of 59.4% will be obtained in the area (Ehirim *et. al.*, 2013). In the same way (though not significant even at 10.0%), an increase in consumers bargaining power by 1 percent will reduce the price of rice by 5.7%. This simply shows that though consumer bargaining power does not have any significant influence on the retail price of the product, it may force down the price.

The model is represented as

$$LnP = 6.496 - 0.594LnQty - 0.057LnCbp$$
$$\quad\quad (9.017) \quad (-2.877) \quad\quad (0.327)$$

Based on the value of R^2, the coefficient of multiple determinations (R^2) 0.397 implies that 39.7% of the variations on price of rice are explained by the joint action of the independent variable

CONCLUSION

Based on the result of the analysis, it was concluded that price of rice is elastic and that consumers have a weak level of bargaining power and influence on food prices of rice in the study area. Coefficient of age is positive and has significant relationships with consumers' bargaining power. This implies also that as consumers advance in age, they gain more life experiences which increase their bargaining power. The study therefore calls for policies on the need for government agencies to educate consumers including consumer protection agencies and NGOs on their role as king in marketing and in bargaining with retailers to optimize their utility, and the consumers should become more aware of their right as king, price givers and stake holders in retail prices. This is imperative which will give the consumers boldness in persuading retailers of rice to lower their selling prices for consumers to optimize their utility. Raising consumers' level of education and information on marketing system modulus operandi to be able to track market information and be well informed of market prices.

Table 1 Socio-economic characteristics of the respondents

Variables	Frequency	Percentage	Mean
Gender			
Male	24	29.63	
Female	57	70.37	
Age			
20 – 30	11	13.58	34
31 – 40	15	18.52	
41 – 50	27	33.33	
51 ≥ 60	28	34.57	
Level of education			
1 – 6	16	19.75	
7 – 12	30	37.03	
13 – 18	35	43.21	
Household size			
1 – 3	21	25.93	6
4 – 6	33	40.74	
7 – 9	27	33.33	
Consumers' income			
5000 – 20000	12	14.81	46.64
21000 – 40000	14	17.28	
41000 – 60000	20	24.69	
61000 – 80000	13	16.05	
81000 – 100000	12	14.81	
101000 -120000	10	12.35	
Marital Status			
Married	55	67.90	
Single	26	32.10	
Co – Operative			
Yes	20	24.69	
No	61	75.31	
Consumers' major occupation	10	12.35	
Farming	15	18.52	
Trading	33	40.74	
Civil servant	11	13.58	
Students	12	14.81	
Artisans			
Total	81	100	

Source: Field survey data 2011

Table 2 Distribution of Average monthly Retail Price and Volume of Consumers' Purchase for rice

Average monthly prices Naira/kg	Frequency	Percentage	Mean
≤ 130	3	3.70	163.09
131 – 160	4	4.93	
161 –190	5	6.17	
191 – 220	30	37.04	
≥ 220	39	48.15	
Average monthly quantity demanded Naira/kg			
≤ 10	18	22.22	5
11 – 20	10	12.35	
21 – 30	2	2.47	
31 – 40	44	54.32	
41 – 50	4	4.94	
≥ 50	3	3.70	
Total	81	100	

Source: Field survey data 2011

Table 3 Level of consumers bargaining power

Level	Class boundaries	Frequency	Percentage
Strong	0.00 – 0.501	29	35.80
Weak	0.502 – 1.00	52	64.20
N		81	100

Mean: 0.501

Standard deviation: 0.297

Source: Field survey data 2011

Table 4: The result of the multiple regression analysis on the determinants of consumers bargaining power of rice

Explainable Variable	Linear	Double log	Semi log	Exponential
Constant	7.657***	2.703***	12.665***	2.156***
	(3.951)	(5.613)	(2.433)	(12.164)
Price of Substitute X_1	0.001	-0.004	-0.014	4.8×10^{-5}
	(1.002)	(0.211)	(0.073)	(0.858)
Quantity of rice X_2	-0.009	0.049	0.034	-3.5×10^{-5}
	(0.291)	(1.173)	(0.0853)	(0.012)
Sex X_3	-0.0883	-0.019	-0.205	-109*
	(1.333)	(0.324)	(0.0319)	(1.795)
Age X_4	0.114***	0.420***	4.518***	0.010***
	(2.840)	(3.296)	(3.279)	(2.662)
Educational level X_5	0.130	0.065***	0.0839	0.009
	(1.485)	(1.395)	(1.670)	(1.130)
Household size X_6	-0.253	-0.115**	-1.085	-0.025
	(1.522)	(1.830)	(1.598)	(1.615)
Consumers income X_7	-3.77×10^{-5}***	-0.191***	-1.921***	-3.59×10^{-6}***
	(2.556)	(3.697)	(3.434)	(2.662)
Marital Status X_8	0.947	0.111**	1.242*	0.106
	(1.256)	(1.760)	(1.817)	(1.531)
Cooperative X_9	-0.367	0.007	0.016	-0.044
	(0.490)	(0.104)	(0.023)	(0.646)
Standard error	2.14273	0.19764	2.13618	0.19595
R^2	0.292	0.259	0.250	0.314
Adj R^2	0.204	0.163	0.154	0.228
F – Value	3.301***	2.716***	2.595***	3.664***
N	81	81	81	81

* Significant at 10% confidence
**Significance at 5% confidence
*** Significance at 1% confidence

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