

Evaluation of Consumer behaviour on Retail Prices of Rice in Imo State

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ABSTRACT

The study evaluates consumers' behaviour on retail price of rice in Imo State of Nigeria. Data were drawn from the three agricultural zones in Imo State, namely Owerri, Orlu and Okigwe. A functional market in each zone was randomly selected. A multi stage sampling technique was used for the study. Primary data were obtained by means of interview schedule (questionnaire) administered to consumers of rice at retail shops. Data were analyzed using descriptive techniques and ordinary least square (OLS) method of multiple regression analysis. Empirical result reveals that the mean weekly budget share for rice was ~~₦~~1345.20 but the actual weekly expenditure was ~~₦~~1638.89. The differential of 21.8% increases in expenditure from the budget share of rice could be attributed to variability in prices of rice in the market. About 63.3% of rice consumers have a weak bargaining index of 0.67 indicating that consumers' influence on the food product is weak. It could be deduced from the result that quantity demanded of rice (Qty) has negative relationship with its own price but consumers' bargaining power has a positive effect on price. There is need for consumers to be encouraged to form co – operative societies through which they can buy food products in bulk to reduce retail price thereby reducing the price margin between their budget share and actual expenditure in view of the fact that their bargaining power is weak. This will also reposition them to play a key role in price formation and sharing market information in order to increase their bargaining power as majority of retailers are only interested in profit maximization to the detriment of consumers. Consumers of rice should be ready to make adjustment on their weekly budgets of rice because of price variability.

Keywords: Consumer behaviour, retail prices, budget share, price flexibility

INTRODUCTION

Consumers make their daily decisions on how to spend their limited income. A consumer is an individual who buys goods and services, which are offered for sale by the seller in order to satisfy some personal and household needs, wants and desires (Ekerete, 2002). Buyers or customers always bargain or negotiate on the above given aspects. It always depends on the present requirement of customers on which they basically bargain (David, 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). It then follows that consumers' income and present problems have great effect on food prices (Oni *et al.*, 2005).

Consumers are supposed to be problem solvers, when they perceive the differences between their existing state of affairs and what it was before (Eze *et. al.*, 2014). They attempt to solve these problems through their purchasing power. In doing so, they exhibit various kinds of behaviours in the market place (Okwandu *et al.*, 2001). Colander (2004) defined consumers' behaviour as all purchase-related activities, thoughts and influences that occur before, during and after the consumption of products and services, and those that influence the purchase. Consumers' behaviour could be seen as the process where consumers with limited income, decide which goods and services to buy to maximize his satisfaction. (Pindyck *et al.*, 2005).

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 (Eze *et. al.*; 2012). This helps to understand how changes in income and prices affect the demand for goods and services (Pindyck *et. al.*, 2005). Consumers' behaviour could also be seen as the process whereby

individuals decide on what to buy when, where, how and from whom to purchase goods and services (Kalu, 1995).

Consumers demand preference analysis in Nigeria has recently focused on the influence on prices because they have what it takes to influence prices rather than government control. Recent developments have estimated that only 30 percent of Nigerian consumers trust the control at the National and Local levels but 66 percent do not have confidence in authorities price control (CPI, 2007). There are different aspects to be considered in this subject matter. In one way, there is a feeling among consumers that they do not have an idea about cost price and prices of food commodities in the market (CPI, 2007). But in another way, consumers seem to have an idea about cost price and prices of food commodities in the market (CPI, 2007). In other words, consumers' behaviour, being both mental and physical, could be redefined, that consumers have preferences and in choosing which goods to buy, are faced with constrained budgets (Henderson *et al.*, 1991). This study therefore tries to evaluate consumer behaviour on retail prices of rice by ascertaining consumers' budget share and the actual expenditure on rice and to determine the price flexibility based on quantity bought and the degree of consumers' bargaining power in Imo State of Nigeria.

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 kilometers. The State has 27 local government areas with 3 agricultural zones as Orlu, Okigwe and Owerri (IBD, 2001). A multi – stage sampling procedure was adopted in this study. First, the three agricultural 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 gave 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 and price of each product and their bargaining powers was used for 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.

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 in which multiple regression models was used to ascertain price flexibility. It is explicitly specified as follows;

$$\ln P_i = a_0 + \ln Q_{ty} + \ln C_{bp} + e \text{ ----- } I$$

Where

i = unit price of rice (naira)

Q_{ty} = quantity bought by consumers' in kg

C_{bp} = consumers' bargaining power captured as dummy "yes" = 1 and otherwise = 0

The choice of Cobb-Douglas model in this study was due to its simplicity in estimating the elasticities of the included explanatory

variables. The co-efficient of the Cobb-Douglas model are themselves elasticity and this explained the degree of responsiveness of price to a slight change in quantity demanded of rice in the area. The elasticities so obtained from this analysis explained the flexibility of price of rice due to a slight change in quantity bought by consumers and their bargaining power.

RESULTS AND DISCUSSION

Socio – economic Characteristics of the Respondents

This shows that females dominated as regular visitors to the market in the study area with 55.8% while males accounted for 25.2% of regular customers to the market. Females as regular visitors to the market make bulk household purchases. This finding agrees with (Griffith *et al.*, 1999) who observed that female gender buy more of household needs than male counterparts. The results revealed that consumers between the ages of above 50 years dominated the regular consumers, who visited the markets accounting for 27.9% with a mean of 36 years. This implies that regular visitors to the market in the study area are majorly elderly people. It can be further observed that 54.0% of the consumers are married. The corollary is that singles are not regular visitors to the market since they can eat out while married ones needed to replace exhausted food items in the house. It further showed that consumers with tertiary level of education dominated as regular visitors to the market accounting for 34.2%. This could imply that education may help consumers in understanding market information, strengthening his information grasp and increased allocative efficiency, insight and understanding which help in more understanding of market situation, improving and keeping of market information. It showed further that rice consumers whose household ranged between 4 – 6 persons were highest with 32.4% with a mean of 8 persons. Large household size may induce the consumer to bargain further to help in pushing down his purchase price. It further shows that consumers who earned between ~~N~~41, 000 - ~~N~~60, 000 were in the majority (19.8%) with a mean of ~~N~~46.64 in the study area. This

shows that rice consumers may not be able to bargain properly because of weak income since they may not be making most of their purchases by cash. It shows further that majority of consumers (59.4%) do not belong to any co-operative society. It indicates further that consumers bargaining power will be weak since they can't come together to buy in bulk thereby reducing the purchasing price and increasing their utility. Civil servants constituted more of the consumers who visited the markets in the study area constituting 31.5%. This can be attributed to the fact that civil servants may have more purchasing power than other categories of rice consumers.

Table 1 Socio – economic characteristics of the respondents

Variables	Frequency	Percentage	Mean
Gender			
Male	28	25.2	
Female	62	55.8	
Age (years)			
20 – 30	13	11.7	36
31 – 40	18	16.2	
41 – 50	28	25.2	
51 ≥ 60	31	27.9	
Marital status			
Married	60	54.0	
Single	30	27.0	
Level of education			
1 – 6	19	17.1	
7 – 12	33	29.7	
13 – 18	38	34.2	
Household size			
1 – 3	24	25.2	8
4 – 6	36	32.4	
7 – 9	30	27.0	
Consumers' income			
5000 – 20000	13	11.7	46.64
21000 – 40000	16	14.4	
41000 – 60000	22	19.8	
61000 – 80000	15	13.5	
81000 – 100000	13	11.7	
101000 – 120000	11	9.9	
Co – Operative membership			
Yes	24	21.6	
No	66	59.4	
Consumers' major occupation			
Farming	11	9.9	
Trading	17	15.3	
Civil servants	35	31.5	

Students	13	11.7
Artisan	14	12.6
Total	90	100

Source: Field survey data 2013

Budget Share of Rice Consumers

This brings to light the amount consumers budgeted for rice on a weekly basis in order to satisfy household and personal needs. Table 2 shows the weekly budget share of consumers in the study area. It shows that consumers budgeted share ranged from ₦162.50 to ₦4000. From the result it shows the mean of rice consumers' budget share is ₦1345.20. Consumers who budgeted between ₦601 to ₦1200 accounted for 22.5% and were the highest in the study area. They were followed by those who budgeted between ₦1201 – ₦1800 accounting for 20.7%. The least were those who budgeted more than ₦2400 (9.9%). This corresponds with Eric et al., (2002) who observed that rice took the highest average of budget share among the food items consumed by households in which Robbin (2001) also reported that rice constituted a larger share of household total food expenditure. This implied that consumers in the study area were following and studying market trends, thereby making their weekly budgets to maximize their utility.

Table 2: Distribution of Consumers' Weekly Budgets Share for Rice

Budget share (Naira)	Frequency	Percentage
≤ 600	16	14.4
601 – 1200	25	22.5
1201 – 1800	23	20.7
1800 – 2400	15	13.5
> 2400	11	9.9
Total	90	100

Mean of consumers' budget share ₦1345.20

Source : Field survey data 2013

Actual Expenditure of Rice Consumers

This portrays the weekly actual expenditures of rice consumers in the study area. Table 3 shows the weekly actual expenditure of rice consumers in the study area. It ranged from ₦250 to ₦4150. The result shows the mean actual expenditure of consumers is ~~₦1638.89~~. Consumers who spent ~~₦601~~ to ₦1200 constituted the majority with 34.6%. They were followed by those who spent between ₦1201 to ~~₦1800~~ (29.1%). The least are those who spent between ₦1801 to ~~₦2400~~ accounting (10.9%).

This implies that consumers exceeded their budget share which may be attributed to consumers not being able to influence retail prices of rice due to its preference in every occasion. It showed that many households consume rice daily in the study area thereby causing high demand for rice. The result further showed 21.8% increase in expenditure of rice from its budget share, implying that there was actually a positive drift in prices of rice in the market, which the consumers cannot influence. This phenomenon suggests that consumers should be ready to allow for flexibility in their budget to meet household demand for rice.

Table 3: Distribution of Consumers' Weekly Actual Expenditure in the Study Area

Actual expenditure (Naira)	Frequency	Percentage
≤ 600	11	7.3
601 – 1200	24	34.6
1201 – 1800	23	29.1
1801 – 2400	13	10.9
> 2400	17	18.2
Total	90	100

Mean actual expenditure ~~₦1638.89~~

Change in actual expenditure and budget share of Rice 21.8%

Source: Field survey data 2013

Analysis of Levels of Consumers' Bargaining Power

Table 4 shows the distribution of consumers based on the degree of bargaining power on retail prices of rice in the area. The result shows that majority of rice consumers constituting 63.3% indicated a weak level of consumer bargaining power of below mean level of (68.25%), while 36.7% of consumers who are above mean level of 68.25% have a strong level of consumer bargaining power to influence the retail price of rice. The mean bargaining power of rice is 68.25%. The results suggest that rice consumers in the area have a weak bargaining power and may not be able to control the retail prices of the product. Given the prevailing circumstances, retailers may be playing a significant role in price formation and fixing for rice as the majority of the consumers exert low level influence in price discovery and price fixing in the area (Oni et. al., 2005, Adegeye et al., 1985).

Table 4 Level of consumers bargaining power

Level	Class boundaries	Frequency	Percentage
Strong	0.00 – 68.25	33	36.7
Weak	> 68.25	57	63.3
N		90	100

Mean bargaining power 68.25

Standard deviation: 0.297

Source: Field survey data 2013

The Result of Determinants of Price Flexibility of Rice

Table 5 analyzes the degree of consumers' bargaining power on the unit price of rice. The price flexibility model of rice is shown in table 5. The coefficient of multiple determinations (R^2) is 0.23 which implies that about 23% explanation to variations in prices can be accounted for by the changes in consumers' bargaining power and the volume of rice bought weekly. The F – value of 7.78 is greater than the tabulated value of 2.02 at $P < 0.05$ critical level. This shows that the model is best fit.

It can be observed from the table that all the included explanatory variables have direct but significant effect on variation of retail prices. As the weekly quantity of rice purchased increases, the unit weekly prices decreases by 0.06%, there is a less than 0.06% decrease in unit weekly retail prices of rice purchased in the study area. With that, rice could be said to be a normal good but with inelastic characteristics in which increase in quantity demanded reduces the retailers' price. This finding agrees with Ehirim *et al*; (2010) which reported a less than proportionate increase in quantity demanded of the product with a unit decrease in price.

In the same way, there is a less than proportionate increase in weekly unit price of rice with a unit increase in consumers' bargaining power. This may be seen as a result of the nature of rice with its prestigious nature and consumers' lifestyle where it is seen as a privilege to consume rice thereby occasioning its high demand even with increase in price.

Table 5: Distribution of Determinant of Price Flexibility of Rice

Explainable Variable	Co – eff	t – ratio
Constant	5.03 ***	33.60
Quantity Demanded of Rice (Qty)	-0.06	1.35
Consumers Bargaining Power (Cbp)	0.11 ***	3.53
R ²	0.23	
Adj R ²	0.20	
F – value	7.78 ***	
N	90	

Source: Field survey 2013

CONCLUSION AND RECOMMENDATION

Based on the result of the analysis, it can be concluded that consumers exceeded their budget share with an increase of 21.8% increase in expenditure of rice from the budget share. The price of rice is elastic and consumers are observed to have weak level of bargaining power and influence on food prices of rice in the study area. It showed that

consumers in the study area do not earn much, do not belong to co-operative societies and are mostly civil servants. The need for consumers to become more aware of their right as king in the market and stake holder in retail prices is imperative. This will give them the deserved courage to persuade sellers of these commodities to lower their selling price in order for consumers' to optimally maximize their utilities.

Consumers' level of education should be improved so that they can have good sense of judgment and be able to use market information to their advantage in bargaining. There is need for consumers to be encouraged to form co – operative societies through which they can buy food products in bulk to reduce retail prices and also to 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 at the detriment of consumers. Consumers of rice should allow some flexibility in their weekly budgets because of price variability.

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