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GROSS MARGINS ANALYSIS OF RICE, BEANS AND GARRI SELLERS IN SOUTHERN ZONE OF CROSS RIVER STATE.

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ABSTRACT

The study calculated gross margins of rice (local white), beans (white) and garri (yellow) sellers in Watts, Okurikang and Marian markets in southern Cross River State. Analysis of variance technique was used to test for the statistical differences among the gross margins of each commodity in the three markets. Empirical results revealed positive gross margins for all sellers of the three commodities in the three markets. Comparing gross margins of rice, beans and garri in the three markets reveal that rice and garri sellers had insignificant differences in their gross margins while the mean gross margins for beans sellers showed significant differences between Okurikang market and the other two markets. The results imply perfect information flow for garri and rice markets and hence high probability of perfect competitive market structure for these products. The reverse is the case for beans market. Policy on increased local production of rice, garri and beans were recommended as they will help increase sellers and consumers' welfare.

KEY WORDS: Gross margin, Variance, Market, Commodity, Sellers

INTRODUCTION

Rice, beans and garri are among the staple food items produced in Cross River State. They are produced by smallholder farmers, who are also involved in marketing along with few wholesalers that dominate the marketing business (Okoh, et al 2000). Many sellers of these products travelled to the remote farming communities and some to other parts of the country to purchase these food items. Following this, they incurred costs ranging from purchasing cost, transportation cost, market charges, and to storage charges. While return from sales of the foodstuffs constituted the sellers' revenue, the difference between the total revenue and the total variable cost is termed gross margin (Dittoh et al, 1985). Gross margin is one of the indicators of marketing efficiency (Abbot, 1980 and Harrison et al, 1987). A positive gross margin is an indication of profitability potential of any product market. A high Gross margin indicates that, the business can make a reasonable profit on sales, as long as it keeps overhead cost under control (Harris, 1985).

Multifarious factors affect the size of gross margins in any commodity market. Some of the factors are: inadequate storage facilities, poor transportation network and activities of middle men (Abbot, 1986). An integrated product market either in a short-run or long-run implies the existence of a perfectly competitive market structure (Goleti et al, 1995). It is believed that perfect price information among distant commodity markets is a prerequisite for achieving efficient allocation of resources across space and time (Jajara, 1992).

In Nigeria, vis-à-vis Cross River State, the agricultural product markets are poorly integrated and hence have poor price transmission among markets (Okoh, 1999 and Okoh et al 2002). Consumers pay different prices for the same product in different markets located in the same political zone separated by few kilometers. This shows prevalence of marketing inefficiencies and inconsistency in government policy towards agricultural product markets (Okoh et al, 2002 and Akpan, 2007). Due to these inadequacies in the marketing system, asymmetry nature of price information and other human inherent factors, the two components of gross margin would be highly volatile. Following this assertion, it is obvious that the variances in gross margins exist among sellers of beans, rice and garri in different markets in the zone. Despite these variances, the important question is, are these suspected variances in gross margin of these agricultural products among markets in the state statistically significant or not? In an attempt to answer this question, the study specifically focused on the determination of gross margins of beans, rice and garri sellers and thus tested for their statistical differences among markets in the study area. Attempt was also made to highlight policy implication of the findings.

Significance of the Study

The result of the study will be useful input and guide to agricultural policy makers in formulating effective commodity market policies in the state. The study would also give an insight to constraints that militate against efficient marketing of agricultural commodities in the state. In addition, students and economic analysts would found the study valuable, as it would be a guide to other related studies and a relevant source of reference

MATERIALS AND METHODS

The study was conducted in Calabar

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Municipality, Calabar South and Odukpani local government areas of Cross River State. One major market was selected in each local government area. The markets are: Watts market in Calabar South, Marian market in Calabar municipality and Okurikang market in Odukpani local government areas. Three staple food items were used for the analysis and these were rice (local), beans and garri (yellow). Sixty sellers of each of this food items were used for data collection. Twenty sellers of each of this food items were randomly picked from Watts, Marian and Okurikang market. Primary data collected included market charges, transportation cost, storage cost and prices of garri; beans and rice measured in 7cm cup.

RESEARCH DESIGN

Analysis of variance (ANOVA) was used to test the null hypothesis. Completely randomized design technique was employed to estimate F- calculated.

$Y_{ij} = \mu + T_i + e_{ij}$

Where Y_{ij} = Single observation, μ=Population mean, T_i=Treatment effect (average gross margin of garri, beans and local rice), e_{ij} =error term (e_{ij} ~IIN(0, δ^2).

HYPOTHESIS

Ho: There are no significant differences in gross margins of garri, beans and rice among markets in Cross River State.

Measuring Gross Margin

Gross margin = TR – TVC

Where TR is the total revenue and is defined as total quantity of commodity sold by a seller multiplied by a unit price. TVC is the total variable costs and is defined as purchasing cost + transportation cost + market charges + storage charges. We convert all physical quantities of commodities into 7cm cup equivalent and valued it in ₦/ 7cm cup.

RESULTS AND DISCUSSION

(a) Comparison of gross margin of garri (yellow) in Watts, Marian and Okurikang markets.

ANOVA (GARRI)

Source of variability	D.F		SS	MS	F-cal
Treatment	2		12.1150	6.05750	0.3339
Error	45		816.4360	18.1430	
Total	47		828.5510		
F-tab at 5% significant level		=	3.00		

F-cal is less than F-tab: Hence we accept Ho at 5% significance level. The implication is that there are no significant differences among gross margins of garri sellers in the selected markets. Since the gross margins of garri sellers in the three markets are not significantly different, it therefore indicates the tendency of good information flows among the sellers and buyers in markets in the zone. The statistical equality of gross margins of garri sellers in the three markets may be attributed to large number of buyers and sellers, similar market charges and probably good level of garri market integration in the zone. Therefore, the result implies the possible existence of a perfectly competitive market structure for garri in the study area.

(b) Comparison of gross margin of beans in Watts, Marian and Okurikang markets

ANOVA (beans)

S.V	D.F	SS	MS	F-cal
Treatment	2	47.62	23.811	3.571
Error	45	300.09	6.67	
Total	47	347.71		
F-tab at 5% significant level =		3.00		

F-cal is greater than F-tab; thus we reject Ho: at 5% significance level. This means that there are significant differences in gross margins of beans sellers among markets in the study area. Using least significant difference to separate the mean gross margins from the three markets, the gross margins of beans sellers in Watts and Marian markets were not significantly different. On the other hand, there are significant differences in gross margins of beans sellers in Okurikang market and sellers in other two markets. The significant variances in gross margins of beans sellers in the selected markets confirmed a significant variation in costs incurred and returns that accrued to the sellers of this product in the zone. The result is an indication of poor information transmission among the consumers and sellers of beans commodity across markets in the zone. In addition, the result also suggests high probability of poor beans markets integration. Greater proportion of the beans consumed in the region is brought from the northern part of the country. Hence transportation cost significantly affected the consumer price of beans in the study area.

(c) Comparison of gross margin of rice in watts, Marian and Okurikang markets

ANOVA (RICE)

S. V	D.**F**	**SS**	**MS**	**F-cal**
Treatment	2	8.8995	4.450	0.7746
Error	45	258.4955	5.744	
Total	47	267.3950		

F-cal is less than F-tab: Hence we accept Ho; at 5% significance level. This implies that there are no significant differences among gross margins of rice sellers in the selected markets. The result indicates the tendency of good information flows among the sellers and buyers of rice in the selected markets. Factors that cause the above result for rice market are similar to those factors for garri market. Bulk proportion of local rice consumed in the zone is produced locally. Thus transportation cost is reduced compared to beans market. Hence a perfectly competitive market structure is also suspected for rice market in the zone.

POLICY IMPLICATION AND CONCLUSION

Efficient marketing of agricultural commodities could be an effective tool to initiate the much needed economic development, as marketing efficiency ensures efficient resources allocation. The results reveal that sellers of beans, rice and garri in the selected markets made positive gross margins. This is an indication of the viability of this sub-sector of Nigeria economy. The magnitude of the gross margins among sellers did not significantly differ for garri and rice markets in the zone. These imply good information flow among the commodity markets and consistent market policies with regard to these sub-markets. The current policy on inter-local governments transportation in the Southern Cross River State should be sustained and improved upon as this will help to minimize variances in gross margins of agricultural products among markets in the region through reduction in transportation cost. Also, local production of garri and rice should be boosted through input subsides. Furthermore, marketing infrastructures such as good road network, storage facilities, transportation facilities and modern publicity channels should be provided in farming communities to reduce cost on the part of the sellers while optimizing consumers benefit. The occurrence of statistical significant differences in gross margins of beans sellers in the zone is as a result of marketing inefficiencies. This could be tackled through long-term marketing policies. In the short-run, incentives in form of free market charges would be useful to beans marketers in the zone.

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