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Farm-Gate and Retail Price Relationship for Selected Food Stuffs: Implication for Increased Food Production in Nigeria

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Abstract: Seasonal shortages, increasingly high and unstable prices have dominated the Nigerian food sub-sector over the past decades. The expanding urban population is making ever greater demands on agricultural production and marketing. The rate of increase in demand varies with time/season and food producers supplying the right quality of food at an affordable price. This has prompted concern about the efficiency and performance of agricultural production and marketing systems. The main objective of the study, is to examine the relationship between farm gate and retail prices of selected food stuffs and the implication of this for increased food production. The hypothesis is advanced that increase in retail prices are not passed to producers and that the relationship between production and consumption areas do not affect price communication. The suggestion is that price stabilization for staple foods and the provision of adequate incentives to small farmers to increase their production should remain the major pre-occupations of government marketing policies.

Key words: Farm-gate, retail price, unstable prices, food production

INTRODUCTION

Nigeria is predominantly an agrarian country with over 70% of its population engaged in farming. Agriculture provides the bulk of employment income and food for the populace. It provides raw materials for the agro-allied industries as well as a market for industrial goods. Despite these some of the sad realities of the Nigerian economy in recent years have been the continued shortages and the high prices of food stuffs. Furthermore, agricultural production in Nigeria has been on the decline over the years. Its contribution to the gross domestic product dropped from 56.0 % in 1960 to 31.26% in 1996 (CBN, 1996).

In an effort to boost food production in Nigeria, government has embarked on many policies. Programs and projects over the years. Various agricultural institutions and development programmes were put in place to boost food production but due to poor implementation and monitoring, these efforts failed to increase food production to meet the demand of the teeming population of Nigerians. The structural Adjustment Program was introduced in 1986, one of the main objective of this programme was to encourage industries to depend on local raw materials. As a result of weak structural facilities, this worsened the food situation because it caused a higher for food items both by the direct consumers and the industries. The overall effect of which was a like in prices of the commodities without corresponding increase in production. Agricultural production index rose from 126.0 in 1970 to 224.8 in 1996 while food price index rose from 9.0 in 1970 to 2,720.5 in 1996 (CBN, 1996). This shows that the price of food items is rising faster than the growth in output.

Farmers generally are believed to be responsive to producer prices and this has led to many questions about the food the production level in the country. Assuming that staple food producers are responsive to changes in producer prices, then if increases in consumer prices are reflected in increase in producer prices, the food scarcity and high consumer prices supposed to be responsible for their low level of production. Olayemi (1974) opined that since the marketing of food crops is fairly competitive (homogeneity of product and the many buyers and sellers structure), that the distributors of food are not making excessive profit and that a substantial proportion of consumer price increases must be reaching the producers. There is therefore the need to carry out a quantitative research on the relationship between retail, and farm-gate prices to know the extent to which the producers are benefiting from the increasingly high food prices.

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Table 1: Rural and urban consumer price indices for food (1985 = 100)

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
Rural indices	100	98.8	107.9	197.2	299.0	308.7	343.5	499.4	784.7	1,154	1,599.2	2,348.7
Urban indices	100	107.6	113.3	191.0	293.8	303.9	358.9	546.4	852.5	1,282.4	1,734.8	2,438.4

Source: Central Bank of Nigeria Statistical Bulletin, 1996

Table 2: Index of agricultural production (1985 = 100)

Year	1985	1986	1987	1988	1989	1990	1991	1992	1993
Agricultural production indices	100	103.5	110.9	132.4	146.3	160.1	183.3	191.2	194.2

Source: Adapted from Central Bank of Nigeria Statistical Bulletin, 1996

This study found out the relationship between farm-gate and retail prices of selected foodstuff. The decline in food production is due to the fact that increases in consumer prices are not getting to the producer (Table 1 and 2).

Theoretical framework: Prices are known to vary widely between markets, this is due to the general poor market organization and the death of market information. Seasonal price fluctuations in urban areas are expected to be lower than those in the rural areas. Urban centers have more varied sources of food supply and scarcity in one supplying area is often partially offset by supplies in other areas. Another reason is because elasticity of demand for food is believed to be higher in urban areas than in rural areas.

METHODS OF DATA ANALYSIS

Price data in both urban and rural market were used, secondary data from the Federal Office of Statistics and the Central Bank of Nigeria were used (Table 1). Since data of farm-gate prices are not readily available, the rural market prices of the producing area were used in lieu of this urban market prices (Table 2). This study considered the relationship between farm-gate and retail prices in Nigeria. For accuracy five cities are Lagos, Ibadan, Enugu, Kaduna and Benin. Foodstuffs used are yam, cowpea, guinea corn, onion, palm oil and rice. Price data for the years 1986 to 1996 were used.

MODEL SPECIFICATION

The major tool used is regression analysis to determine the relationship between farm-gate and retail prices. Farm-gate price was taken to be a function of retail prices. This is because in the long run demand is the dominant force in determination of prices. This means that food prices are determined at retail level what consumers are willing to pay. The model specified as follows:

$$P_f = a + bP_R$$

$$P_{ft} = a + bPR_{t-i}$$

Where i = 0, 1, 2, 3 months

P_{ft} = Farm-gate price at time t

P_{Rt} = Retail price at time t

P_{Rt-i} = Retail price at time t

The retail price elasticity of farm-gate price is given as:

$$\frac{\delta P_f}{\delta P_R}\,\frac{\overline{P}_f}{\overline{P}_R} = \frac{b\overline{Pf}}{\overline{PR}}$$

The estimation of elasticity coefficient is done at the mean price level because this point is on the line of the equation of $P_f = a+b_{PR}$.

CONCLUSION

For a marketing system to enhance the efficient allocation of resources, it is necessary that it conveys economic changes in the market to producers accurately and promptly. Producers, traders and consumers should have a knowledge of prices in different markets, at various stages of marketing channel for different qualities and for various season. The usual method of transmitting market information is through the world of mouth. The consequence of inadequate information are poor market price relationship and the occasional paradox of lower prices in the urban area relative to those in the rural food producing areas.

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