

Full Length Research Paper

Economic Analysis of Consumer Demand for Chicken Meats in Rural and Urban Household of Ondo State.

Toluwase, S.O.W and Kolapo, A

Department of Agricultural Economics and Extension services, Ekiti State University.

Correspondence Author's E-mail: sunday.toluwase@eksu.edu.ng, sowtoluwase@yahoo.co.uk

Phone No: +2348062294631

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The study investigated the consumer demand for chicken meat in the rural and urban household of Ondo state. The respondents were interviewed with the aid of a well-structured questionnaire. 120 respondents were purposively selected and used for the survey. The findings revealed that chicken meat is widely consumed among male (51.67%) and female (48.33%) and also an even distribution of age shows that chicken meat is being consumed by both youths and adults. The study also concludes that there's no religion implication on the consumption of chicken meat in the study area, as all the religions, Christianity (46.67%), Islam (40.83%), and traditional (12.5%) religions all consume chicken meat. The study revealed that the chicken meat consumers consume more of imported chicken (98kg/month) than the local chicken (22kg/month) in the study area which was largely attributed to price. The study also revealed the respondents' preferences for attributes of local and imported chicken which include price, taste, freshness, convenience and origin. The study shows that respondents' attributes of imported chicken are positively correlated for price, freshness, convenience and origin. The research established that own price, household size, respondents' income and price of close substitutes (price of turkey, price of fish, and price of cow hide) are important determinant factors that influence the demand for chicken meat in the study area.

Keywords: Chicken Meat, Demand, Logit and Regression Analysis

INTRODUCTION

The production and distribution of food in Nigeria as revealed by Onyeneke and Nwaiwu (2012), ascertained that food is not distributed equally among the households in Nigeria, this may be attributed to high level of poverty in some region of the country. Most households consume minimum level of calories but are unable to satisfy the protein requirements. Protein is an essential part of human diet and it is sourced from either plant or animal, generally plant products contain different ratios of amino acids and lower concentration than animal products (Britton, 2003). Animal proteins are said to be superior to plant proteins because they contain all amino acids needed in the body as opposed to plant proteins that have inadequacies in one or more of the essential amino acids (Oloyede, 2005). Hence animal protein is referred to as complete protein. Worldwide,

consumption surveys indicate that chicken is the second largest consumed meat (Pattison *et al.*, 2008; FAO, 2010; FAO, 2012). According to the FAO (2012), poultry accounts for approximately 33% of world meat intake, serving as the chief meat in consumer diets in many low to middle income countries. Overall, the outlook for global chicken consumption is optimistic as it is expected to increase along with population and income growth (Pattison *et al.*, 2008; Mengesha, 2012). However, the average urban consumer's taste and preferences surrounding chicken appear to be changing at a faster pace than domestic producers can match. Consumers now prefer convenient forms of chicken that are pre-cut or ready-to-cook or even ready-to-eat and of certain sensory characteristics. Chicken has been acknowledged as an important source of animal protein,

it contributes significantly to the survival and well-being of a large number of the people around the world. Chicken is known to be efficient converter of food for human consumption and saving children from kwashiorkor due to low protein intake and unbalanced diet and there is little or no religious restriction on its consumption (Dauda and Yakubu, 2013).

it has contributed immensely to the economy as it employs a good percentage of the active labor force in the agricultural sector (FDF, 2009). However, it worth being noted that consumption of chicken like other food products is not evenly distributed in Nigeria, according to Dauda *et al.* (2013) chicken consumption in Nigeria is only high in the Southern part of the country but very low in the northern part. Chicken supply in Nigeria is either through local productions or by importation (Anene *et al.*, 2010), but unfortunately far above this, half of chicken consumed in Nigeria is imported despite the ban on importation. Frozen chicken importation in Nigeria may still continue for some time because supply from local productions in

Nigeria has been erratic and on the decline in recent years (FDF, 2007) and the growth rate in Poultry productions is not yet sufficient for the ever increasing demand.

In Nigeria, Joseph, (2004) studied the 'foreign made poultry label' and consumer choice. The study found that consumers who attach much importance to poultry packaging, meat quality and expiry date are likely to choose US poultry label. The study concluded that since consumers who attach importance to country of origin do not necessarily choose US poultry label, the made in Nigeria label can be promoted if a reputation for quality and food safety can be earned. However, Kwadzo *et al.*, (2013) studying preference for broiler meat in Nigeria found that price of the meat continues to be an important attribute that influences the ordering of consumers' preference in purchasing chicken meat. Therefore, measures to improve the productivity of farmers as a means of reducing prices and increasing competitiveness continue to be needed.

This study looks into the following objectives:

- (i) Examining the socio-economic characteristics of the chicken consumers
- (ii) Attributes influencing rural and urban consumers' preference for Nigerian and imported chicken meat, using market data from sampled rural and urban consumers directly buying chicken.
- (iii) Investigate the economic and determinant factors responsible for the demand for chicken in the study area.

METHODOLOGY

Area of study

The area of study was Ondo state. Ondo state is

made up of 18 Local Governments Area. Akure is the state capital. The state lies between latitude 5°20" and 7°52"N longitude 4°20" and 60°E. Its total land area is about 15,000 square kilometers, the state is bounded by Edo in the East, North by Ekiti and Kogi State, in the west by Osun and Ogun States and in the south by Lagos State and the Atlantic ocean.

The climate of the State is tropical with two distinct seasons; the rainy season which usually occurs between April and October and dry season that starts from November to March. The temperature of the state throughout the year ranges between 21°C and 32°C. Annual rainfall varies from 2000mm in the southern part to 1150mm in the northern part.

Sampling technique and sample size

A multi-stage random sampling method was used for the selection of the respondents. In the first stage, two out of the four agricultural zones in Ondo State were randomly selected. Secondly, two Local Government Areas (LGAs) were randomly selected from each zone. At the third stage, three communities were randomly selected from each Local Government Area and 10 chicken consumers were selected from each community, making a total of 120 chicken consumers sampled.

Data collection and analysis.

The cross-sectional data used for this study were collected from primary source through the administration of well-structured questionnaires. The sampling techniques used in this study to select the sample was random sampling. 120 questionnaires were administered in the study area. Descriptive statistics and linear regression analysis were used to analyze the data. Linear Regression Analysis was used for estimating the relationship between the dependent and independent variables in order to estimate the determinants of the households' demand for chicken in Ondo State.

The regression model used is stated below;

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \dots e_i$$

Where

Y = Quantity of chicken demanded (kg)

X_1 = own price (Naira)

X_2 = price of fish (Naira)

X_3 = price of turkey (Naira)

X_4 = income (Naira)

X_5 = household size

X_6 = price of cow-hide (Naira)

RESULTS AND DISCUSSIONS

Table 1 reveals the socio-economic characteristics of the respondents. From the table, it shows that 51.67%

Table 1: Socio-Economic Characteristics of Respondents

Variables	Frequency	Percentage
Sex		
Male	62	51.67
Female	58	48.33
Total	120	100.0
Age		
17-30	37	30.83
31-40	48	40.0
41-50	19	15.84
51-60	10	8.33
>61	6	5.0
Total	120	100.0
Marital Status		
Single	37	30.83
Married	69	57.5
Divorced	14	11.67
Total	120	100.0
Educational Level		
No Formal Education	16	13.33
Primary Education	26	21.67
Secondary Education	58	48.33
Tertiary Education	20	16.67
Total	120	100.0
Religion		
Christianity	56	46.67
Islam	49	40.83
Traditional	15	12.50
Total	120	100.0

Source: Field survey, 2015.

and 48.33% were male and female chicken consumers respectively. This indicates that the demand and consumption of chicken do not depend on gender. Also from the table, the age distribution of the respondents ranges from 17-70 years. This indicates that chicken is equally consumed among young and elderly individuals. The demand for chicken does not necessarily depend on the age as it is widely consumed by adults and youths.

The marital status of the respondents revealed that majority (57.5%) were married, 30.83% were single and 11.67% were divorced. The even distribution of the demand for chicken does not necessarily depend on marital status as both single, married and divorced respondents consume chicken.

The findings show that majority of the respondents attended up to secondary school (72.5%), hence they are able to read and write.

Table 1 also revealed the religion of respondents. It shows that there is an even distribution of respondents religion with Christianity (46.67%), Islam (40.83%) and traditional (12.5%). This indicates that irrespective of religion, chicken is widely consumed in the study area.

Table 2 revealed the households' consumption of frozen foods. The table revealed that majority of the respondents consumed more of imported frozen foods than locally produce ones. This is due to the fact that

imported frozen foods are more available and cheaper than the locally produces frozen foods. A kilo of imported turkey is been sold for ₦1,200 while the same kilo of local turkey is been sold for ₦1,800. Also a kilo of imported chicken is been sold for ₦900 per kilo while the same kilo of local chicken is sold for ₦1500. The total kilogram of frozen foods been consumed monthly and their respective price were presented in table 2.

Table 3 revealed the respondents preference for attributes of local and imported chicken. Preference for chicken by the sampled chicken consumers was higher for imported chicken than local chicken. This gives an indication of growing preference for imported chicken. Also, the prices of chicken products vary depending on the type of chicken product and the market where the product is sold. The average price per kilogram of local chicken was consistently high although the price for some other broiler products was higher than that of the local chicken. Chicken consumers still patronized those imported chicken products that were more expensive than that of the local chicken. This gives enough grounds to say that price may not be the most significant factor influencing consumer preference for chicken products.

On the other hand, Taste of the local chicken has the greatest influence on the choice of Ghanaian chicken

over imported chicken. This is perhaps due to direct usage of the product after slaughter without it going
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Table 2: Households' Information on Monthly Frozen Food Consumption

FROZEN ITEMS	LOCAL		IMPORTED	
	Quantity (Kg)	Price (₦)	Quantity (Kg)	Price (₦)
Chicken	22	33,000	98	88,200
Turkey	19	34,200	136	163,200

Source: Field survey, 2015.

Table 3: Respondents' preference for attributes of imported and local chicken

Attributes	Local	Imported
Price	-0.022(0.015)	0.249(0.207)
Taste	0.305 (0.015) **	-0.044 (0.027)
Freshness	-0.353 (0.097)	0.338 (0.229)
Convenience	-0.665(0.741)	0.009 (0.012)***
Origin	-0.013 (0.041)	0.008 (0.015)

Log Likelihood Function 9.42
 Likelihood ratio (λ) 113.64
 ρ^2 72.5

Note: Figures in brackets are the t-values of the estimated regression coefficients.
 *** and ** represent 1% and 5% significance level respectively

Source: Field survey, 2015.

Table 4: Regression analysis of the Determinants of household demand for frozen chicken.

Variables	Coefficient	Std. Error	T-ratio
Constant	-0.217	0.145	-0.149
Own price	0.409***	0.143	2.860
Price of fish	-0.459	0.397	-1.156
Price of turkey	-0.369**	-0.186	1.984
Income	0.0123*	0.0068	0.095
Household size	0.0115***	0.0028	0.005
Price of cow-hide	0.4146	0.3361	0.988

$R^2 = 0.623$

Adjusted $R^2 = 0.584$

***, **, and * imply 1%, 5% and 10% level of significance respectively

Source: Field survey, 2015.

through any handling or storage process. On the contrary, the price, freshness, convenience and origin of the product reduce the preference or choice for local chicken. This is mainly because the price of local chicken per kilogram is slightly higher than that of imported chicken, partly due to lack of standardized price per unit weight of the product and high production cost. Unexpectedly, consumers perceive imported chicken to be fresher than local chicken. This is because freshness of the product is perceived to be influenced by the appearance of the product and the hygienic conditions under which it is sold.

Imported chicken; however, offers variety to meet varying consumer preferences. For instance, a consumer may be interested in the thighs and not the

wings or breast. In such a case, a consumer can purchase the part of the product preferred without having to waste money and time thinking of what to do with the rest of the product after using the preferred part as in the case of local chicken. Also, local chicken unlike imported chicken is not branded or labeled making it difficult for consumers to infer the origin of the product.

Table 4 above indicates that Monthly income is positively signed with coefficient of 0.065, this indicated that chicken is a normal good in Ondo State. This result agrees with findings of Delgado *et al.* (2003), that the demand for fish is positively related to income, that is, as people's purchasing power (disposable income) increases, they demand for more quantity of chicken with the knowledge of its nutritive value also increases.

The coefficient of household size (0.002) is also positive and highly significant. This is an indication that

increase in household size brings about increase in the population of family members that will consume chicken, thereby increasing consumption and demand (Joseph, 2004). Also prices of other close substituent including price of turkey, price of fish, and price of cow-hide determine the demand for chicken in Ondo State. The respondents tend to go for other close substitutes if price of chicken increases.

The R^2 of 0.623 indicates that about 62.3% of the variability in the demand for chicken is explained by the independent variables specified in the model.

CONCLUSION

The study revealed that the effect of price and non-price attributes on preference for local and imported chicken has been analyzed using an inferential analysis. This provides a clear description of the utility consumers obtain for price, taste, freshness, convenience and origin attributes of the products they purchase. The study showed that non-price attributes such as taste, convenience, freshness and origin can be more important than price as factors influencing consumers' preference for chicken meat in Ondo State. This has implications for chicken marketing in Ondo State as a whole as well as for the domestic chicken industry. Also, close substitute such as fish, turkey, cow-hide are major determining factors that influenced the demand for chicken in the rural and urban area of Ondo State.

RECOMMENDATIONS

1. In accordance with the findings, it is recommended that effort should be made by the government to encourage and fast track the production of local chicken at lower price so as to meet up with the ever increasing population in the study area.
2. Government should make strong and relevant policies on the ban on importation of frozen chicken and law enforcement agency should key into this law so as to be able to develop the local chicken production.
3. Sensitization program should be continually organized so as to educate the masses on the danger on the consumption of imported frozen chicken because of the preservatives being used.
4. Government should impose heavy tax levy on importation of frozen chicken to encourage local production.

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