Consumer Demand for Domestic and Imported Broiler Meat in Urban Ghana: Bringing Non-Price Effects into the Equation

Andrea E. Woolverton
Stephen Frimpong, International Institute of Tropical Agriculture
CONSUMER DEMAND FOR DOMESTIC AND IMPORTED BROILER MEAT IN URBAN GHANA: BRINGING NON-PRICE EFFECTS INTO THE EQUATION

Andrea E. Woolverton, Ph.D. 1
1Independent Agribusiness Consultant (Former Agribusiness Economist, FAO Rome, Italy)

Stephen Frimpong 2
2Research Assistant, United Nations University-Institute for Natural Resources in Africa

ABSTRACT: Ghana’s domestic poultry industry is one of many in West Africa that is seeking strategies to compete with imported poultry products. This study investigates if urban Ghanaian consumers are willing to pay for non-price attributes in poultry; hence, offering potential competitive niches. Consumer preferences in Accra, Ghana for domestic and imported chicken were studied using a choice based conjoint analysis. A total of 138 respondents who were directly purchasing broiler products were drawn randomly from both traditional and modern markets for inclusion into a revealed preference data collection. A conditional logistic regression model was used to estimate the part-worth of attributes of both domestic and imported broiler meat. The study reveals that purchase decisions are not entirely based on price, but also non-price attributes such as convenience, freshness and origin of the product. In the case of Ghana, consumers prefer imported chicken on the basis of convenience, as imported chicken is primarily offered as pre-cut pieces, and domestic chicken on the basis of taste and origin. The findings suggest that there is an opportunity to market domestic chicken on attributes in addition to price such as convenience and origin. To take advantage of this opportunity, investment in the domestic poultry industry is required, across the supply chain from processing to marketing.

KEYWORDS: Consumer Demand, Broiler Attributes, Choice Based Conjoint Analysis

INTRODUCTION

In the middle of rapid urbanization, income growth, changing work schedules, shifts in production technology and liberalized markets, chicken appears to have become a dominant affordable “convenience” food in many West African countries, following many developed countries around the world. The need for urban convenience emanating from increasing traffic jams, women who now double as caregivers and working mothers, limited leisure as well as conversion of residence kitchens into apartments due to increasing urban demand for accommodation is causing a change in consumer’s preference and demand.

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 appears 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. In many countries without import restrictions, price competitive imports are filling this demand.

Ghana is no exception. Rapid population growth and increasing incomes has created a higher demand for broiler meat already and more is to be expected in the wake of Ghana’s oil find and GDP per capita growth. The urban population increased from 23.3% in 1960 to 51.5% in 2010, according to the Ghana Statistical Service (GSS) (2012), and this trend according to the GSS will continue with more people residing in urban areas. Traditionally, chicken is sold as live birds in Ghana but changing urban lifestyle has compelled consumers to prefer processed imported broiler meat to local live birds. As shown in Figure 1, the proportion of imported chicken in aggregate broiler consumption in Ghana increased from 27% in 1989 to 63% in 2009, thus over a 20 year period. Yet, in an era of a global economy, retailers and wholesalers of Ghanaian chicken have failed to recognize the need to keep pace with changing consumer preference for broiler meat in order to boost demand (FAO, 2010).

While much attention has been devoted to trade liberalization and surging imports on the impact of demand for Ghanaian chicken, there are limited empirical studies on the changing consumer preferences for broiler attributes of the Ghanaian chicken. In contrast to well-developed poultry marketing studies of more developed economies, studies that have attempted to describe broiler attributes that the Ghanaian consumers prefer is only left with speculative and weak analysis and limited empirical evidence. The studies that exist for poultry in Africa indicate that non-price characteristics are increasingly important to domestic consumers. Hugo et al. (2009) studied the influence of dietary lipid sources on sensory characteristics of broiler meat in South Africa. Ojobho and Alufoha (2010) in studying the impact of price and total expenditure on food demand in South-Western Nigeria found that demand for food items in Nigeria is not much determined by prices but rather other factors such as ease of preparation, household characteristics and urban lifestyles.
In Ghana, Egyir et al. (2012) studied the ‘made in USA 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 Ghana label can be promoted if a reputation for quality and food safety can be earned. However, Kwadzo et al., (2013) in studying preference for broiler meat in Ghana found that price of the meat continues to be an important attribute that influences the ordering of consumers’ preference in purchasing broiler meat. Therefore, measures to improve the productivity of farmers as a means of reducing prices and increasing competitiveness continue to be needed.

As domestic Ghanaian chicken producers continue to compete with imported chicken which is often cheaper, this study looks further into attributes influencing urban consumers’ preference for Ghanaian and imported broiler meat using market data from sampled urban consumers directly buying chicken and a varying and rigorous methodological approach. The study also draws logical and coherent comparison of the attributes of imported chicken that consumers prefer but which the Ghanaian chicken may lack in order to develop remedial action aimed at improving consumer preference for the Ghanaian chicken.

Thus far, domestic producers have competed with each other and with imports on a price basis. Increasingly, urban consumer food demand in Ghana is differentiating from unprocessed foods.
toward processed and convenient forms. This research therefore hypothesizes that price is important, but attributes such as taste, freshness, convenience and origin are gaining prominence. But most domestic poultry producers are yet to respond to this unprecedented demand for change in preference for chicken attributes. The question for retailers, wholesalers and producers is not only how to remain competitive in the face of this rapid change, but how to anticipate it.

Efforts to overcome this industry development challenge posed by changing consumer preference begin with accurate measurement of key broiler meat attributes that consumers across the various market segments prefer. This is due to the fact that sensory evaluation is an integral part of product development and preference for a broiler product by consumers may depend on a successful combination of sensory properties such as taste, convenience, freshness or appearance, price, smell and texture. Therefore, the identification of consumers’ behaviour relating to food as well as their preference serves as a critical building block for improving chicken marketing in Ghana and developing broiler products that meet consumers growing expectation. It would also help in the design of policies and programs in meat processing and the targeting of interventions in the broiler industry as a whole. For the purpose of this study, broiler and chicken have been used interchangeably but both mean the same.

The study is relevant, particularly to Ghanaian poultry retailers, as consumer demand for Ghanaian chicken declines relative to imported poultry. Besides contributing to the existing literature on poultry marketing in West Africa, the study also offer applied marketing strategies to support domestic supplier and retailer competitiveness.

METHODOLOGY

Analytical Framework
The basic theory serving as the foundation for this study is the random utility and Lancastrian consumer model. Lancastrian consumer theory posits that the utility consumers derive from a good is equal to the combined utilities the individual derives from the attributes of that good (Loureiro and Umberger, 2007). Random utility theory, in line with neoclassical economic theory assumes that rational individuals maximize their joint utility from the consumption of a good, X, but assumes that the utility derived by the individual contains a random component unobserved by the researcher. For instance, underlying the demand function is consumers’ choice of goods and services that are most preferred. A consumer’s utility (U(X)) from a purchase of good X is thus dependent on the attributes of the products (Ladd and Zobe, 1977; Lancaster, 1971, van Ravenswaay and Hoehn, 1991), which can be tangible \( X_t \) or intangible \( X_s \) in nature. Consider a product \( X_1 \) offered at price \( P_1 \). There are \( N \) alternative products represented by vector \( X = (x_2, ..., x_n) \) offered at prices corresponding to vector \( P = (p_2, ..., p_n) \). The product \( x_1 \) contains \( W \) attributes, \( a_1 = (a_{11}, ..., a_{1W}) \); products \( x \) contain a matrix of attributes, \( a = a_{ij} (i = 2, ..., N, and j = 1, ..., W) \). Consumers purchase the product because of the consumption services provided by the attributes, such as taste, satisfaction of appetite, nutritional qualities, and ease of use. Services are expressed as:

\[
S = S_b (X_1, a_1, X, a), \quad b = 1, ..., B
\]
Where:

\( S \) is a vector of \( B \) consumption services. In this formulation, each product has the same set of potential attributes associated with it. However, the amount of each attribute varies with the specific product, and some attributes may be completely absent in some products. The consumer's utility function is represented by:

\[
U(X) = u(S_1, \ldots, S_k),
\]

Equation (2) is maximized subject to the budget constraint:

\[
P_i X_i \leq m
\]

This yields a demand function for \( X_s \) of the form:

\[
X_s = X_i(P_i, a_i, p, a, m)
\]

Substituting for services in the utility function and products in the service function yields the indirect utility function:

\[
V = v(p_1, a_1, p, a, m)
\]

**Model Selection**

Contingent valuation method (CV), hedonic price model (HP), and conjoint analysis (CA) approach are the three main approaches for measuring consumer preferences. In contrast to the CV and HP methods, conjoint analysis helps identify the factors that matter most to the different category of consumers that are included in the study by estimating the relative importance that each consumer attaches to a given factor in making a purchasing decision. It measures preference based on the utility of consumers (which according to the Marginalist is ranks), which is assumed to be a function of the product's attributes. The use of preference, rather than a monetary value makes strategic behaviour on the part of the respondent less likely. Therefore the conjoint analysis was more suited for the study and hence was adopted.

Ghanaian and imported broiler meat are the two common broiler meat found on the Ghanaian market. While imported chicken are processed, Ghanaian chicken are sold as live birds. The consumers made choices between the attributes of Ghanaian chicken and imported chicken. Five main attributes of broiler namely taste, price, convenience, origin and freshness were studied because they were the factors most commonly mentioned by consumers as influencing their purchasing decisions. This attribute list was developed based on discussions with consumer focus groups and pretesting as suggested by Baker and Crosbie (1993) and Baker (1999). The choice of attributes was also driven by the need to adequately and realistically describe the product, balanced by the need to reduce the number of factors so that the resulting survey instrument is relatively simple and brief.

Consumers choice of a product across the various markets, traditional and modern, was noted and represented as a dichotomous choice (Ghanaian chicken=1, otherwise = 0). To ensure realism as suggested by Kotri (2006), these consumers (who had previously revealed their preference by choosing and purchasing one of the two products) were made to rank the attributes of the chosen product. Four of the five attributes were explicited into two categories each based on the attributes of Ghanaian and imported chicken as; taste (tasty, not tasty), knowledge of product origin (Yes, No), convenience (Convenient, Not convenient) and freshness (fresh, not
fresh) and used in the estimation of part-worth together with the price per kilogram of broiler product.

Model Estimation Method

The study employed the conditional logistic regression model based on the random utility model and the revealed preference (choice) data. The expected utilities $u(x)$ was modeled in terms of characteristics of the alternatives. If $U_{in}$ represents a vector of characteristics of the n-th alternative, the conditional logit model may be specified as:

$$U_{in} = V_{in} + \varepsilon_{in}$$  \hspace{1cm} (6)

Where:

- $U_{in}$ is the utility that a consumer would receive from choosing the product n,
- $V_{in}$ is the deterministic portion of utility and $\varepsilon_{in}$ is the stochastic component of utility.

Consumers were not restricted from choosing any particular chicken product. However products generally could be classified into two categories, Ghanaian chicken or imported chicken. The probability of the consumer choosing any of the products is given by:

$$Pr\{n \text{ is chosen} \} = Pr\{V_{in} + \varepsilon_{in} \geq V_{im} + \varepsilon_{im}; \ \text{for all } m \in S_i\}$$  \hspace{1cm} (7)

Where:

- $S_i$ is the choice set for consumer i ($S_i$= Ghanaian chicken or imported chicken).

According to Maddala (1983), if the random errors in equation (7) are independently and identically distributed across the alternatives and N individuals with a Type 1 extreme value distribution and scale parameters equal to 1, the probability of consumer i choosing product n is given as:

$$Pr\{n \text{ is chosen}\} = \frac{\text{Exp}^{V_{in}}}{\text{Exp}^{V_{im}}}$$  \hspace{1cm} (8)

Conceptually, equation (7) is the general model used to examine the factors that influence a chicken consumer’s preference decision. Following Pouta et al., (2010) and Jaffry et al., (2004), preference for either Ghanaian or Imported chicken was estimated specifically as:

$$\text{Log} \left(\frac{U_i}{1-U_i}\right) = \alpha_0 + \alpha_1 \text{taste} + \alpha_2 \text{price} + \alpha_3 \text{fresh} + \alpha_4 \text{convenience} + \alpha_5 \text{origin} + \varepsilon$$  \hspace{1cm} (9)

Where:

- $U_i$ = the probability that a choice for broiler is made by chicken consumer (which is Ghanaian broiler or imported broiler product)
- $\alpha_0$ = a constant term
- $\alpha_1$-$\alpha_5$ = the coefficients of the explanatory variables
- taste = taste of the broiler product measured as a dummy (1 = tasty, 0 = not tasty)
- Price = price per kilogram of broiler meat (Ghanaian or imported);
- freshness = perceived freshness of the product measured as a dummy (1 = fresh, 0 = not fresh);
- Convenience = level of convenience associated with product use measured as a dummy (1 = convenient, 0 = not convenient);
- origin = knowledge of origin of the product measured as a dummy (1 = yes, 0 = no)
Marginal effects were post-estimated from the coefficients from equation (9). The model assumes no interactions between the variables. The relative importance $F_i$ of an attribute “i” was estimated as:

$$F_i = \left( \frac{Utility\ Range_i}{\sum Utility\ ranges\ for\ all\ attributes} \right) \times 100\% \quad (10)$$

**Data Collection**

The revealed preference data for imported and Ghanaian chicken used in the study was derived from actual market transactions. According to Ben-AKiva et al. (1994) as cited in Sattlet and Volckner (2002), because revealed preference data are based on actual purchases observed under realistic marketing mix conditions, a high degree of external validity can be assumed and the data do not suffer from over-bidding or under-bidding biases. The study was conducted in four chicken retail market outlets, comprising two traditional and two modern markets, in Accra, Ghana. The study focused on chicken consumers or shoppers of both live and processed poultry products in the markets. Primary data was obtained through the administration of both structured and open-ended questionnaires designed for chicken consumers through personal interviews in Accra. The survey design was pretested on a small sample in both traditional and modern markets to ensure that respondents would find the survey clear and easy to complete. Follow-up focus group discussions were held to ensure that respondents clearly understood their task and that their interpretation of the questions was consistent with the researcher's intent.

The multi-stage sampling procedure was employed for selecting individual respondents in the study. The first stage which involves the selection of markets (traditional and modern) was purposively done. Markets known to be the major shopping centers for poultry products were selected for this purpose. The second stage, which involves the selection of individual respondents (shoppers), was randomly done. Enumerators were positioned at various sales points within the market and randomly selected and interviewed consumers actually purchasing poultry products (Ghanaian or imported broiler products). Informed consent was obtained from respondents before questionnaire were administered. In all, 138 respondents were interviewed for the study.

**RESULTS**

**Socio-Economic Characteristics of Sampled Consumers**

Broiler marketing in Ghana can be segregated under two main market types based on product types sold in the market. These are the traditional markets and the modern markets. Traditional markets can generally be differentiated from modern markets as they are characterized by the sale of live birds. Modern markets only sell processed broiler products. Presented in Table 1 are the socio-economic characteristics of survey respondents grouped under the two main market segments. The average household size of all respondents is 4.5. The figure however was lower for respondents in the modern market. The per capita chicken consumption also varied across the
two identified market segments with respondents from the modern market consuming a little above their counterparts in the traditional market. The ages of respondents ranged from less than 26 years to over 60 years with most of the respondents falling in the age group of 26-45 years. But whiles it was common to find oldies shop for chicken in the modern market; this was not observed in traditional markets. The majority of respondents interviewed were mainly females. This finding of higher percentage of women in the sample is consistent with the expectation that shopping in Ghana and most developing countries is most frequently done by females in the household (IFAD, 2013). There are also variations in the percentage of women who shop in both markets. Whiles over 80% of people who shop for chicken in modern market are mainly women, less than 60% of sampled consumers in traditional markets were women. Majority of chicken shoppers are also married and ranges from 70-75% across the markets. The educational level of respondents is generally low for respondents in the traditional market contrary to those in modern market. Sampling also cut across respondents of varying income levels. The results from the table show that sampling was random as no superior group of people in terms of their income level was included or excluded in the data collection. But the trend of income distribution of respondents in traditional and modern market are generally inversely related as more people were in higher income category in modern market relative to traditional markets and vice versa. These socio-economic characteristics as well as the differences across the markets has important implication on chicken preference in an environment of changing work roles, urbanization, population growth and rising incomes.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Type of market</th>
<th>Overall (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Traditional (%)</td>
<td>Modern (%)</td>
</tr>
<tr>
<td>Mean household size</td>
<td>4.85</td>
<td>3.89</td>
</tr>
<tr>
<td>Mean per capita chicken consumption</td>
<td>0.46</td>
<td>0.47</td>
</tr>
<tr>
<td>Age distribution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 26</td>
<td>14.8</td>
<td>14</td>
</tr>
<tr>
<td>26-45</td>
<td>76.5</td>
<td>56.1</td>
</tr>
<tr>
<td>46-60</td>
<td>8.6</td>
<td>22.8</td>
</tr>
<tr>
<td>≥60</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>84</td>
<td>56.1</td>
</tr>
<tr>
<td>Male</td>
<td>16</td>
<td>43.9</td>
</tr>
<tr>
<td>Marital</td>
<td></td>
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</tr>
<tr>
<td>Married</td>
<td>74.1</td>
<td>70.2</td>
</tr>
<tr>
<td>Single</td>
<td>25.9</td>
<td>29.8</td>
</tr>
<tr>
<td>Level of education</td>
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<td></td>
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<tr>
<td>No education</td>
<td>6.2</td>
<td>-</td>
</tr>
<tr>
<td>Primary school</td>
<td>7.4</td>
<td>-</td>
</tr>
<tr>
<td>JHS</td>
<td>30.9</td>
<td>7</td>
</tr>
<tr>
<td>SHS</td>
<td>32.1</td>
<td>17.5</td>
</tr>
<tr>
<td>Training school/college</td>
<td>13.6</td>
<td>5.3</td>
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</table>
Segmentation of Chicken Marketing in Ghana

Chicken marketing in Ghana is highly segmented and differentiated. Modern markets generally sell only imported chicken products such as frozen chicken parts, chilled or ready-to-eat chicken products (see Figure 2) whiles traditional markets only sell Ghanaian chicken in the form of live birds as well as imported frozen chicken parts. Majority (52.6%) of the chicken consumers who shop in modern market prefer chilled chicken. Also, 24% of the shoppers in modern market prefer ready-to-eat chicken with only 15.8% going for imported frozen chicken parts. The rest of the chicken consumers who shop in modern market buy other products such as imported marinated chicken, whole dressed chicken and other chicken products.

In the traditional market, chicken consumers are generally shared between Ghanaian chicken and imported frozen chicken parts, commonly known in Ghana as ‘Akoko focks’, with 48.1% and 51.9% preferring Ghanaian and imported frozen chicken parts respectively. Overall, the most preferred product is imported frozen chicken part. Ghanaian chicken and chilled imported chicken are preferred by 28.3% and 21.7% of the consumers respectively. By aggregating the number of consumers who indicated their preference for imported and Ghanaian chicken in the entire study, it could be observed that preference for imported chicken account for 71.7% whereas only 28.3% preferred Ghanaian chicken.

<table>
<thead>
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<td>18.5</td>
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<td>201-350</td>
<td>17.3</td>
<td>5.3</td>
<td>12.3</td>
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<tr>
<td>350-500</td>
<td>23.5</td>
<td>5.3</td>
<td>15.9</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>501-700</td>
<td>22.2</td>
<td>12.3</td>
<td>18.1</td>
<td></td>
<td></td>
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<td>701-1000</td>
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<td>10.1</td>
<td></td>
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<tr>
<td>1501-2000</td>
<td>1.2</td>
<td>10.5</td>
<td>5.1</td>
<td></td>
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<td></td>
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<td>≥ 2000</td>
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<td>9.4</td>
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<td></td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
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</tbody>
</table>
Price Differentials of Ghanaian and Imported Chicken Products
Differences in the price per kilogram of Ghanaian and imported chicken products also exist. In the case of Ghanaian chicken, the average price per kilogram is GHC 9.1. For imported chicken, the prices vary depending on the product type. Imported frozen chicken parts is the cheapest whereas other products such as marinated chicken or whole dressed chicken is the most expensive broiler product on the Ghanaian market (see Figure 3). However, it is important to note that whereas Ghanaian chicken may be the most expensive chicken product on traditional markets, it is not the most expensive product on the Ghanaian market (comprising modern and traditional market).

Figure 2: Market Differentiation and Distribution of Consumers across Market Types
From Figure 4, the prices of Ghanaian chicken, and imported chicken products sold in modern market were consistently higher. This is because unlike the imported chicken products, Ghanaian chicken has no standardized price per kilogram of the products sold. Therefore the price of the product depends partly on the bargaining power of the consumer. Consistent with the findings in Figure 3 that the only imported broiler product sold on traditional markets is imported frozen chicken parts which is the cheapest of all products sold on the market, the price of imported chicken products sold on the traditional market was relatively lower.
The conjoint analysis and relative factor importance results for Ghanaian and imported chicken is summarized in Table 2. From the estimates, the most preferred attribute of the Ghanaian chicken is the taste as it has the highest utility estimate. The knowledge of product origin is the second most preferred attribute of the Ghanaian chicken. The least preferred attribute of the Ghanaian chicken is the convenience associated with the product use. On the contrary, the most preferred attribute of the imported chicken is the convenience which it provides to consumers. The taste however is the least preferred attribute of the product. The results further indicate that apart from the taste, consumers prefer the price, freshness, convenience and origin attributes of imported chicken than that of the Ghanaian chicken.

The results of the relative factor importance also suggest that the convenience attribute of a product is the most important factor consumers consider in making their purchasing decision. Perceived freshness of the product is the second most important attribute that influence consumers choice of a chicken product. This is followed by the taste and price with the origin being the least important factor.
Table 2: Preference for Attributes of Ghanaian and Imported Broiler

<table>
<thead>
<tr>
<th>Part-Worth of broiler products</th>
<th>Attributes/Variables</th>
<th>price</th>
<th>taste</th>
<th>freshness</th>
<th>convenience</th>
<th>origin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Part-Worth: Ghanaian</td>
<td></td>
<td>-0.113</td>
<td>0.1241</td>
<td>-0.6813</td>
<td>-2.3996</td>
<td>-0.0882</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.67)</td>
<td>(0.45)</td>
<td>(0.54)</td>
<td>(0.87)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Part-Worth: Imported</td>
<td></td>
<td>0.113</td>
<td>-0.1241</td>
<td>0.6813</td>
<td>2.3996</td>
<td>0.088198</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(0.67)</td>
<td>(0.45)</td>
<td>(0.54)</td>
<td>(0.87)</td>
<td>(0.47)</td>
</tr>
<tr>
<td>Relative factor importance (%)</td>
<td></td>
<td>3.32</td>
<td>3.64</td>
<td>20.00</td>
<td>70.45</td>
<td>2.59</td>
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</table>

Note: Figures in parenthesis are standard errors

DISCUSSIONS

Preference for chicken by the sampled chicken consumers was higher for imported chicken than Ghanaian chicken. This gives a snapshot 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 Ghanaian chicken was consistently high although the price for some other broiler products was higher than that of the Ghanaian chicken. Chicken consumers still patronised those imported chicken products that were more expensive than that of the Ghanaian chicken. This gives enough grounds to say that price may not be the most significant factor influencing consumer preference for chicken products contrary to the finding by Kwadzo et al. (2013) that price is the most important attribute influencing consumer preference for chicken in Ghana.

Taste of the Ghanaian 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 through any handling or storage process. On the contrary, the price, freshness, convenience and origin of the product reduce the preference or choice for Ghanaian chicken. This is mainly because the price of Ghanaian broiler 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 Ghanaian 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. Most traditional
market centers for Ghanaian chicken were unhygienic and the appearances of some of the birds were unhealthy, probably as result of protracted diseases, fatigue or poor feeding and maintenance of birds. Conversely, most shops for imported chicken were sold in serene and relatively hygienic environments, except a few shops in traditional markets. Another possible reason for this is that demand for imported broiler for most of the shops visited was high and so consumers of imported chicken presumed that stocks do not last longer and therefore the chicken they buy are fresher than the Ghanaian chicken considering their appearance and environment being sold. Other consumers of imported chicken were of the view that for imported chicken there is inspection and standardization requirements by the Food and Drugs Board and Ghana Standards Authority, and therefore only fresh chicken could have been imported unlike the Ghanaian chicken where standardization and inspection is limited. In the same vein, Ghanaian chicken is unprocessed and this left consumers with little or minimal level of convenience in the product usage.

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 Ghanaian chicken. Also, Ghanaian chicken unlike imported chicken is not branded or labeled making it difficult for consumers to infer the origin of the product.

CONCLUSIONS

The effect of price and non-price attributes on preference for Ghanaian and imported chicken has been analysed using a conjoint 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 findings show that non-price attributes such as taste, convenience, freshness and origin can be more important than price as factors influencing consumer preference for broiler meat in Ghana. This has implications for chicken marketing in Ghana as a whole as well as for the domestic chicken industry.

The study finds that, in an environment of rapid urbanization and surging incomes, broiler shop owners, sellers and producers will need to re-align their products to meet growing and changing consumer preference and demand. Government and other stakeholders should also work to improve the hygienic conditions of the environment where Ghanaian chicken are sold. Routine inspection of traditional markets, especially where domestic chicken are sold will also help to improve the hygienic conditions of the environment. In terms of improving the competitiveness of the local broiler industry, there is an opportunity to compete through improving domestic processing, packaging, and clear nutrition and product origin labeling. Demand for ready-to-cook, ready-to-eat, ready-cut or ready-to-heat is likely to increase with the growing urban lifestyle.
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REFERENCES


Corresponding author email: kafrimpong@yahoo.com/ woolverton.ae@gmail.com