

## **Determinants of fast-food consumption in Kampala, Uganda**

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### **Abstract**

Consumption of fast-foods in Uganda is becoming an increasingly important component of the food market as high income and busier consumers choose to dine out rather than prepare meals at home. Despite the importance of the fast-foods sector in providing market for various agricultural products, particularly Solanum potatoes, poultry products and beef, limited attempts have been made to study the consumption and expenditure behaviour of consumers of fast-foods. The main objective of this study was to identify factors influencing the consumption of fast-foods in Kampala, Uganda. Descriptive statistics showed that chips, chicken, sausages, meat and chaps were the most commonly consumed fast-foods. Poor nutritional value and high prices were the major reasons for non-consumption of fast-foods. Results from both the Probit and OLS models showed that most of the variables hypothesized significantly influenced the probability and level of fast-food consumption.

Key words: Fast-food consumption, Heckman model, Uganda

### **Résumé**

La consommation de « fast-foods » en Ouganda est devenue une composante de plus en plus importante du marché alimentaire comme un revenu élevé. Les consommateurs les plus occupés ont choisi de dîner en ville plutôt que de préparer des repas à la maison. Malgré l'importance du secteur des « fast-foods » dans la fourniture de marché pour divers produits agricoles, en particulier les pommes de terre Solanum, produits de volaille et de bœuf. Des tentatives limitées ont été faites pour étudier les comportements de consommation et les dépenses des consommateurs de « fast-foods ». L'objectif principal de cette étude était d'identifier les facteurs qui influent la consommation de fast-foods à Kampala, en Ouganda. Des statistiques descriptives ont montré que les frites, le poulet, les saucisses, la viande et le « chaps » sont les plus couramment consommés comme « fast-foods ». La faible valeur nutritive et les prix élevés ont été les principales raisons de non-consommation de f « fast-foods ». Les résultats à partir de

deux modèles, Probit et OLS, ont montré que la plupart des hypothèses variables ont influencé de façon significative la probabilité et le niveau de consommation de «fast-food».

Mots clés: Consommation de fast-food, le modèle Heckman, de l'Ouganda

## Background

Global food consumption patterns have dramatically changed in recent years. Besides America, globalization and increased per capita income (among other factors) are changing the eating habits of individuals in most parts of the world. One common consumption pattern that is shared by many countries is the increasing expenditure on food away from home (FAFH). The fast-food outlets have, however, surpassed the full-service restaurants as the main source of the FAFH (Guthrie *et al.*, 2002).

With a changing lifestyle and population growth in Kampala (estimated at a rate of 3.9% per annum (UBOS, 2002)) and the growing number of high value markets like fast-food outlets and supermarkets, fast-food consumption is expected to increase in urban areas (Okoboi, 2001). Given this change in food consumption patterns, there is need to determine the factors underlying the consumption of fast-foods as a means of informing up-stream enterprises in the value chain on how best to gainfully exploit this growing demand. The main objective of this study therefore was to establish factors influencing the consumption of fast-foods in Kampala district.

## Literature Summary

Global food consumption patterns have changed over time, and caused changes in per capita food consumption. This is evident in the growth of the Food Away From Home (FAFH) market segment which has become very popular in recent years (Kant and Graubard, 2004). Many scholars have attributed the growth in the FAFH market to socio-economic/ demographic factors such as income, age, gender, household size, time value, education level, among others. This study focuses on fast-food consumption, a segment of the FAFH.

## Study Description

Kampala district was purposively selected because it is the most urbanized town in Uganda with high demand for agricultural products especially livestock (Nyapendi *et al.*, 2004). It also has a large population (UBOS, 2002) with the biggest number of fast-food outlets, making it representative of the urban setting for the study. Secondly, Central, Kawempe and Nakawa

divisions of Kampala were then randomly selected. Primary data were collected using a cross sectional survey of 300 respondents and analyzed using STATA. Heckman model was applied to analyze the probabilities and levels of expenditure on fast-foods.

**Model specification and estimation.** Zero consumption occurs in most FAFH studies. In order to correct this problem in fast-food consumption, Heckman's two-step estimation procedure as suggested by Heckman (1979) was applied. Probit regression was computed in step one to give the estimated probability that a given household participates in fast-food consumption. This regression was used to estimate the Inverse Mills Ratio ( $\lambda$ ) for each household, which was then used in the second regression which involves estimation of the levels of expenditure on fast-foods.

The probit (participation) model estimated is specified as:

$$Y_i = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + e \dots\dots\dots(1)$$

Where  $Y_i$  = Probability of consuming fast-food (1=fast-food consumption, 0 = Otherwise),  $\beta_0$  = Intercept,  $X_1$  = Disposable monthly income (Uganda shillings),  $X_2$  = Age (Years),  $X_3$  = Household size (Number of family members),  $X_4$  = Education Level (Years in school),  $X_5$  = Occupation (1=Formally employed, 0 = Otherwise),  $X_6$  = Distance from work place to restaurant (Kilometres),  $X_7$  = Gender (1=Female, 0=Male),  $X_8$  = Time spent away from home (Hours),  $X_9$  = Marital status (1 =Married, 0 =Otherwise),  $\beta_{1-9}$  =Coefficients associated with the independent variables,  $e$  = Error term.

The model for expenditure is specified as:

$$E_i = \alpha_0 + \alpha_1 w_1 + \alpha_2 w_2 + \alpha_3 w_3 + \alpha_4 w_4 + \alpha_5 w_5 + \alpha_6 w_6 + \alpha_7 w_7 + \alpha_8 w_8 + \alpha_9 \lambda + \varepsilon \dots\dots\dots(2)$$

Where  $E_i$  is Level of expenditure on fast-foods (Uganda shillings),  $\alpha_0$  is intercept,  $w_{1-7}$  is a vector of explanatory

variables as in Probit model excluding occupation and marital status that were dropped due to collinearity.  $\varepsilon$  is the error term,  $\alpha_9$  is income squared,  $\alpha_{1-8}$  are coefficients associated with the explanatory variables,  $\alpha_\lambda$  is coefficient associated with the Inverse Mills Ratio,  $\lambda$  is Inverse Mills Ratio (IMR) calculated from the probit results of the first step. Using data from the participants only, the OLS model with IMR included as a regressor is estimated to determine the impact of the independent variables on the level of fast-food expenditure.

### Research Application

Results in Figure 1 show that chips, deep fried chicken, sausages, deep fried meat and chaps were the main fast-foods consumed in Kampala district.

Figure 1. Major types of fast-foods consumed in Kampala District.

The tasty and convenient characteristics of fast-foods were the main reasons for their consumption. Other reasons stated include; social events and existence of fast-foods in a wide variety. Poor nutritional value, high price and serious health complications such as high blood pressure, obesity and heart diseases were the common reasons for non-consumption of fast-foods.

Results from the Probit and OLS models (Table 1) showed that age, household size and education level negatively influenced

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**Table 1. Probit and OLS model estimates of the determinants of fast-food consumption.**

Variable	dy/dx	Probit		OLS		
		Z	p-value	coefficient	t- value	p-value
Age	-0.002	-1.86	0.063*	-560.493	-1.91	0.057*
Distance from work place to restaurant	-0.011	-1.36	0.173	-9050.688	-2.07	0.040**
Time spent away from home	0.005	1.66	0.097*	3220.739	3.04	0.003***
Household size	-0.006	-1.80	0.072*	-2189.533	-1.94	0.053*
Occupation	0.005	0.50	0.615	-	-	-
Education level	-0.005	-1.79	0.074*	-1742.163	-2.81	0.005***
Gender	-0.013	-1.08	0.278	-3777.158	-0.83	0.407
Marital status	-0.009	-0.68	0.497	-	-	-
Disposable income	2.080	1.84	0.066*	0.052	9.62	0.000***
Income2	-	-	-	-5.18	-4.26	0.000***
Inverse mills ratio	-	-	-	18511.1	1.93	0.055*

\*, \*\*, \*\*\* Significant at 10%, 5% and 1% respectively.

the probability and level of fast-food consumption. These results tally with those of McCracken and Brandt (1987), Fanning *et al.* (2002) Akbay *et al.* (2007) who noted a negative relationship between age, household size and education level of the consumer and fast-food consumption. On the other hand, disposable monthly income and time spent away from home had a positive effect on the probability and level of expenditure on fast-foods. This is consistent with results from McCracken and Brandt (1987) and Huang *et al.* (2007) who noted a positive and significant effect of time spent away from home and income on the participation and expenditure level of FAFH. Income squared and distance from work-place to restaurant on fast-food expenditure was negative and significant implying that income squared had a non-linear relationship with expenditure on fast-foods. A significant IMR implied that an estimation bias would have occurred had fast-food expenditure been estimated without considering the decision to consume fast-foods.

## Recommendation

Chips, chicken, sausages, meat and chaps were the major fast-foods consumed by people in Kampala district. Thus, policies supporting the production of Solanum potatoes and livestock products and linking producers to fast-food outlets can contribute to the development of agricultural sector and also improve the livelihoods of small-holder farmers in Uganda.

The health conscious are less likely to consume fast-foods and when they do, they spend less due to the health complications

associated with consumption of fast-foods. This is likely because fast-foods are considered to be low in several important nutrients but high in calories, fat and cholesterol (Guthrie *et al.*, 2002). The policy implication is that fast-food outlets should address these concerns in preparation of fast-foods to attract the health conscious to spend more on fast-foods. Also, policies supporting production of agricultural products like reduced-fat dairy products, lean meat, fruits and vegetables (which can be used by fast-food outlets) can contribute to the development of healthier fast-food products.

### Acknowledgement

This study was supported by the funding from the Regional Universities Forum for Capacity Building in Agriculture (RUFORUM) as part of the first author's M.Sc. study.

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