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PREFERENCES FOR BAKERY PRODUCTS AMONG URBAN RESIDENTS IN UGANDA

PREFERENCJE NA WYROBY PIEKARNICZE WŚRÓD KONSUMENTÓW MIEJSKICH W UGANDZIE

Key words: wheat, cassava, survey, bread, cookies

Słowa kluczowe: pszenica, maniok, badania ankietowe, chleb, herbatniki

Abstract. Using the household survey data collected in five urban centers of Uganda, the article describes and analyzes preferences regarding bakery goods and the traditional source of starch – cassava. Bakery goods made from mostly imported wheat are better known to urban than rural residents because of the difference lifestyle and consumption pattern. Growing demand for processed foods requiring less preparation reflects the growing incomes, creates opportunities for market expansion for bakery products. Survey summary results indicate regional differences in bread and roll, biscuit and cookie, and pancake consumption frequency, and fried and boiled cassava, with markedly higher frequency consumption in the capital city of Kampala. Consumers from larger household or older consumers rather than those from smaller households or younger were characterized by a higher likelihood of higher bread and roll consumption. Married consumers, in turn, had a lower likelihood of frequent bread and roll consumption than households of non-married consumers. He latter is consistent with expectations regarding households in developed countries where the demand for convenience is particularly strong. Income had a negative effect, but the magnitude of coefficient was practically equal to zero. The bread and roll consumption frequency increased in towns as compared to Kampala suggesting the potential for market expansion in other parts of Uganda. It is expected that with the increasing urbanization and life style changes the likelihood of bread and roll consumption will continue to increase.

Introduction

Urbanization influences the food consumption and changes food preferences of the population that even recently might have been living in rural areas. Much of the changes in food consumption is induced, among others, by different living conditions including the housing type and density, type of work and work place location, transportation access, and socializing. However, a very important factor is access and availability of foods that are rare or unavailable in rural areas. In many countries of Sub-Saharan Africa, wheat flour and baked goods have become highly desired food products. Given the climatic conditions, wheat or wheat flour has to be imported. Among few African countries where the climatic and soil conditions permit what production is Uganda. In 2010 the country produced 21,500 tons of wheat [GeoHive 2012].

Uganda's urban population is concentrated in the capital Kampala and a number of towns scattered throughout the country. Uganda's urban population has been growing at 4.4-4.5% between 2006 and 2010 and represented 12% in 2005 [NationMaster.com 2012].

Baked goods have become popular in Uganda because of their taste and convenience. Baked goods are, however, relatively more expensive. Residents of Kampala, where the average resident has income higher than in other towns, have shown preference for bakery products over traditional items. The urban demand for bakery products creates opportunities for the local bakery sector and food distributors. The expected growth in incomes, despite the recent slowdown due to the global financial crisis and its effects, will enable a wider group of consumers to purchase such products. The convenience of baked goods as compared to traditional products, such as cassava, competing on the menu is an important attribute.

This paper reports on the preferences for bakery products and establishes profiles of consumers frequently eating bread or buns, and illustrates bread consumption in the context of cookie, and boiled or fried cassava consumption. The profiles take into account the economic and socio-demographic characteristics and location. Because of the regional disparities in incomes and diversified ethnicity, the spatial differences in consumption are relevant from the standpoint of locating a bakery and distribution. In addition, policymakers gain insights about the evolving food consumption patterns. The increasing demand for wheat has potential implications for domestic agriculture and trade, and, even for the assessment of the nutritional status of various population groups.

The data

The unavailability of information about the bakery good preferences led to the design and implementation of consumer survey. The survey instrument was developed through a collaborative effort of domestic and foreign researchers and pre-tested in October 2010 in Kampala following the enumerator training. The survey data were collected between April and June of 2011 in Kampala, Lira, Gulu, Soroti and Mbale. A total of 1,641 questionnaires were completed. The survey was implemented by a private market research firm selected through the bidding process. The enumerators interviewed in person a household member and, depending on location, they were fluent in local languages or dialects.

The average age of the respondent was 35 years and the average household size was 5.48 persons. Compared to the typical American respondent, the interviewee was young and the household size much larger. About 69 percent of respondents were married and 72 percent were women. Only about 13 percent were contract or permanent employee, that is respondents who were paid regular monthly wages. The remaining respondents faced more uncertainty with regard to income and included farmer, self-employed and retired individuals.

The baked good consumption

Dietary preferences are linked to locally raised foods. However, diets tend to gradually change in societies that are exposed to outside influences. In Uganda, like in many other African countries, consumers have been exposed to foods made with ingredients not indigenous to the region. Although cassava has been widely grown in Uganda, wheat has been a relatively new crop and can be grown only in western Uganda at the elevation above 1,500 meters. The domestic production level is reflected in per capita consumption of the two crops, which amounted to 7 kg of per capita wheat consumption versus 132 kg of per capita consumption of cassava [Hagglblade, Dewina 2010], respectively. However, cassava is eaten in various forms, while wheat is used as an ingredient in bakery products. Cassava contributes 13% of daily calories and wheat only 25 of calories to the daily diet [FAO food...2009]. But, the consumption pattern in urban areas likely differs and the relative importance of wheat is higher than its average contribution.

Table 1 shows the consumption frequency of bakery products and fried or boiled cassava reported by the surveyed respondents. Bread or buns were eaten more frequently than boiled or fired cassava in spite a high difference in the high per capita consumption. Their frequency consumption contrasted with the infrequent consumption of cookies or biscuits. Although preferences may play a role, the budget constraint is likely a major contributing factor. The per capita PPP income was \$1,290 in 2010, but the average household income of the interviewed urban respondents was relatively higher. Moreover, the local living costs vary across the cities, with Kampala being relatively more expensive than other considered locations.

Kampala residents ate bread and buns quite often, while Gulu and Soroti residents reported eating the items least often (Tab. 1). Gulu is a city that only recently has been enjoying a relative economic prosperity after a period of civil unrest due to the war in Southern Sudan, which disrupted normal economic activity including trade. However, reasons behind the observed behavior on consumers in Soroti are less obvious and may simply reflect the regional preferences.

The formulation of the question in terms of consumption frequency suggest the ordinal nature of responses. The specified dependent variable is ordinal suggesting the use of an ordered probit estimation technique as the suitable approach. The technique has been applied in empirical food preference studies in the past. The studies are based on the link between preferences and attitudes and the actually observed food choices. Preferences and attitudes are shaped by demographic and socio-economic consumer characteristics. They commonly include age, gender, family size, education and income. In the case of this study, because of the diversified ethnic composition of the Ugandan society and differences in food consumption traditions, the location is considered relevant. A binary variable is often used to capture the location effects on the dependent variable. Ultimately, the specified empirical equation included the respondent age, gender, family size, income, employment type, and location; in the latter case the omitted location is Kampala to avoid specification problems and because it is the largest among the considered cities and the market where bread and buns are eaten most often.

Results

A single equation model was estimated using the order probit technique. Table 2 shows the estimation results. The statistical significance of the intercepts associated with the ordinal character of the dependent variable indicate the appropriateness of the applied approach. The positive influence of age on the bread or bun frequency consumption is interesting in the sense that, given the lack of basis for comparison of similar countries (while the comparison to developed countries in the temperate zone is irrelevant), it suggests the evolving preference for bread over the consumer lifetime. Although the taste

Table 1. Frequencies of eating baked goods by residents of selected cities in Uganda based on the household survey implemented in 2011*Tabela 1. Częstość konsumpcji wyrobów piekarniczych w wybranych miastach Ugandy w oparciu o badania ankietowe przeprowadzone w 2011 r.*

Area/Product	Frequencies of eating baked goods/ Częstość konsumpcji wyrobów piekarniczych [%]			
	not at all/ <i>wcale</i>	not often/ <i>rzadko</i>	often/ <i>często</i>	very often/ <i>b. często</i>
All cities/Wszystkie miasta				
Bread or buns/ <i>Chleb lub bulki</i>	2.4	15.1	29.3	53.2
Cookies/ <i>Ciastka</i>	41.9	35.0	18.8	4.4
Biscuits/ <i>Herbatniki</i>	21.4	40.6	30.6	7.5
Pancakes/ <i>Naleśniki</i>	16.8	27.3	39.8	16.0
Cassava/ <i>Maniok</i> :				
– boiled/ <i>gotowany</i>	4.4	14.4	31.4	49.9
– fried/ <i>smażony</i>	5.1	17.8	33.8	43.3
Kampala				
Bread or buns/ <i>Chleb lub bulki</i>	0.6	10.3	24.4	64.7
Cookies/ <i>Ciastka</i>	34.7	44.0	16.7	4.6
Biscuits/ <i>Herbatniki</i>	26.1	44.4	25.1	4.4
Pancakes/ <i>Naleśniki</i>	18.1	26.0	41.6	14.4
Cassava/ <i>Maniok</i> :				
– boiled/ <i>gotowany</i>	5.1	17.1	33.9	43.9
– fried/ <i>smażony</i>	4.4	13.9	35.4	46.3
Gulu				
Bread or buns/ <i>Chleb lub bulki</i>	2.5	21.0	45.5	31.0
Cookies/ <i>Ciastka</i>	50.5	34.5	13.0	2.0
Biscuits/ <i>Herbatniki</i>	5.5	29.5	50.5	14.5
Pancakes/ <i>Naleśniki</i>	7.0	29.0	38.0	26.0
Cassava/ <i>Maniok</i> :				
– boiled/ <i>gotowany</i>	3.0	9.0	32.5	55.5
– fried/ <i>smażony</i>	6.0	37.0	28.0	29.0
Lira				
Bread or buns/ <i>Chleb lub bulki</i>	6.5	18.0	24.5	51.0
Cookies/ <i>Ciastka</i>	50.3	24.9	22.9	2.0
Biscuits/ <i>Herbatniki</i>	8.1	32.8	39.9	19.2
Pancakes/ <i>Naleśniki</i>	11.7	22.5	36.7	29.1
Cassava/ <i>Maniok</i> :				
– boiled/ <i>gotowany</i>	1.0	3.6	10.2	85.2
– fried/ <i>smażony</i>	8.1	17.8	20.1	54.0
Mbale				
Bread or buns/ <i>Chleb lub bulki</i>	5.0	24.5	33.5	37.0
Cookies/ <i>Ciastka</i>	37.0	25.5	29.5	8.0
Biscuits/ <i>Herbatniki</i>	28.8	35.9	28.8	6.6
Pancakes/ <i>Naleśniki</i>	25.1	32.7	34.2	8.0
Cassava/ <i>Maniok</i> :				
– boiled/ <i>gotowany</i>	4.1	17.0	37.6	41.2
– fried/ <i>smażony</i>	4.6	15.9	47.0	32.6
Soroti				
Bread or buns/ <i>Chleb lub bulki</i>	3.5	16.9	34.3	45.3
Cookies/ <i>Ciastka</i>	60.3	17.1	18.1	4.5
Biscuits/ <i>Herbatniki</i>	23.5	48.0	26.0	2.5
Pancakes/ <i>Naleśniki</i>	18.2	30.8	42.9	8.1
Cassava/ <i>Maniok</i> :				
– boiled/ <i>gotowany</i>	6.5	16.4	34.3	42.8
– fried/ <i>smażony</i>	4.7	13.3	38.0	44.0

Source: own study

Źródło: opracowanie własne

for cassava is acquired early in life, the preference for bread is learned by many, especially new, urban residents. The difference in bread consumption between genders is another important empirical outcome because it suggests that distributors and marketers should explore opportunities by marketing to a specific gender. The positive influence of family size is an indication of possible demand for convenience among urban families in Uganda. It is easier to prepare, for example, an open face sandwich for breakfast than to cook porridge, especially if cooking fuel is relatively expensive and requires handling skills (e.g., cooking with charcoal). Eating bread with peanut paste negatively influenced the bread consumption frequency. The results is somewhat unexpected and requires further investigation.

The employment status also positively influences bread and bun consumption. The effect likely reflects the nature and location of the job, which indirectly influence consumption choices. Bread consumption may imply the status and such position of bread in the diet could offer marketing opportunities. Further investigation is needed to fully address this issue.

Respondents income had a negative influence on the bread consumption frequency, the effect is unexpected, but the associated coefficient has the value of zero suggesting no real effect on the consumption frequency probability. The effect requires further analysis to discern reason between the reported directional effect of the income variable. Income, as mentioned earlier, is highly uncertain for many consumers and, therefore, the question posed to respondents inquired only about the income earned in the month preceding the survey. For farmers or self-employed the income likely fluctuates substantially from month to month and the variability could be behind the observed effect.

The location matters. Being a resident in any city outside Kampala positively influenced the bread consumption frequency. Although this is encouraging, to explore such opportunity may pose some challenge in the short run because of the input availability and the production capacity. Also, prior to investment, the sustainability of demand and ability to purchase will need a close scrutiny, which is outside the scope of this study.

Concluding comments

The demand for wheat products including bread and buns is increasing in areas that traditionally have consumed such items in a very limited volume. The example of Uganda presented in the current study shows the potential for increased sales in urban areas. The demand for bread is stimulated by the demand for convenience and in this aspect resembles the characteristics of demand in developed economies located in the temperate zone. The demand for bread can be expected to increase with the increasing urbanization because of the changing lifestyle associated with urban areas, employment, shopping and consumption. Family size, age and employment type are relevant factors positively influencing the consumption frequency. Although Kampala because of its size and dense populated areas remains the primary market for bread, towns in other parts of the country offer opportunities to expand.

Table 2. The order probit estimate results of the equation modeling bread or buns consumption frequency in selected cities in Uganda in 2011

Tabela 2. Wyniki obliczenia metodą a probitową równania modelującego częstość konsumpcji chleba lub bułek w wybranych miastach Ugandy w 2011 r.

Variable name/ Zmienna	Estimated coefficient/ Współczynnik	Chi-square value/ Wartość chi-kwadrat
Intercept/Stala	-2.3979	118.51 ¹
Intercept2/Stala 2	1.1503	214.58 ¹
Intercept3/Stala 3	2.0877	618.42 ¹
Age/Wiek	0.0063	5.12 ¹
Gender/Płeć	0.1962	6.83 ¹
Marital status/ Stan cywilny	-0.1757	6.09 ¹
Income/Dochód	-0.0000	2.63 ¹
Family size/ Wielkość rodziny	0.0048	0.19
Employment status/ Zatrudnienie	0.0067	0.01
Eating peanut paste on bread/ Smarowanie kromki masłem orzechowym	-0.2008	42.34 ¹
Lira	0.5605	31.07 ¹
Gulu	0.8054	59.53 ¹
Soroti	0.4135	17.01
Mbale	0.5447	24.57

¹ Implies significance at 0.01 level/Zmienna znacząca na poziomie 0.01

Source: own study

Zródło: opracowanie własne

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Streszczenie

Na podstawie badań ankietowych w gospodarstwach domowych w pięciu ośrodkach miejskich Ugandy dokonano opisu i analizy preferencji wyrobów piekarniczych oraz tradycyjnych źródeł skrobi – manioku. Wyroby piekarnicze w oparciu głównie o importowaną pszenicę są bardziej znane mieszkańcom miast niż wsi. Rosnący popyt na produkty żywnościowe wymagające mniejszego przygotowania stwarza możliwości poszerzenia rynku na wyroby piekarnicze. Wyniki badań ankietowych wskazują na różnice regionalne w częstotliwości konsumpcji chleba, bułek, ciastek, herbatników i naleśników oraz gotowanego i smażonego manioku, z wyraźnie wyższą częstotliwością konsumpcji w stolicy kraju – Kampali. Członkowie starszych i wieloosobowych rodzin częściej konsumowali chleb i bułki niż młode rodziny i o mniejszym składzie osobowym. Ze względu na stan cywilny związków, małżeństwa rzadziej dokonywały zakupu chleba lub bułek, co jest zgodne z oczekiwaniami gospodarstw domowych w krajach rozwiniętych, w których popyt na produkty „oszczędzające czas” jest wyjątkowo duży. Wysokość dochodu rodziny nie miała istotnego wpływu na częstotliwość zakupu pieczywa. Częstotliwość konsumpcji chleba i bułek była większa w pozostałych badanych miastach w porównaniu do Kampali, co wskazywało na potencjalne możliwości poszerzenia rynku wyrobów piekarniczych w innych częściach Ugandy. Można oczekiwać, że wraz z rosnącą urbanizacją i zmianami w stylu życia konsumpcja chleba i bułek będzie wzrastała.

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