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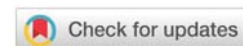
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Review Article

Economic Survey of Household Expenditure Pattern during COVID-19 Pandemic in Ogun State, Nigeria

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Abstract

The research investigated the expenditure patterns of rural households in the Nigerian state of Ogun. The precise aims of this study are to ascertain the determinants that influence the weekly expenditure on food within the household and to estimate the total amount spent on food. A simple random sampling method was employed to ascertain the 480 rural households that comprised the study area. The interview schedule was employed to obtain essential data from the participants in the study area, including age, marital status, and food expenditure. The descriptive statistics and Ordinary Least Square (OLS) regression were used to determine the determinant of the quantity spent on food in the households of respondents in the study area. Descriptive statistics indicate that 55.0% of the respondents are married, 75.0% have completed formal education, and the mean age, household size, and monthly income are estimated to be 45 years, 6 individuals, and ₦49,500.50, respectively. The majority of participants (66.67%) reported spending less than ₦20,000.00 on food. The estimated mean expenditures for food consumed at home and while away from home were ₦17,544.60 and ₦16,700.55, respectively. Household food expenditure is significantly and positively influenced by household income ($p < 0.01$), the age of the household head ($p < 0.1$), household size ($p < 0.01$), and occupation ($p < 0.05$), according to ordinary least squares regression. Food expenditure was significantly influenced by household income, household size, and the age of the household chief, according to the findings of this study. Policy consideration should be given to the price control mechanism for food so that it is more affordable for rural residents, according to the study.

Introduction

Households have different levels of spending capability, which determines their spending habits. According to Engel's rule of expenditure, the share of spending on food is inversely linked to total income [1]. According to [2,3], the type and patterns of food spending reflect the socioeconomic characteristics of families. A household's relative food expenditure is an accurate measure of vulnerability. It depicts a household's ability to withstand price rises while yet being productive by investing in health care, education, tools, and other productive assets for its members. Households that spend more than 65% of their total expenditure on food are vulnerable in this regard because such a high percentage implies that the household is forced to choose between meeting their food and non-food needs or reducing consumption of one or both to below their needs [4].

Households have different levels of spending capability, which determines their spending habits. According to Engel's rule of expenditure, the share of spending on food is inversely linked to total income [4]. The level of household income is often a major determinant of expenditure patterns of households, and hence differences between patterns of expenditure are largely a reflection of differences in income between household groups or individual households [5,6]. According to [7,8], poverty in developing countries such as Nigeria manifests itself in a variety of ways, including low nutritional status, low levels of education, decreased spending on social services, a high percentage of household income spent on food, low levels of savings, low levels of investment, and low levels of productivity. Thus, research on family income and spending is critical to resolving the country's poor problem. Also [1,9], saw the overall impact of household size on spending as a mixture of two effects: 'a specific effect' and a 'income effect'.

The 'specific impact' stems from a rise in the demand for numerous goods when family size grows. Because of economies of scale in big families, the increase in need is often less than the rise in size [10]. On the other hand, increasing family size does not raise the demand for every item in the same amount, and may even lower the need for some. The 'income impact' refers to how an increase in family size causes individuals to be comparatively poorer. Previous studies that have evaluated household expenditure concluded that food is important in household expenditure because of the amount of income dedicated to food [10].

They further submitted that, for most households spending on food is the largest expense followed by housing (rent, mortgage payments, opportunity cost, or implied rent), but for richer households, it comes second after housing expenditure [10]. Households with lower incomes spend a greater proportion of their income on food, leaving less for education, housing, and transportation. Tangka, et al. (2002) opined that the level of poverty in Nigeria is on the increase due to low levels of income, high cost of food products as well as the inadequate production of food by farmers, and lack of capital to establish on a large scale. Several studies have been undertaken on different drivers of food expenditures, including socioeconomic and demographic variables. Additionally [9,11] investigated the variables that influence rice, fish, and meat expenditures in the SSA. Their results indicated that income and household size are important factors affecting the amount of money spent on the three examined food items and that the expenditure on the three examined food items was not highly responsive to changes in households' incomes.

Problem statement

Food consumption and spending studies have been extensively researched in both developed and developing countries [12,13]. They contribute significantly to food and nutritional policy efforts by estimating how food consumption will vary in response to changes in prices, earnings, and taxes. The national spending figures in Nigeria indicate a rise in the percentage of food expenditure to total household expenditure [14]. According to the Central Bank of Nigeria, this was at a 70% rate [15], placing many Nigerians in the difficult position of having neither the resources to produce food nor the money to acquire it. All of these are strong indications that a large number of individuals are frequently entering the ranks of those who are hungry, famished, and malnourished, implying that the nation is plagued by a high degree of food insecurity, with Kogi and Kwara states not immune. National food spending figures reveal that food accounted for about two-thirds of total expenditure in 2004. By 2010, this food share had increased by roughly 10%, while it had decreased from 2004 to 2006. The next four years, 2007-2010, saw another 5% decline. The statistics were 63.4%, 74.1%, 72.8%, and 63.6% in 2007, 2008, 2009, and 2010, respectively.

The proportion of a household's overall food expenditure indicates the likelihood of future food insecurity. A family that spends more than 70% of its income on food will be more vulnerable in the event of a job loss, natural catastrophe, illness

onset, or pricing policy change [10]. Many individuals believed that food insecurity was becoming more concentrated in certain areas or groups within Nigeria, necessitating a greater demand for sub-national information. Household income and expenditure surveys (HIES) are used to collect data on a wide range of particular conditions, experiences, and behaviors that indicate the severity of the condition. They provide policy-relevant metrics for monitoring and tackling the incidence of food insecurity at the regional or national levels. However, data collection and calculation are time-consuming, expensive, and need technical skills, and they cannot detect disparities in food availability among persons within a family [10]. The household is only evaluated during the interview; thus, changes may occur, and estimates may be biased due to systematic non-sampling errors. Furthermore, social desirability issues may arise when respondents do not want to seem poor in front of interviewers [15].

Interestingly [9,16] investigated the factors influencing food spending trends in urban Nigerian families. Their findings revealed that 60% of family income was spent on food, implying a low income and perhaps high food costs in the research location. Their findings found that family income, tribe, household size, and household composition all had a substantial impact on food spending. In light of the foregoing, this study responded to the following research questions: What are the respondents' socioeconomic characteristics, what are food spending patterns among households, and what variables influence food expenditure patterns among households in the research area?

The study aims to characterize the socioeconomic characteristics of the respondents, estimate food spending patterns among families, and identify the variables influencing food expenditure patterns among rural households in Ogun state, Nigeria.

Methodology

The research was conducted in Ogun State, South Western Nigeria. It has a tropical climate, with rainforest vegetation in the south and derived savannah in the north. It has an estimated land size of 16,409.26 square kilometers. The estimated human population is 3751140 (2006 population census), and the economy is characterized by a dual emphasis, with a thriving industrial sector and a dominating agricultural sector.

Sampling techniques

The multistage sample approach was utilized to choose 480 rural families from 20 towns in Ogun State's two agricultural zones (Abeokuta and Ilaro).

The first step required selecting two zones at random: Abeokuta and Ilaro. The second step involves a simple random selection of three (3) and two (3) blocks from each of the two ADP zones, totaling six blocks. Stage three included randomly selecting four (4) cells from each of the six blocks, totaling 24 cells. The last step involves a random selection of eight (20) rural homes from each of the 24 cells, totaling 480 rural households. Primary data were gathered utilizing a structured

interview protocol. Data were analyzed using frequency count, percentage, mean, and Ordinary Least Squares Regression.

Ethical approval

The Ethics Committee of Oyo State College of Agriculture and Technology, Igboora authorized the ethical clearance for the study. Before the distribution of questionnaires in the research areas, the Ogun State Agricultural Development Programme granted the researchers authorization to visit the study area. Also, verbal informed consent was sought and granted from the participant before the commencement of the interview for data collection. The researchers and participants in this study took great care to uphold the principles of privacy, autonomy, dignity, as well as respect.

Results and Discussions

Socioeconomic characteristics of the respondents in the study area

The study area's respondents' socioeconomic characteristics, including age, marital status, education, farm size, religion, and household size, were presented in Table 1. The findings of the research indicated that 57.50% of the participants identified as male, with an estimated mean age of 45 years. Consistent with the findings of [4,10] the average age of the participants was also reported to be 45 years. Concerning the respondents' marital status, 11.67% were divorced, 24.17% were unmarried, and 56.67% were married. Regarding the respondents' educational attainment, the following proportions were as follows: 25.00% held a primary education, 40.00% a secondary education, 10.00% a postsecondary education, and 10.83% no formal education.

Food expenditure pattern of the households

Table 1 shows the socioeconomic characteristics of the research area's respondents, including age, marital status, education, farm size, religion, and household size. According to the report, 57.50% of respondents were male, with a mean age of 45. This was consistent with [17,18], who found that the respondents had an average age of 48 years. In terms of marital status, 56.67% of the respondents were married, 24.17% were single, and 11.67% were divorced. In terms of education, 25.00% of respondents had elementary education, 40.00% had secondary school, and 10.00% had higher education, with 10.83% having no formal education Table 2.

Regression result for socioeconomic determinants of food expenditure in the households of the respondents

The data on the determinants of household food spending were analyzed using a double-logarithmic regression equation as the lead equation, which was selected based on theoretical and statistical criteria. The dependent variable was food spending, while the explanatory factors were the household head's age, marital status, degree of education, gender, family size, household income, and household composition. The results of the analysis are shown in Table 3. The regression analysis found that household income ($p < 0.01$), household

Table 1: Distribution of Socioeconomic characteristics of the respondents.

Characteristics	Frequency	Percentage	Mean
Age			
Less than 30	132	27.50	
30 – 40	76	15.83	
41 – 50	92	19.17	45
51 - 60	44	9.17	
Above 60	136	28.33	
Marital Status			
Single	116	24.17	
Married	272	56.67	
Widowed	56	11.67	
Divorced	36	7.50	
Gender			
Male	276	57.50	
Female	204	42.50	
Occupation			
Farming	104	21.85	
Trading/Civil servant	276	57.50	
Artisan	100	20.65	
Household size			
Less than 4	176	36.97	
4 – 8	176	36.13	6
9 - 12	104	21.85	
Above 12	24	5.04	
Education level			
Primary Education	120	25.00	
Secondary Education	192	40.00	
Tertiary Education	48	10.00	
No formal Education	120	25.00	
Religion			
Christian	156	32.50	
Islam	256	53.33	
Traditional	56	14.13	
Income (₦)			
Less than 50,000	212	65.00	49,500.50
50,000 - 100,000	120	25.00	
Above 100,000	48	10.00	
Total	480	100.00	

Source: Field Survey Data, 2020

age ($p < 0.1$), household size ($p < 0.01$), and occupation ($p < 0.05$) all had a favorable impact on household food spending. This conclusion indicates that households will spend more on food as their income, family size, and the number of dependents and risk groups (infants and pregnant women) increase. Furthermore, given the research area's relatively low income and large family size, this finding highlights the need for intervening policy in terms of the nutritional health of the target population, particularly given the high cost of food products in metropolitan regions. The findings were consistent



Table 2: Distribution OF FOOD EXPENDITURE PATTERN OF THE HOUSEHOLDS IN THE STUDY AREA.

Variables	Frequency	Percentage	Mean
Amount spent on food at home (₦)			
Less than 20,000	320	66.67	17,544.60
20,000 - 40,000	88	18.33	
Above 40,000	72	15.00	
Amount spent on food away from home (₦)			
Less than 20,000	360	75.00	16,700.55
20,000 - 40,000	52	10.83	
Above 40,000	68	14.17	
Frequency of food purchases/consumes away from home			
Once a week	4	0.83	
Twice a week	12	2.50	
Thrice a week	100	20.83	
Only weekends	124	25.83	
Everyday	240	50.00	
Total	480	100.00	

Source: Field Survey Data, 2020.

Table 3: Socioeconomic Determinants of Food Expenditure in the households of the respondents.

Variables	Coefficients	T-value	p - value
Constant	1.231* **	3.562	0.001
Household income	0.189***	2.921	0.005
Age of household head	0.214*	1.886	0.051
Marital status	0.224	1.324	0.231
Educational status	-0.345	-0.882	0.113
Sex of household head	0.845	1.451	0.212
Household size	0.279***	3.021	0.001
Occupation	1.230**	2.091	0.040
Adjusted R ²	0.681		
F-ratio	32.12***		

Source: Field Survey Data, 2020

with [1,19] who observed that the influence of household size on spending patterns is a mix of a particular effect' and an 'income effect'.

The adjusted R², which measures the ability of the explanatory variables to explain all of the variation in the dependent variable, is 0.681, indicating that the combined effect of the independent variables accounted for 68.1% of the variations in household food expenditure. The F-ratio is used to assess the overall importance of the regression line's function. This test demonstrates that the F-ratio is statistically significant at the 1% level of significance.

Conclusion and recommendation

The study found that the majority of respondents are young and married, with an average household size of 5 people and an estimated monthly income of ₦49,500.50. The majority of respondents spend an average of ₦17,544.60 per week on

eating out. Furthermore, household income, tribe, family size, and the employment of the household head all had a substantial impact on food spending. As a consequence, food insecurity and poverty vulnerability are hypothesized in the research region, maybe due to the high cost of food products.

Recommendation

The study recommends policy interventions to improve the nutritional status of the target population, given their low income and large household sizes in the study area. This is especially important given the high cost of food in the communities.

More governmental attention should be directed to the price control mechanism for high-nutritional-value foods to make them more accessible to rural residents. Supportive actions, such as improvements to interstate transportation and road networks, will reduce geographic pricing disparities.

The government should consider providing subsidies on food products often eaten by babies and pregnant women as part of its health and nutrition program for these populations.

More research on food expenditure analysis should concentrate on urban populations since there is probable evidence of food insecurity and nutritional inadequacies in these groups, as observed in rural regions.

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