Determinants of Consumption Expenditure among Tomato Farmers in Ghana

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ABSTRACT

By employing OLS estimation, the paper explores the determinants of consumption expenditure among tomato farmers in Ghana using a variant of the traditional Keynesian consumption function. Data for the study were collected from 562 randomly selected tomato farmers from six districts in three regions (Ashanti, Brong Ahafo and Upper East) of Ghana. By employing OLS estimation, the study sought to identify the determinants underlying the respondents' consumption expenditure. The results show that the consumption expenditure of the tomato farmers is not different from that of the national population in general. The results also indicate a positive relationship between consumption and remittances. This gives credence to the growing view that in most developing countries with Ghana being no exception where the multi-person household concept is common, support from other members of one's family in the form of remittances help in consumption smoothing. A positive relationship between consumption and income emerges confirming the traditional Keynesian consumption postulate that consumption is a function of income. It also emerges that there is a relatively low marginal propensity to consume of about 7.3% among the respondents, which gives weight to the assertion of deteriorating economy, which is dramatically influencing household consumption in Ghana. The policy implication of this is that appropriate savings mobilisation policies may be designed to take advantage of the relatively high marginal propensity to save which exists among the respondents because of lower consumption levels. Moreover, the study confirms the inverse relationship between consumption and household size, which has been termed as a paradox.

KEYWORDS: Consumption, Income, Quintile, Tomato farmers, Ghana

Introduction

Knowledge on consumption has long been recognized as a major input in economic planning and policy analysis (King & Byerlee, 1977). This stems from the fact that the bulk of domestic investment continues to be financed by domestic savings, an important determinant of which is consumption at the household level (Agènor & Monteil, 2008). Hence, it is has rightly been posited that household consumption plays an important role in a country's economic growth since aggregate demand and investment increase in tandem with household consumption. Thus, in the view of neoclassical economists, consumption is the final purpose of economic activity.

Therefore, the level of consumption expenditure per person is viewed as the central measure of an economy's productive success (Fisher, 1930). In view of this, it is assumed that a proper understanding of the consumption-based linkages in the development process is important since such an understanding of consumption and its related issues like its levels can provide valuable economic information on the effectiveness of policies designed to alleviate poverty. Accordingly, the application of economic theory to the consumption of an individual or household would provide valuable insight to proper allocation of economic resources.

Consumption expenditure on different items and expendable goods, that is, goods purchased and consumed on a frequent basis may be used as a yardstick for measuring the standard of living (Modigliani & Brumberg, 1954; Friedman, 1957) as it gives an indication of the consumption behaviour of households. However, the household expenditures on these frequently purchased items may not necessarily reflect a household's total consumption level; nevertheless, such expenditures may be used as a proxy for living standard (Noll, 2007). Moreover, studies into the temporal changes of consumption of frequently purchased items, provides insight into the welfare status of the citizenry, thus, playing a key role in planning future savings and investment decisions (Kuma, 2010).

In Ghana, agriculture practiced primarily on small-scale, is the mainstay of the economy, accounting for 36% of GDP (2000) and some 60% of the workforce. The agricultural workforce segment of the population is predominantly made up of rural households. The major components of food consumption, in terms of cash value, are roots and tubers (28%), cereals and cereal products (16%), and fish (14%). In the rural savannah, cereals and cereal products, and pulses and nuts, are a major input to the household diet, while fish is much less important than in other parts of the country (GSS, 1995). With increasing population and decreasing income levels because of a deteriorating economy, the pattern of household consumption in Ghana has been undergoing dramatic changes over the last 30 years (Aidoo, 2009) with poor households being the most affected. In spite of diminishing trend of consumption at the household level, the 2011 report on the sub-regional prospects estimated that GDP growth in Ghana for the period 1998-2005 had household consumption in the poorest quartile of the Ghanaian to increase, albeit by a smaller amount than the increase observed for the population as whole (United Nations, 2012). Moreover, it turns out that for the full period (1991/92 to 2005/2006), general economic conditions helped improve household consumption by 20.5 percent in urban areas and 38.9 percent in rural areas. Changes in household characteristics also helped for improving standards. First, there was a reduction in household sizes, which yielded a gain of 7.9 percent in consumption in urban areas, and 1.4 percent in rural areas (Coulombe & Wodon, 2007). The share of the total budget (actual and imputed) represented by cash expenditure on food remains relatively constant across the various quintile groups. However, consumption of home-produced food is very much more important for households, which are less well off. As a result, food accounts for only half of the total budget of households in the highest quintile

group, but for almost two-thirds of the total budget of households in the bottom quintile group (GSS, 1995).

Methodology
Study Area
The study was conducted in three regions in Ghana. These three regions as shown in Figure 1 – Ashanti, Brong Ahafo and Upper East were purposively selected because of the high level of tomato growing activities associated with them.
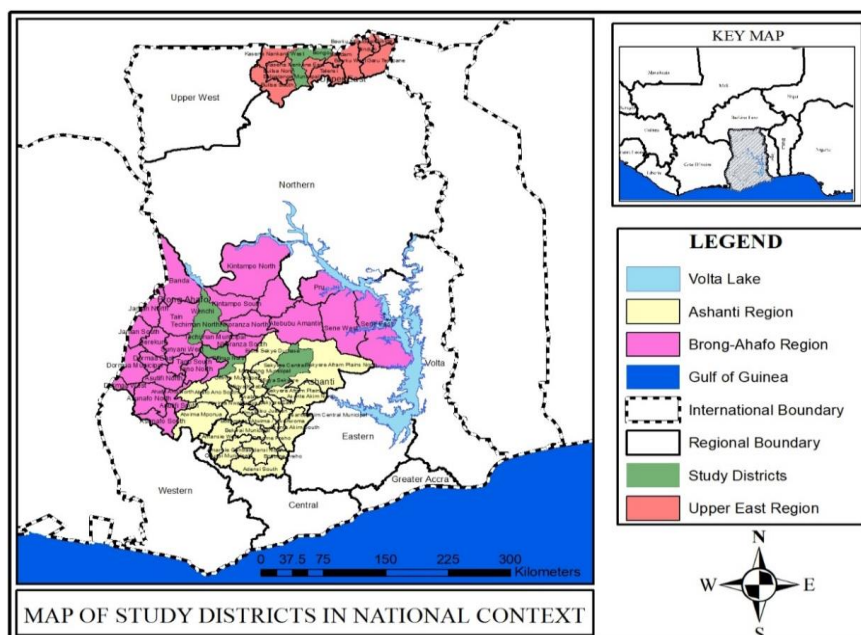

Figure 1: The study regions - Ashanti, Brong Ahafo and Upper East

Two districts were then selected from each of these three purposively as well. In the Ashanti Region, the Offinso North and the Sekyere Central districts were selected (Figure 2). The Wenchi and the Techiman North districts were selected from the Brong Ahafo Region (Figure 3). The Bongo and Kasena-Nankana East districts were selected from the Upper East Region (Figure 4).

Types and Sources of Data for the Study
The empirical research into consumption behaviour is frequently undertaken by utilizing either of two methods: the use of secondary data and the use of primary data (Niculescu-Aron, 2012). This study made use of the second method, that is, the use of primary data. The utilization of primary for the study is underlined by the fact that the analysis of such data can be relied upon to provide accurate information and valuable insights on consumption behaviour. Data on respondents' income and consumption levels were gathered. Demographic and socioeconomic factors of importance, such as educational background, gender and household size were obtained as well.
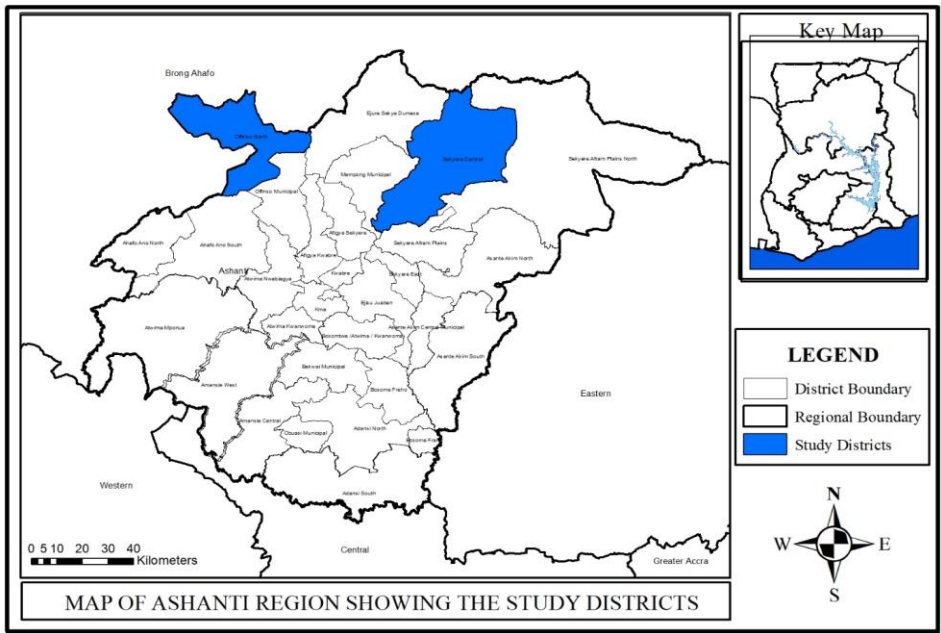
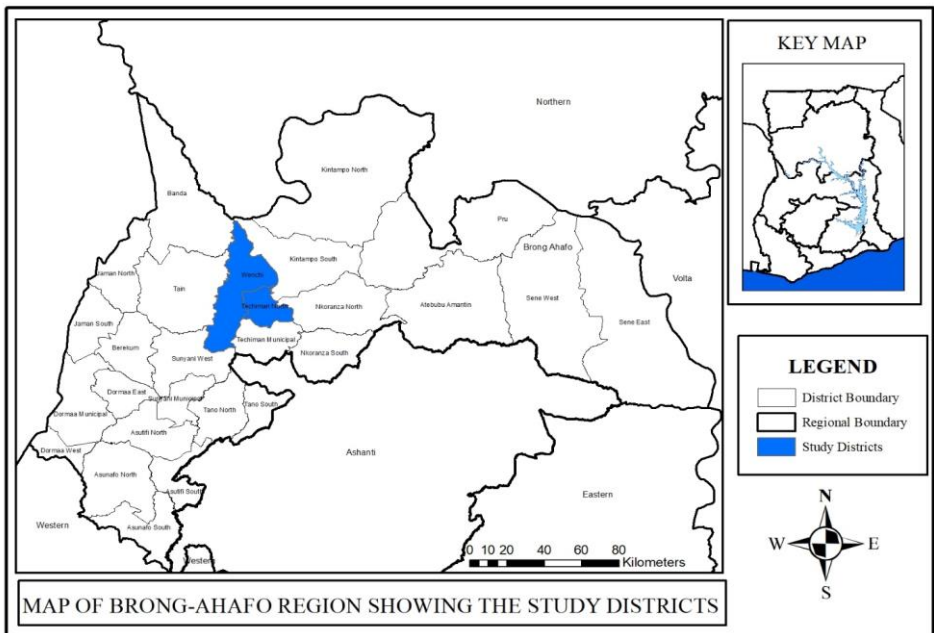**Figure 2: Offinso North and Sekyere Central districts of Ashanti Region**

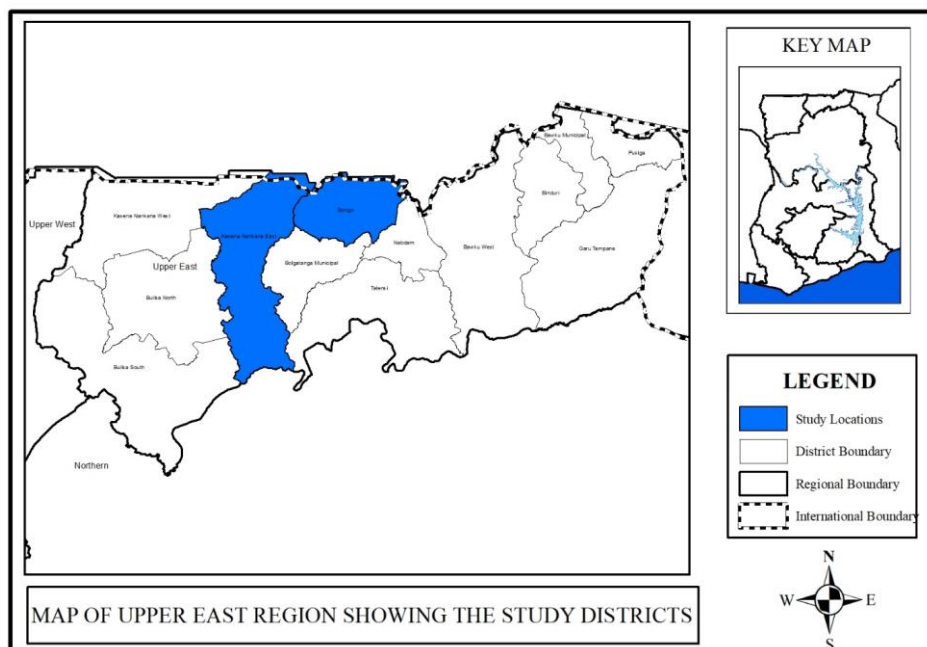**Figure 2: Wenchi and Techiman North districts of Brong Ahafo Region**

Figure 4: Bongo and Kasena-Nankana East districts of Upper East region

Information on the respondents' income and consumption were obtained by the use of combination of diary survey approach and retrospective interview schedule. The diary survey approach helped to overcome challenges of recalling information on frequent expenditures while information on less frequent expenditures was obtained through a retrospective interview schedule. Thus, such characteristics of the respondents as household characteristics and other demographic variables were obtained through recall interview approach whilst expenditure on non-durable household goods and services were collected through a diary survey.

Sampling Technique

Sampling for the study was done in three (3) phases; first was the purposive selection of the regions concerned, that is, Ashanti, Brong Ahafo and Upper East regions. This was followed by the purposive selection of the respective districts in each of the 3 regions. The selection of the 3 regions and their respective districts was based on official statistics from the Ministry of Food and Agriculture (MoFA) with its underlying factor being the level of tomato production.

The third stage of the sampling involved identifying and listing on paper, all tomato farmers in the various tomato production town and villages in each of the selected districts. To ensure a random selection of respondents, each farmer on the list prepared had his/her name on a piece of paper and folded properly. The folded papers containing the names were then mixed thoroughly in a bowl. The folded papers were picked randomly one at a time from the bowl. In all, 599 respondents were selected. However,

the response rate was 94%, that is, 562 out of the 599 were fit for the analyses. Table 1 indicates selected districts, total number of households in the said districts and the sample sizes.

Table 1: Selected districts and sample size

Region	Districts	[1]Number of households	[2]Number of households engaged in agricultural production	[3]Proportion of households engaged in agricultural production (%)	[4]Sample size selected from each district
Ashanti	Offinso North	11,164	8,794	77	**61**
	Sekyere Central	14,632	11,764	80	**82**
Brong Ahafo	Wenchi	19,138	12,485	65	**87**
	Techiman North	47,627	23,916	50	**166**
Upper East	Bongo (Vea)	15,188	12,711	84	**88**
	Kasena-Nankana East (Tono)	19,790	16,562	84	**115**
TOTAL		127,539	86,232		**599**

Source: [1,2]Regional analytical report of the 2010 population and housing census, Ghana statistical service statistics
   [3,4]Author's calculation

Analytical Framework
In relating the respondents' consumption to their income, the study employs the traditional Keynesian consumption function, which posits that consumption is determined by current disposable income (Romer, 1996). This is algebraically given as:

$$C = f(Y_d) \tag{1}$$

Where: Y_d is the disposable income after government intervention such as taxes and transfer payments have been taken care of and C is the amount of consumption at specific level of income. In its simplest forms, the Keynesian consumption function is linear and it is given as:

$$C = \alpha + bY_d \tag{2}$$

Where: α is autonomous consumption, which is independent of disposable income, that is, consumption when income is zero; b is the marginal propensity to consume, that is, the increase in the amount of consumption as a result of increase in disposable income. According to Keynes, the behaviour of consumers is such that as income increases, consumption also increases, but not as much as the increase in income. Thus, the marginal propensity to consume is positive but less than one as given below:

$$0 < \frac{dC}{dY} < 1 \qquad [3]$$

However, the proportion of income consumed decreases as income increases, that is

$$\frac{d(C/Y)}{dY} < 0 \qquad [4]$$

Differentiating the consumption-income ratio with respect to income gives:

$$\frac{d(C/Y)}{dY} = \frac{1}{Y}\frac{dC}{dY} - \frac{C}{Y^2} \qquad [5]$$

The focus of consumption of this paper is on the respondents' monetary value of food and other frequently purchased consumption items such as water and fuel wood/gas/charcoal for domestic usage. The choice of this category of consumption items in the analysis is to avoid situations of zero observations, which can cause considerable difficulties, especially when the dependent variable of a functional form is specified in logarithmic form, since the logarithm of zero is undefined (King & Byerlee, 1977).

Drawing from Cheema and Malik (1985), and King and Byerlee (1977), the study makes use of a variant of the linear functional form of the traditional Keynesian consumption function specified as:

$$C_i = b_{0i} + b_{1i}Y_i + b_{2i}S_i + b_{3i}Z_i + \mu_i \qquad [6]$$

Where: C_i is the expenditure on the ith commodity; Y_i is the disposal income of the ith respondent; S_i is the household size of the ith respondent, is a vector of other household characters and μ_i is the random disturbance term.

Though, the principal focus of the paper is on consumption expenditure and its relationship with household income, however, as in Massell and Heyer (1967), household size and other household characters (years of education of household head, the amount of money received as local assistance or remittances, the number of people who offer the remittances) have been introduced as separate explanatory variables instead of expressing income and consumption as per capita and per consumer unit respectively. The inclusion of household size in particular is justified because in addition to total consumption expenditures, household size is generally considered an important determinant of a household's level of expenditure on a particular commodity (Cheema & Malik, 1985; King & Byerlee, 1977). This is because all other things being equal, a large household expenditure on food, for example, is expected to be greater than that of a small household (Ajmair & Akhtar, 2012; King & Byerlee, 1977). Thus, the introduction of household size as a separate explanatory variable allows flexibility with respect to economies or

diseconomies of scale in expenditure. As a result if the household size depends on the level of household income, then expressing income and consumption as per capita and per consumer unit respectively will yield misleading results (Cheema & Malik, 1985; Massell & Heyer, 1967).

A second reason for treating household size as a separate variable is that deflation may lead to spurious correlation. It can be shown that this will be the case if a normally distributed regressand and normally distributed regressor are each deflated by an independently normally distributed variable (Massell & Heyer, 1967).

Definition and Measurement of Variables and Their Underlying Hypothesis

Estimation of Consumption Expenditure – The expenditure on consumption is the sum of all cash expenditures on frequently purchased items such as food, water, firewood, charcoal, kerosene, gas for cooking, fuel and power and other solid fuel. It also includes non-durable household goods and services such as soap and washing powder, bulbs, candles, insecticides, disinfectants and household cleaners, matches, toilet paper, education, medical care and health expenses, communication, operation of personal transport, entertainment and purchased transport excluding school transport and miscellaneous goods and services.

Estimation of Disposable Income – The disposable income of the respondents for the study included their total income from their tomato production activities during both the major and minor tomato seasons in 2015 as well as income from other crops, animals and non-farm activities (remittances; rental of property less taxes paid on such property; interest payments and dividends accruing from financial assets less interest paid; cash payments received through social transfers such Livelihood Empowerment Against Poverty (LEAP)). This was measured in Ghana Cedis (GH¢). Increase in income was expected to increase the probability of a tomato farmer, increasing his/her consumption expenditure.

Years of Education – Years of education indicate the number of years a tomato farmer has had formal education. It is hypothesized that as the number of years of education of a tomato farmer increase to the level of secondary education and above, it is expected that the farmer would have a higher inclination of increasing consumption expenditure as it is assumed that education exposes an individual to the finer things of life.

Household size – This is the household size of a tomato farmer and it is measured by the number of people in the farmer's household. It is hypothesized that as the number of people in tomato farmer's household increases, consumption expenditure is likely to be negatively affected due to dependency burden, that is, consumption expenditure is likely to go up.

Remittances – Transfer of money in the form of local assistance or remittances to help smoothen the consumption expenditure of a tomato farmer's household. This was measured in Ghana Cedis (GH¢). Increase in remittances was expected to increase the probability of a tomato farmer increasing his/her consumption expenditure.

Number of people who offer the remittances – This was the number of relatives offering some form of remittances to the household of a tomato farmer. Increase in the number of

people offering some form of remittance was expected to increase the income of a tomato farmer, thereby, increasing the probability of a tomato farmer increasing his/her consumption expenditure.

Results and Discussion

Quintile Analysis

By means of quintile analysis, household consumption expenditures on frequently purchased items were divided into 5 equal groups. This type of analysis helps to measure the level of inequality in the distribution of consumption among the respondents reflected in the percentage shares of consumption accruing to equal portions of the total number of the respondents. Since the consumption of each quintile is expressed as a percentage of that of the total number of the respondents, this indicator is a measure of "relative inequality" (MDG, 2012).

Following Fry, Firestone and Chakraborty (2014), since the distribution of the target population (the respondents) have equal representation in each quintile, that is, 20% each as indicated in Figure 1, then the target population is not different from the national population. This is evidenced by the fact that a group incidence curve based on Quintile analysis of consumption in Ghana shows a general trend of even distribution of consumption for a large segment of the Ghanaian population (Ghana Statistical Service, 2014).

Educational Level

It has long been recognized that the influence of education on behaviour, particularly on consumer expenditure patterns is pervasive (Michael, 1975). This in most cases has been attributed to the fact that education may have indirect effects on an individual's total utility, either positive or negative (Solmon, 1975), through the choices consumers make as a result of consumer decision-making processes (Kumar, 2014). Consequently, the more educated a person is, the higher the level of discretion he will employ in making purchases. This implies that an educated customer would weigh his/her options carefully before going for a purchase (Pratap, 2017).

Weighing one's options before making a purchase has never become more important than now as consumers today operate in increasingly complex markets, challenged by growing amounts of information and an expanding choice of products (OECD, 2009). Therefore, making good choices and protecting their interests require a wider range of skills and knowledge, which in most cases can be achieved through education. Therefore, education can be regarded as an important determinant of consumption behaviour as it equips one with the required knowledge in the discretional use of one's income.
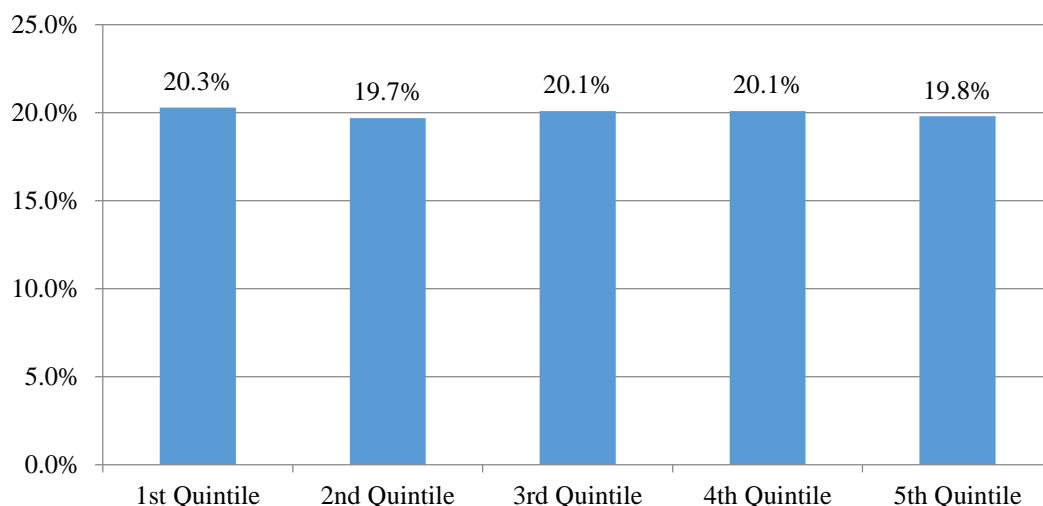
Figure 5: Quintile Analysis of food and other frequently purchased items
Source: Field Survey, 2015

The results of the distribution of the respondents in terms of their level of education as shown in Table 2 indicate that the Upper East Region has the highest level of respondents with no formal level of education (38.2%) as compared to 22.4% in the Ashanti Region and 16.5% in the Brong Ahafo Region. The gap in the educational attainment between the Upper East Region and the country as a whole is still very wide. The relatively low level of education in the region has been attributed to not only general poverty and cultural practices but also to the very late introduction of education in the region (GSS, 2013) and this is more likely to have a negative effect on their income levels, vis-à-vis, and their consumption levels.

Household Size and Dependency Ratio
Household size is a key economic indicator, which brings to the forefront the idea of dependency ratio. The dependency ratio relates the population aged 0-14 years and 65 years and above to the working-age population (15-64 years old). The ratio gives a sense of pressure a household or an individual may face in supporting economically dependent ones.

This is because a high dependency ratio indicates that the economically active individuals or members of a household and the overall economy face a greater burden to support and provide the social services needed by children and by older persons who are often economically dependent. A dependency ratio of 100.0% implies one dependent per working person; a figure higher than 100.0% implies more dependents per worker while a figure lower than 100.0 indicates a lower than one dependent per worker.

Table 2: Demographic characteristics of respondents

Variable	Ashanti Region (N=134)		Brong Ahafo Region (N=237)		Upper East Region (N=191)		All households (N=562)	
	N	%	N	%	N	%	N	%
Highest level of formal education								
None	30	22.4	39	16.5	73	38.2	142	25.3
Primary	26	19.4	27	11.4	74	38.7	127	22.6
MSLC	41	30.6	75	31.6	1	0.5	117	20.8
Secondary	34	25.4	34	39.2	42	22.0	169	30.1
Certificate	2	1.5	1	0.4	0	0.0	3	0.5
Diploma	0	0.0	2	0.8	0	0.0	2	0.4
Graduate	1	0.7	0	0.0	1	0.5	2	0.4
Household Size								
<= 3	24	17.9	74	31.2	16	8.4	114	20.3
4-6	76	56.7	87	36.7	127	66.5	290	51.6
7-9	26	19.4	60	25.3	42	22.0	128	22.8
> 9	8	6.0	16	6.8	6	3.1	30	5.3
Age of dependents								
< 15	276	50.4	383	32.1	368	38.1	1027	38.0
15-65	268	48.9	763	64.0	5722	59.3	1603	59.2
> 65	4	0.7	46	3.9	5	2.6	75	2.8
Total	548		1192		965		2705	
Dependency Ratio		*104.5*		*56.3*		*68.6*		*68.9*

Source: Field Survey, 2015

As shown in Table 2, the overall dependency ratio of the respondents is 68.9%. This is however; lower than the national age dependency ratio of 73.43%, which was last measured in 2014. An interesting trend is the dependency ratio of the Ashanti Region, which is the only one above the 100.0% threshold. A large household size in agricultural production gives farmers ample availability of labour pool for farm operations (Amaza *et. al*, 2009). However, a large family size has the unpleasant probability of exerting greater risk of poverty, chronic food insecurity and child malnutrition (Maxwell, 1996). This is especially true when most of the household members are economically dependent on the rest of the household members who are economically active.

Household Income

As indicated in Table 3, majority of tomato farmers, both in Ashanti (34.3%) and Brong Ahafo (38.8%) regions earned between four thousand Ghana Cedis and five thousand, four hundred and ninety nine Ghana Cedis (GH¢4000.00-5499.99) as income during tomato production seasons in 2015. Whilst majority of the tomato farmers in Upper East (38.2%) earned between two thousand, five hundred Ghana Cedis and three thousand nine hundred and ninety nine Ghana Cedis (GH¢2500.00-3999.99).

Table 3: Distribution of income of respondents

Variable	Ashanti Region (N=134)		Brong Ahafo Region (N=237)		Upper East Region (N=191)		All households (N=562)	
Income	N	%	N	%	N	%	N	%
<= 2500.00	5	3.7	14	5.9	49	25.7	68	12.1
2500.00-3999.99	42	31.3	86	36.3	73	38.2	201	35.8
4000.00-5499.99	46	34.3	92	38.8	53	27.7	191	34.0
5500.00-6999.99	34	25.4	45	19.0	16	8.4	95	16.9
> 6999.99	7	5.2	0	0.0	0	0.0	1	1.2

Source: Field Survey, 2015

Household Consumption

From Table 4, it can be seen that the majority of tomato farmers in all the three regions – Ashanti (54.5%), Brong Ahafo (73.4%) and Upper East (75.4%) in 2015 had their consumption expenditure between Two thousand, five hundred Ghana Cedis and three thousand, nine hundred and ninety nine Ghana Cedis (GH¢2500. 00-3999.99). Table 4 also indicates that none of the tomato farmers in Brong Ahafo and Upper East regions spent in the consumption expenditure brackets of over five thousand, four hundred and ninety nine Ghana Cedis (GH¢> 5499.99) as compared to about 7% of tomato farmers in Ashanti region who spent in the said consumption expenditure brackets.

Table 4: Distribution of consumption expenditure of respondents

Variable	Ashanti Region (N=134)		Brong Ahafo Region (N=237)		Upper East Region (N=191)		All households (N=562)	
Consumption	N	%	N	%	N	%	N	%
<= 2500.00	1	0.7	0	0.0	0	0.0	1	0.2
2500.00-3999.99	73	54.5	174	73.4	144	75.42	391	69.6
4000.00-5499.99	51	38.1	63	26.6	47	4.6	161	28.6
> 5499.99	9	6.7	0	0.0	0	0.0	9	1.6

Source: Field Survey, 2015

Empirical Analysis of Respondents' Consumption

The consumption model was estimated using Ordinary Least Squares (OLS) method. The results of the estimation as shown in Table 5 indicate that F-statistic for the model was significant at the 1 % level, implying that the independent variables as a group were important determinants of consumption at the pooled sample level. The coefficient of determination (R^2) is about 46% indicating that about 46% of the variation in consumption was explained by changes in the levels of the explanatory variables in the model.

Table 5: Regression results of consumption model

Explanatory Variables	Consumption Model $R^2 = 0.459$ F = 0.000	
	Coef.	P-value
(Constant)	10427.741	<0.000
Income (*Income*)	0.073	<0.000
Household size (*HHsize*)	-254.115	<0.000
Secondary earners (*Secearners*)	867.091	<0.000
Remittances (*Remts*)	1.677	0.001
Number of years education (*Edu*)	175.870	<0.000

Source: Field Survey, 2015

The fitted equation for the consumption model is given as below:

$$\hat{C} = 10427.741 + 0.73 Income_i - 254.115 HHsize_i + 867.091 Secearners_i + 1.677 Remts_i + 175.870 Edu_i + \varepsilon_i$$

The model shows a positive and significant relationship between consumption and income. This finding is consistent with a priori expectation and the coefficient of the income variable, also represents the marginal propensity to consume (MPC). The finding concurs with the study by Okwori *et al.* (2016) who found the MPC of 0.68 for Nigerian households for the period 2009-2014.

The coefficient of income indicates that an increase of one point in income increases consumption by an average of about GH¢0.073. This implies that as incomes of the respondents increase, their consumption levels also increase but the increment in consumption tends to be less than the increment in income. This conforms to one of the fundamental concepts on consumption emphasized by Keynes (1936) which underscores the fact that though, when income rises, consumption also rises, however, the rise in consumption tends to be less than the rise in income. This has been attributed to the fact that a part of the increment in income is saved.

The coefficient of the income variable, which also represents the marginal propensity to consume (MPC), indicates that respondents have relatively low MPC of 7.3% as compared to the national MPC of 61% (Altshuler, 1989). This implies that when the income levels of the respondents increase by one Ghana Cedi (GH¢1), they are likely to save GH¢0.927 (that is, 92.7%) of the increment in income is saved. This relatively high marginal propensity to save (MPS, that 1-MPC=MPS) may be informed by the general level of uncertainty surrounding the respondents' incomes which are basically low and variable due to the nature of the dominant income generating activity which is essentially seasonal. This poses a serious threat to their economic survival, especially if they are to consume a greater portion of the increment in income instead of saving more for the "rainy" day. Moreover, the relatively low marginal propensity to consume gives credence to the assertion of deteriorating economy, which is dramatically influencing

patterns of household consumption in Ghana (Aidoo, 2009). Keynes attributed low levels of consumption to psychological factors such as expectations of future income levels. The underlying premise is that rational behaviour suggests that a consumer who expects a decrease in future income levels or price levels would all things being equal consume less than one who expects no such changes. This is particularly true of the respondents who are mainly tomato farmers and who as a result of the recent spate of business failures mainly due to the volatility of tomato prices in recent times (Tutu, 2010) may have to reduce their consumption levels in order to save to take care of their future.

The results indicate a significant, but negative relationship between household size and consumption. Intuitively, this inverse relationship between household size and consumption defies common sense. However, this is consistent with Deaton and Paxson's (1998) finding on consumption, which have been termed as a paradox. The theoretical argument underlying this paradox is explained by the fact that an increase in household size leads to an increase in economies of scale in consumption available to the household (Koohi-Kamali, 2014). Thus, the presence of economies of scale in consumption helps to alter the resources needed to provide insurance (in the sense of consumption smoothing) if household size changes over time (Bick & Choi, 2013). Moreover, though household income may be affected by consumption because of the increment in household size, such deflation in income is generally represented by a factor that is less than one for the additional household member. In addition, the deflation in income may be compensated by the sharing of resources among household members (Sabelhaus & Schneider, 1997).

Table 5 also indicates a positive and significant relationship between consumption and the number of family members termed as secondary earners who support income in the form of local assistance or remittances. This finding is consistent with a priori expectation and that an increase of one point in the amount contributed by other household members provides about GH¢1.68 towards consumption expenditure. This implies that in most developing countries with Ghana being no exception where the multi-person household concept is common, support from other members of one's family in the form of remittances help in consumption smoothing (Bick & Choi, 2013) particularly in the event of adverse shocks (for example, crop failure, job loss, or a health crisis). In most cases, remittance flows are viewed by the recipients as transitory rather than permanent and thus saved towards future consumption purposes (World Bank, 2006).

As seen in Table 5, the consumption model indicates a significant positive relationship between consumption and the number of years of education and this is consistent with the a priori expectation. This implies that the higher the educational attainment of the respondents, which is, reflected in the number of years of education, the higher the consumption expenditure. This can be explained in part by the fact the education enables an individual access to the finer things in life and also to appreciate them, as well as resulting in a possible consumption of these finer things in life which come at a cost (Solmon, 1975). Moreover, it has been postulated that educated households tend to have higher consumption expenditure, as they are more susceptible

to product advertisements and are more likely to indulge in conspicuous consumption (Burney and Khan, 1992).

Conclusion

Household consumption plays a major role in economic growth as it is linked to increase in aggregate demand and investment. However, with a decreasing real income levels because of a deteriorating economy, the pattern of household consumption in Ghana is likely to be affected. Thus, the need to understand the consumption behaviour of farm households, one group of households most likely to be affected due to the highly variable nature of their incomes. The study, therefore examined the determinants of consumption behaviour of 562 farmers who were randomly selected from 6 districts in 3 regions (Ashanti, Brong Ahafo and Upper East) of Ghana. The results indicate that respondents' total income, household size, presence of secondary earners, the amount contributed by secondary earners and years of education significantly influence the consumption behaviour of the respondents.

Based on the results of the study, it is recommended that appropriate savings mobilisation policies be designed to take advantage of the relatively high marginal propensity to save which exists among the respondents. In view of the fact that education from the results was found to play a key role in consumption, it can present both an opportunity and a risk.

Looking at the effect of education on consumption, from the opportunity point of view it is recommended that education be managed properly as a tool to help create aggregate demand and consumption among farm households in order to spur investment in the production of goods and services. On the other hand, that is, from the risk point of view, it is recommended that education of farmers, particularly by extension agents should aim at expanding the horizon of farmers on the importance of financial savings in order to build their own capital for their income generating activities rather than channeling their surplus income into consumption.

It has long been recognized that household size has serious implications for a nation's labour supply, savings rates, and capital formation, all which can shape and influence the nation's economic growth. Although, relatively smaller as well as larger household sizes have their consequential socioeconomic implications for a nation's well-being; it is however, obvious that the negative repercussions of relatively larger household sizes override their supposed benefits. The negative effects of the household size on household consumption may be more pronounced when there is an increase in the number of household members under 16 years who may not be income earners but have to depend on others. Similarly, the low income associated with relatively larger household size may be compounded by an increase in the number of household members above 65 years, that is, those in retirement. All other things being equal, a household with few dependents can devote a smaller share of its income on supporting these dependents and can therefore save more. It is therefore recommended as part of agricultural extension activities, education on population issues, particularly household sizes and its implications for development is passed on to farmers. Moreover, it is recommended that

the government through the Ministry of Health will intensify the support given to family planning programmes to ensure that population growth rates and household sizes are reduced to promote higher levels of household savings through reduced levels of household consumption. Not only that, but also knowledge of national population policies could be included in the curriculum of schools for an early appreciation and understanding of population issues and its effect by the younger ones.

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