



# Consumption-Income Disparity During Retirement in Ghana

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**Abstract:** The retirement stage in the life cycle is a difficult stage if not perhaps, the most difficult stage. This is because maintaining pre-retirement consumption level is the preserve of few, though required by all. In Ghana, the inadequacy of the Social Security and National Insurance Trust pension benefit for instance, in matching up with the consumption needs of pensioners and their dependants creates a consumption-pension income disparity. This paper investigates the extent of this disparity and the reasons for the disparity. Our results show that, average consumption exceeds average pension benefit by 41%. This means that on average, a pensioner requires an additional 41% of alternative sources of retirement income to supplement his/her pension benefit. The study identifies inadequacy of the pension benefit and certain socio-economic factors to be responsible for the consumption-income disparity.

**Keywords:** Consumption, Retirement, Pension Benefit, Consumption-Income Disparity

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## 1. Introduction

One of the most important stages of life of an individual is the retirement stage when there is presumably change in the amount and sources of receipt of income. The prediction of the life cycle hypothesis implies that households would maintain their pre-retirement consumption patterns due to the dependence on permanent income rather than current income and hence no significant anticipated change in consumption. Contrary to this view is that, there is sharp decline in consumption for many households (see Bernheim, Skinner, and Weinberg, 2001).

Economic theory suggests that income is the main determinant of consumption. Keynes (1936) suggested that, this income is current disposable income whilst Friedman (1957) suggested that most individuals' consumption pattern follow their permanent income though there could be transitory income component. This permanent income is the kind of income that individuals expect to earn with certainty over their lifetime, even during retirement when they are disengaged from work due to old age. But due to uncertainty and information asymmetry most people consume based on their current income (Dan, 2004). Social security or pension benefit is the primary source of retirement income especially,

to those who have subscribed to pension schemes during working life. How these social security or pensions meet the simple requirements of providing the basic level of income during retirement in order to enable pensioners enjoy descent consumption levels have become a subject of great concern even in developed and developing countries.

In Ghana, Social Security and National Insurance Trust (SSNIT) is the main institution responsible for Ghana's mandatory pension scheme and its related retirement issues. SSNIT currently has an active membership of 1, 161, 973. The number of people who retire vary from year to year. 6.04% and 7.69% of members retired in 2012 and 2013 respectively. As at September 2014, 8.53 % of members had retired (SSNIT, 2014). Although, the pensioners would receive monthly benefits from SSNIT, the question however is whether the benefits are sufficient to cater for the basic needs of these pensioners. Stewart and Yermo (2009) suggests that pensions play an important role in the poverty reduction of the elderly and hence the inadequacy of the pension benefits may widen the poverty gap. The inadequacy of pension benefits and hence the consumption-income disparity may force most pensioners to search for work (which is largely unavailable) even after retirement, contrary to their desires. Other pensioners may have to seek alternative sources of retirement income such as remittances

from family and friends, personal savings/investments among others most of which are unreliable. The pensioners who are too weak and incapacitated to work, in addition to pensioners who have no alternative source of income may have to wallow in poverty or engage in menial jobs at the expense of their health (Nelson-Cofie, 2007; Quartey et al, 2015). Given the levels of poverty and the increase in inequality in Ghana, the welfare of pensioners is a major developmental issue and can therefore hamper the attainment of the Sustainable Development Goals (SDGs) as well as the vision for the Ghana Shared Growth and Development Agenda (GSGDA).

Studies on this subject matter have focused on what should be regarded as an adequate standard of living in retirement and whether consumption falls in retirement (see Bernheim, Skinner, and Weinberg, 2001; Wakabayashi, 2008; Binswanger and Schunk, 2009). Nevertheless, these studies are mainly found on developed countries, whilst not much studies exists on the adequacy of pension benefits and factors that affect consumption of pensioners in developing nations where Ghana is no exception. This study attempts to fill this gap in the literature for developing countries by investigating the consumption-income disparity among pensioners in the Ghana and the possible reasons for such. Therefore the objective of this paper is to examine the extent of disparity between average consumption expenditure and pension benefits, the reason (s) responsible for this consumption-income disparity, and the factors that affect consumption expenditure of pensioners in Ghana.

The rest of the study is organized into 5 sections. Sections 2 and 3 present the literature review and methodological approach adopted for the study respectively. Sections 4 and 5 discuss the findings and conclusions of the study.

## 2. Review of Relevant Literature

There are many models that explain consumption behaviour. The most widely documented models include the Keynesian Absolute Income Hypothesis, the Deusenberry's Relative Income Hypothesis, the Fisher's Intertemporal Choice, the Friedman's Permanent Income Hypothesis, and the Life Cycle Model by Modigliani and Brumberg. The predominant models used for studying consumption decisions of households are the permanent income model and life cycle model. Though, there exist many similarities between the permanent income and the life cycle model, the main difference however, between the two models is the planning horizon, which is assumed finite in the life cycle hypothesis, and infinite in the permanent income hypothesis (Pistaferri, 2009). Thus the permanent income hypothesis assumes that households live forever hence infinite horizon whilst the permanent income hypothesis assumes that households live for a period of time hence a finite horizon. This is where the dominance of the life cycle is evident because no individual actually lives forever but for a period of time. The life cycle model is the theory underlying this study because in addition to the assumption of a finite horizon, it predicts that individuals should maintain their pre-

retirement consumption levels even in retirement as any change in income should be anticipated and well planned for.

With respect to the empirical literature, there are few studies that have focused on consumption-income disparity in retirement and the possible reasons for this occurrence *albeit* in the developed economies. Studies that focus particularly on consumption –income disparity among pensioners in the literature include Hamermesh (1984), who used a consumer expenditure survey in the United States of America (USA) and indicated that, on average consumption expenditure of pensioners exceeds by 14% the income that their financial, pension and social security wealth can provide in the USA. Similarly, Fisher and Marchand (2011) also used a consumer expenditure survey and mentioned that, some categories of pensioners spend more than their income in retirement. The reason cited by Hamermesh (1984) to be responsible for the difference in consumption and pensions is “inadequate savings”. Fisher and Marchand (2011) cited “inadequate savings” or “excessive consumption” for the same purpose.

On the other hand, Talbot (1990) and Lee (2001) identified age of the pensioner, race, area of residence, household type and income to be the factors which affect consumption of the retired. Talbot and Lee indicated that age is inversely related to all consumption expenditure categories such as utilities, rent, clothing, transportation, entertainment except food consumed at home and healthcare. These studies explain that, as pensioners advance in age, they spend more on food prepared at home and on healthcare. Expenditure on healthcare increases with age because of deterioration in physical functions. The negative relationship however between age and expenditure on food consumed away from home, clothing, transportation, and entertainment can be associated with declining interest in social activities and with declining physical abilities. These pensioners may have no interest in new fashion and might have piles of clothing and so there will be no need to spend more on new clothes. Though there may be differences in relationship of the various consumption components with age, the aggregate of all consumption components (total consumption) has an inverse relationship with age.

Race is another factor identified to influence the consumption expenditure of pensioners. Differences in culture and environment can affect the taste and preferences of the elderly and hence affecting consumption expenditure. A classic example is provided by Neal et al. (1990) and Schwenk (1993) who stated that African Americans tend to have lower consumption levels than whites for all consumption expenditure categories. Race, however, will not have an effect on this study because only Ghanaians are involved in the sample for the study.

Area of residence may also affect consumption expenditure. Rural dwellers incur less consumption expenditure than urban settlers *ceteris paribus*. This is basically because of the high cost of living associated with living in the big cities especially in African countries where Ghana is no exception. Schwenk (1993) totally agrees with

this fact. However, area of residence was identified to be insignificant factor affecting consumption expenditure in the study by Lee (2001).

Household type refers to the marital status of the pensioner. It will not be wrong to think that single pensioners will incur less consumption expenditure than their married counterparts. The work by Lee (2001) suggest that pensioners who are single do allocate less money to food consumed at home and more money to housing than pensioners who are married. Lee also mentioned that singles in general do spend less than married pensioners.

Finally income is the most important determinant of consumption among any set of households. Lee (2001) for instance, associated this income to wealth. He stated that wealth is a crucial factor for understanding the consumption pattern and well-being of the retirees because wealth appears to be the main source of retirement income. The wealth components are annual income flow, checking and savings accounts, stocks and bonds and property assets.

The study by Paulin and Duly (2002) indicated that there are anticipated differences in the consumption patterns of pre-retirees and retirees and this could be as a result of certain demographic characteristics. Paulin and Duly (2002) identified the following demographic characteristics to have an important effect on the consumption expenditure of the elderly. These characteristics include, marital status, race, educational background, area of settlement (urban or rural), residential occupancy status (rented or owner occupier) and income.

In summary, there are few empirical studies showing the existence of consumption-income disparity among pensioners and the reasons accountable for this phenomenon are inadequate savings and certain demographic characteristics. However, all these studies have focused on developed economies. Given the higher levels of poverty in developing countries, particularly in SSA, it is important to examine the consumption-income disparity among pensioners and the possible reasons in order to prevent the increasing numbers of pensioners from contributing to further increases in poverty. In this paper, we contribute to the literature in developing countries (particularly sub-Saharan African countries) by investigating the disparity between average consumption expenditure of pensioners and pension benefits as well as its determinants in Ghana.

### 3. Methodology and Data

#### 3.1. Methodology

In this study, we construct the consumption –income disparity for pensioners as well as the reasons for the disparity in Ghana using a household survey on pensioners. The analysis is mainly descriptive. With respect to the factors that affect consumption expenditure of pensioners in Ghana, we adopt the model by Caglayan and Astar (2012) which was used to determine the factors that affect consumption expenditure for Turkish households. The consumption

function is specified in equation (1) as:

$$C = \beta_0 + \beta_1 PB + \beta_2 AGE + \beta_3 DEP + \beta_4 SEX + \beta_5 ACC + \beta_6 MAR + \beta_7 JOB + \varepsilon$$

where;

C is consumption expenditure

PB represents pension benefits from SSNIT (including lump sum converted into annuities)

AGE represents age of the pensioner

DEP represents the number of dependants a pensioner has

SEX represents the sex of the pensioner

ACC represents the residential occupancy status of the pensioner

MAR represents the marital status of the pensioner

JOB represents the employment status of the pensioner

The Ordinary Least Square (OLS) estimation technique was used for the estimation. Since the data collected is cross sectional in nature, various regression diagnostics tests were performed such as Variance Inflation Factor (VIF) for multicollinearity, Ramsey regression specification-error test for omitted variable and Breusch-Pagan / Cook-Weisberg test for heteroscedasticity. The model does not suffer from multicollinearity and the presence of omitted variable problems. However, heteroscedasticity was found to be present and so, this was corrected for with the use of White's Heteroscedasticity-corrected standard errors which is also known as robust standard errors (see Appendices A2 and A3).

#### 3.2. Source of Data

The main source of data for the study was through a household survey on pensioners collected in 2013. This survey was conducted using a well-structured questionnaire from which responses were elicited. The first section involves information on background of respondents (age, sex, marital status, number of dependents and accommodation status). The second section is on economic attributes such as average consumption expenditure and pension benefits.

The respondents to the survey for this study comprise only Social Security and National Insurance Trust (SSNIT) pensioners. This is because CAP 30 which is the other mandatory pension scheme aside the SSNIT pension scheme is being phased out and it is not available and accessible to all Ghanaians. The SSNIT pension scheme however, is accessible to all Ghanaians employed in the formal and informal sector in Ghana. Also the SSNIT pension scheme is the most comprehensive pension scheme in Ghana.

The study focuses only on pensioners who worked in the formal sector because only pensioners who worked in the formal sector are entitled to monthly pension benefits aside the lump sum payments and this study requires that, pensioners be on a regular stream of income to be able to compare average monthly consumption expenditure to monthly income. Moreover, the SSNIT Informal Sector Fund (SISF) became operational only quite recently in 2008.

A SSNIT pensioner/retiree therefore, is a person who has

contributed towards the SSNIT pension scheme during his/her working life and has attained a pensionable age of 60 years or retired voluntarily at age 55-59 years.

Also the survey was conducted in the Greater Accra region of Ghana since the region has the highest number of pensioners compared to other regions. Also, the region was purposely selected because of its metropolitan nature, making it conducive for capturing the various types of pensioners from low class earners to high class earners.

A total of 404 questionnaires were administered to the respondents comprising both male and female pensioners. A scientific method of calculating sample size proposed by (Daniel, 1999) was used to determine the minimum required sample size as follows:

$$n = Nz^2pq / (E^2 (N-1) + z^2pq)$$

Where,

n is the minimum required sample size

N is population size of pensioners in Accra which is 32,152

p and q are population proportions which are both 0.5.

z is value for confidence level of 95% which is 1.96

E is the margin of error which is 0.05

The computation equals to 380 respondents but with an anticipated non-response, the total questionnaire administered was 404. However, Only 378 responses met the criteria and were used for the analysis. The questionnaires were administered randomly to respondents.

### 3.3. Description of Variables

The various variables as used in this study especially in the methodology are explained below.

**Average Consumption Expenditure (C):** This refers to the amount of money a pensioner spends monthly on average, on himself and his dependants (including the spouse). The consumption expenditure is composed of regularly occurring expenses. It includes amount spent on food and drinking water, rent (optional), utilities (e.g. electricity, water, toilet bills etc.) clothing and footwear, healthcare, transportation, telephone bills or amount spent on phone credit and other

basic expenses specified by the pensioner such as dues, entertainment, donations, contributions at church and alms giving, etc.

**Age (AGE):** Age refers to how old the pensioner is, in years. The age of the pensioner is an important factor most likely to affect the consumption expenditure of a pensioner. The older a pensioner is, the more likely it is that, he/she might have spent a greater portion of his/her SSNIT lump sum payments if not converted into annuities where periodic payments are derived. This means that pensioners in their early years of retirement (below 65 years) may have higher retirement income and higher consumption expenditure than those who are older.

**Sex (SEX):** This refers to the gender of the pensioner whether male or female. It is expected that males will have higher consumption expenditure than females since in the Ghanaian setting, males are considered the breadwinners of the household.

**Number of Dependants (DEP):** The number of dependants refers to the number of people the pensioner caters for in terms of average daily consumption expenditure. The higher the number of dependants a pensioner has, the higher the consumption expenditure and the more inadequate the pension benefits become.

**Accommodation of Pensioner (ACC):** This refers to the housing tenure status of pensioners. That is, whether a pensioner is in a rented house, family house, own house or other forms of occupancy such as living with a friend, etc. This is because it is expected that those who pay rent will have higher consumption expenditure than those who own their houses or who do not pay rent.

**Marital status (MAR):** This refers to whether a pensioner is single, married, widowed, divorced or separated.

**Pension Benefits (Pension):** Refers to SSNIT monthly payments to pensioners and lump sum payment convertible to annuities or perpetuities.

Table 1 presents the classification as well as the expected signs of the explanatory variables following from the review of the literature in section 2.

**Table 1.** Classification of explanatory variables used in the regression equation.

Variable	Classification	Expected Sign
PB: Monthly pension benefit of pensioners	Continuous	+
AGE: Age of pensioners (1: 55-59 years, 2: 60-64 years, 3: 65-69 years, 4: 70 years and above years)	Categorical	-
DEP: Number of dependants of a pensioner (1: None, 2: 1-3, 3: 4-6, 4: Above 6)	Categorical	+
SEX: The gender of the pensioner (1: Male, 0: Female)	Dummy	+/-
ACC: Accommodation of pensioner (1: Rented house, 0: No Rent or Others)	Dummy	+/-
MAR: Marital status of pensioner (1: Married, 0: Single)	Dummy	+/-
JOB: The employment status of pensioner (1: Working, 0: Not Working)	Dummy	+

## 4. Estimation and Analysis of Results

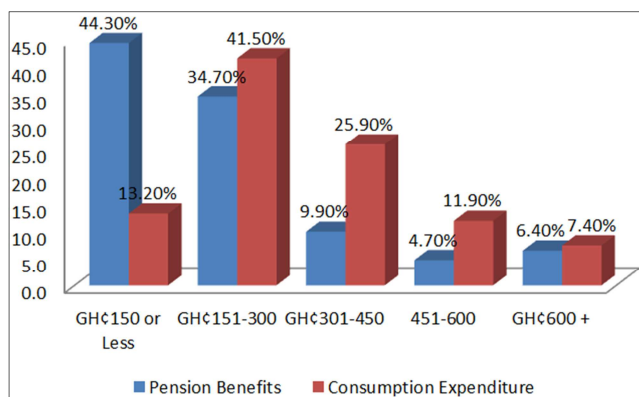
In this section, we construct and robustly analyse the disparity between consumption expenditure and pension benefits of pensioners, and also the reasons for the disparity.

In addition, we discuss the findings on the factors that affect consumption expenditure of pensioners during retirement in Ghana.

*Distribution of pension benefits and consumption expenditure*

This distribution shows pensioners monthly benefits and

their respective consumption expenses. The survey revealed that 44.3% of pensioners earn pension benefits of GH¢150<sup>1</sup> or less whilst only 13.2% of pensioners spend within this pension benefits category. 34.7% earn between GH¢151-300 whilst 41.5% spend within this group. 9.9% earn between GH¢301-450 and 25.9% of pensioners spend within this group. Only 4.7% of the pensioners earn between GH¢451-600 whilst 11.9% spend within this category. 6.4% of the respondents earn above GH¢600 and 7.4% spend within this group. The distribution as depicted in figure 1 shows that majority of the pensioners spend far more than their pension benefits. In all pension benefits categories, it is only the GH¢151-300 category that have more the 40% of pensioners spending within their pension benefits.



Source: Author's survey, 2013

**Figure 1.** Distribution of pension benefits and consumption expenditure of pensioners.

#### Composition of consumption expenditure

Consumption expenditure is the summation of the amount spent on average in a month on: food and drinking water, rent for accommodation, utilities which includes water and electricity, clothing and footwear, healthcare, transportation and others. Food accounts for majority of the consumption expenditure. It ranges from 50% to near 100% of consumption expenditure for pensioners. Expenditure on utility bills and transportation also accounts for quite a significant proportion of consumption expenditure but the expenses on transportation is higher for most pensioners who are still engaged in post-retirement job due to the fact that they have to commute to and from their various work places. A number of pensioners who live in family houses do not pay for utilities because it is catered for by relatives. Rent payment is another significant component of consumption expenditure among some pensioners. 22% of pensioners find themselves paying rent for various forms of houses. Expenditure on clothing and footwear and on healthcare constitutes the least part of consumption expenditure. Most pensioners are on the National Health Insurance Scheme (NHIS) and so do not pay for healthcare except for some kinds of drugs which are not listed on the scheme and needs

to be bought. However, few pensioners who are battling various forms of ailments pay huge sums on monthly basis just for drugs and periodic checkups.

Disparity between consumption expenditure and pension benefits

The minimum monthly pension benefit identified during the survey was GH¢100 and the maximum pension benefit among the respondents is GH¢1869. The minimum average monthly consumption expenditure is GH¢80 and maximum expenditure is GH¢1900 (see Table 2).

**Table 2.** Descriptive statistics- Monthly Consumption and Pension Benefits.

	Minimum	Maximum	Mean
Average Monthly Consumption	GH¢80	GH¢1900	GH¢348
Monthly Pension Benefit	GH¢100	GH¢1869	GH¢247

Source: Author's Survey, 2013

The result of the survey shows that 82% of the pensioners had their average consumption expenditure (which includes amount spent on spouse and other dependants) greater than pension benefits. Consumption expenditure being more than pension benefit for majority of the pensioners' means that these pensioners' should have alternative sources of income apart from the pension benefits. It is important to state however, that, 86% of pensioners who spend more than their pensions earn GH¢300 or less, meaning that consumption being more than pension benefit is partly as a result of insufficient pension benefit.

Furthermore, the mean consumption expenditure as shown in Table 2 is GH¢348 whilst the mean monthly pension benefit is GH¢247. This means that, average consumption expenditure exceeds average pension benefit by 41% which implies that, on average, a pensioner needs an additional 41% of alternative source of retirement income to supplement his/her monthly pension benefits. This amount exceeds by thrice the results obtained by Hamermesh (1984) in the U.S where consumption exceeds pension and private savings by just 14%.

#### Reasons for the consumption-income disparity

There are two main reasons identified in literature and mentioned in the review of literature to be responsible for the consumption-income disparity. These are inadequate pensions and private savings and excessive expenditure or certain demographic factors that affect consumption expenditure. These two reasons are also evident in this study. The first reason which is inadequacy of pension benefits is discussed in this section and the second reason which is, factors that affect consumption in retirement is discussed in the next section.

The average pension benefit as indicated in Table 3 is GH¢247 and the average number of dependants per pensioner as identified in the survey was 2.2. With most pensioners married and having to cater for their spouse, especially the male pensioners, the total average household size is four (4) including the pensioner himself/herself. Extrapolation gives us a daily income per-capita of approximately GH¢2.1 of a pensioner household. GH¢2.1 or

<sup>1</sup>The prevailing exchange rate for the Ghana Cedi and the US Dollar was GH¢1 = US \$2.2 as at the time the Survey.

approximately \$1 for a pensioner to live on a day is highly inadequate given the current high cost of living in Ghana.

Coupled with this extrapolation, 44% of the pensioners' earn GH¢150 (\$75) or less and most of these pensioners are frustrated as a result of the low pension. In simple words, the SSNIT pension benefit is highly inadequate and this is in agreement with the findings of Hamermesh (1984) and Fisher and Marchand (2011) who identified the consumption-income disparity to be associated with the insufficiency of private and pension savings.

#### *Factors that affect consumption expenditure of pensioners during retirement*

This section of the analysis investigates the factors which affect the consumption expenditure of pensioners during retirement. These factors partly explain the consumption-income disparity among pensioners which is associated with the study of Paulin and Duly (2002) and Fisher and Marchand (2011). The technique proposed to be used for this analysis is the Ordinary Least Square estimation technique and since the data taken was also cross sectional in nature, some diagnosis tests were performed in order to avoid biased results. These tests include multicollinearity test, heteroscedasticity and test for omitted variables. Multicollinearity was not present among the regressors and shown in the appendix. Heteroscedasticity however, was present when tested for using Breusch-Pagan / Cook-Weisberg test for heteroscedasticity.

Two remedial measures can be used to correct for the heteroscedasticity. If the variance of the errors is known, then the method of Weighted Least Squares (WLS) or Generalized Least Square (GLS) can be used but since the variance of the errors are rarely known as according to Gujarati (2004, pg. 417), an alternative approach known as the White Heteroscedasticity-corrected standard errors (robust standard errors) was used. The White's heteroscedasticity-corrected standard errors are used to obtain unbiased and consistent estimates of the standard errors so that asymptotically valid statistical inferences can be made. With this alternative, Hypothesis tests will also be valid.

**Table 3.** Results of the robust standard errors.

Dependent Variable: Consumption Expenditure

Variables	Coefficient	Standard Errors	P-value
Age	-28.60762***	8.690563	0.001
Pension	0.678547***	12.85857	0.001
Sex	-23.80046	23.27648	0.307
Mar	47.15511**	21.30505	0.027
Job	32.67616*	18.97298	0.086
Acc	23.96835	16.22502	0.140
Dep	42.08416***	12.85857	0.001
_Cons	135.0072***	39.95265	0.001
R Square	0.5214		
No. of Obs.	378		

\*\*\*, \*\* and \* indicate significant level at 1%, 5% and 10% respectively.

Pension benefit which is income from SSNIT is the most important factor affecting consumption expenditure. This is because economic theory states that income is the most

important determinant of consumption for any individual or household. Pension benefit has a positive sign which is in agreement with the expected sign and is also significant at 1% significant level. This means that there is a direct relationship between consumption expenditure and pension benefit implying that, as pension benefit increases, consumption expenditure of the pensioner also increases.

Age is statistically significant with a negative sign as per expectation. This sign was expected because as pensioners advance in age, it is expected that they incur less consumption expenditure, probably because of low pension stemming from the fact that they have spent a significant proportion if not all, of their SSNIT lump sum payments and so relying solely on their monthly pension benefits. Also they might not be physically strong to engage in post-retirement jobs as an alternative means of financing consumption. This is in agreement with the findings of Lee (2001) who also discovered a negative nexus and statistically significant effect of age on total consumption of the retired elderly.

Sex which represents gender of pensioners had a negative sign. The result implies that on average, female pensioners who are breadwinners are less than their male counterparts. That is, males spend more than females. Sex is however, not a significant factor affecting the consumption expenditure of pensioners.

Marital status (Mar) has a positive sign and is also statistically significant. This positive sign was expected because those who are married have an extra mouth to feed and hence higher consumption expenditure. The coefficient means that, a pensioner who is married spends more than one who is single. Marital status was identified as a significant factor affecting consumption expenditure of pensioners. This is also in line with the findings of Lee (2001).

The next factor used in the estimation is whether one is working or not. Some pensioners are engaged in post-retirement jobs and this was identified to be statistically significant with a positive sign. The result implies that pensioners who work after retirement spend more than those who are not working. This is fairly justified on the grounds that the higher the income, the higher the consumption levels all other things being equal. Post-retirement job therefore, is a significant factor affecting consumption expenditure of pensioners.

Accommodation status which is the housing tenure status of the pensioner has the expected positive sign but is statistically insignificant. This means that those who are in rented houses, on average, incur an additional expense than those who do not pay rent and are in their own houses, family houses or other form of occupancy which do not require the payment of rent.

The last but not the least explanatory variable to be discussed is the number of dependants. All other things being equal, economic theory states that, the larger the household size the higher the consumption expenditure. This is evident in the study with a positive sign as expected and it is also significant. The results revealed that a pensioners' consumption expenditure increases with an increase in

number of dependants. Number of dependants or household size was found to be significant and so, it is an important factor affecting consumption expenditure of pensioners.

## 5. Conclusion and Policy Implications

Following from the lack of studies on consumption-income disparity among pensioners in developing countries, this paper attempts to examine the extent of disparity between consumption expenditure and pension benefits, the possible reasons for the disparity, and the factors that affect consumption expenditure of pensioners during retirement in Ghana. Using data from a household survey on pensioners in Ghana, the study employs descriptive and econometric techniques to analyse the data.

The analysis of the result of the survey shows that 82% of the pensioners had their average consumption expenditure (which includes amount spent on spouse and other dependants) greater than pension benefit. Furthermore, the mean monthly consumption expenditure is GH¢348 whilst the mean monthly pension benefit is GH¢247 which implies that average consumption expenditure exceeds average pension benefit by 41%. Consumption expenditure being more than pension benefit (consumption-income disparity) for majority of the pensioners means that these pensioners must have alternative sources of income apart from the pension benefits.

The reasons identified in the study for the consumption-income disparity are inadequate pension benefits and several other socio-economic factors. These factors which affect consumption expenditure of the pensioners are: pension benefit, age, marital status, job after retirement and number of dependants. These variables significantly influence the consumption expenditure of pensioners. Sex and accommodation status though may affect consumption expenditure of pensioners, were found to be insignificant. These variables jointly account for 52% of variations in consumption expenditure.

These findings are startling, given the increasing numbers of pensioners' year on year. This means that many pensioners may fall back into poverty on retiring. These would be a setback to the shared growth, poverty reduction and prosperity agenda, as well as the attainment of the SDG in Ghana. There is therefore the need to put in place measures to prevent pensioners from this occurrence. One key policy fall-out from this study is that the current working population of Ghana especially those under the SSNIT pension scheme must start planning for their retirement immediately they start working. It is important that they invest and save privately towards retirement early in life and should also make more enquiries about retirement investment packages they can undertake. This is mainly because, SSNIT pension is inadequate as evident in the study and hence the need for alternative sources of income.

Government in collaboration with SSNIT should set the minimum pension equal to the minimum wage of Ghana and should be adjusted anytime the minimum wage is adjusted.

The current minimum wage is GH¢5.24 which gives a monthly wage of GH¢141.48. This is mainly because, 38% of pensioners from the survey earn less than the current minimum wage.

Government in collaboration with SSNIT should improve upon the policies of SSNIT pension administration especially, by periodically reviewing the pension benefit upwards since SSNIT pension benefit was identified as a significant determinant of consumption. With a high marginal propensity to consume among pensioners, any increase in pension benefit will increase the consumption of pensioners and their dependants in a very significant way.

## Appendix

### Appendix A1.

*Table 4. The distribution of demographic variables.*

Demographic Variables	Frequency	percentage (%)
<b>Age</b>		
55-59 years	11	2.7
60-64 years	144	35.6
65-69 years	150	37.1
70 and above	99	24.5
<b>Gender</b>		
Male	247	61
Female	157	39
<b>Marital status</b>		
Single	27	6.7
Married	267	66.1
Divorced	8	2
Widowed	89	22
Separated	13	3.2
<b>Number of dependants</b>		
None	80	19.8
1-3	193	47.8
4-6	108	26.7
Above 6	23	5.7
<b>Accommodation status</b>		
Rented House	87	21.5
Owner Occupier	161	39.9
Family House	143	35.4
Other	13	3.2

Source: Author's Survey, 2013

### Appendix A2.

*Table 5. Variance inflation factor test for multicollinearity.*

Variable	VIF	1/VIF
Mar	1.82	0.549767
Sex	1.71	0.583567
Pen	1.13	0.883098
Age	1.10	0.910310
Dep	1.08	0.928314
Acc	1.04	0.960025
Job	1.03	0.967788
Mean VIF	1.27	

According to Gujarati (2004, pg. 362), multicollinearity is a problem in a model when the Variance Inflation Factor (VIF) exceeds 10. But since all the VIF's are less than 10, there is no presence of multicollinearity in the model.



### Appendix A3. Test for Heteroscedasticity

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity  
 $H_0$ : Constant Variance  
 Chi 2 (1) = 239.81  
 Prob > Chi 2 = 0.0000

We reject the null hypothesis of homoscedasticity and therefore acknowledge the presence of heteroscedasticity. This was however corrected for with the use of White Heteroscedasticity-corrected standard errors (robust standard errors).

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