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Determinants of Types of Underemployment in the MiDA Intervention Zones of Ghana

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Abstract

Underemployment is a severe form of human resource underutilization, especially in the rural areas of Ghana. Unfortunately while its *'twin brother'*, unemployment, had for many years enjoyed some attention in the world of research, much cannot be said of underemployment. Using labour underutilization framework, the paper employs multinomial logistic regression to investigate empirically the various forms of underemployment and their determinants in the three MiDA intervention zones in Ghana. The empirical analysis was done with the data of the Ghana Living Standard Survey Five Plus (GLSS 5+) and factors such as: experience, employment in the manufacturing sector and settlement in an urban location tend out not to be in support of underemployment. Consistent with findings of previous studies, the study found all forms of underemployment to be highly pervasive in the rural areas. Unexpectedly, acquisition of tertiary academic qualification was found to exacerbate the incidence of underemployment. Suggestion was therefore made to the stakeholders of the Ghanaian economy to develop pragmatic measures to address the problem of labour underutilization, especially those involving graduates of tertiary institutions, in order not to discourage Ghanaians from seeking higher academic laurels.

Keywords: Underemployment, Unemployment, Labour underutilization framework, MiDA Intervention Zone

1.0 Introduction

Tragic waste of human potential in Africa has been at the core center of most discussions on poverty reduction in recent time. The simple logic is that as the human potential is efficiently harnessed, the accompanied increased labour returns would serve as a guarantee to escape poverty. Unfortunately, unemployment and underemployment tend to mar the efforts of full labour utilization in Africa (Sackey and Osei, 2006). It is therefore not surprising that Africa, the home of the world's highest rates of open underemployment and youth unemployment, also has the highest proportion of people living in extreme poverty (ILO, 2003).

While underemployment and unemployment appear as the most visible forms of labour underutilization, Osmani (2003) described underemployment as the more problematic for Africa. His argument is premised on the fact that majority of African countries do not have any social insurance mechanism and for that matter the citizens are compelled to do anything, however *'small'* to make a living. Hence workers tend to accept any work; it does not matter whether it pays less or it is a pert-time work. The obvious effect of this development has been the high incidence of open underemployment in Africa. Studies in some African countries indicate that although unemployment is always in the news, it may constitute a numerically insignificant proportion of labour underutilization in Africa (Sackey and Osei, 2006). For example, while the report on the GLSS 5 (2008) puts the unemployment rate in Ghana at 3.6 percent, about 24 percent Ghanaian workers were also classified as visibly underemployed by the same survey.

Like many other African countries, the Ghanaian economy has been performing creditably in recent time. During the last two decades (1990-2012), the economy grew at an average annual rate of about 5.5%. Even though the growth in the economy has been associated with a reduction in the incidence of poverty, inequality has increased consistently. According to Osei and Domfe (2008), "A possible explanation might be that the poorest of the poor have participated much less in the growth and poverty reduction over this period". In response to the growing income inequalities and other structural challenges emerging out of the recent inspiring economic performance, the government of Ghana has put together a policy framework dubbed; "Ghana Shared Growth and Development Agenda (GSGDA)" to be implemented over the period 2010 - 2013. It is obvious from the GSGDA that the government wants to adequately involve all labour participants in the 'growth' so the

outcome would be shared 'equally' among all Ghanaians.

However, labour underutilization, especially through underemployment in the informal sector, poses a great challenge to this intended 'shared growth'. It is therefore time that empirical investigations are undertaken to bring to the attention of the policymakers the extent of the incidence of underemployment among Ghanaian workers, especially those in the informal sector. Again, since few studies on underemployment in Ghana have always concentrated on only the visible form of the labour slack, it would be interested to investigate the 'other' forms of underemployment as well. In response to this, the main objective of the paper is to empirically investigate the various forms of underemployment in the informal sector economy of Ghana. When this is successfully done, the paper will continue to examine the main factors that influence the various forms of informal employment in the country.

The paper begins with a brief discussion on how labour underutilization framework (LUF) is developed from labour force framework (LFF)[1]. This is followed by descriptive statistics of the variables of interest and the econometric analysis.

2.0 **The Labour Underutilization Framework (LUF)**

There have been a number of concerns among scholars of labour market, the need to shift attention on the measures of the employment other than unemployment. ILO (2008) cautions that discussions on employment problem should not only be concentrated on the total lack of work as measured by unemployment, but also other insufficiencies in the volume of work and deficiencies in its remuneration, as well as incompatibilities between education and occupation, and perhaps also other forms of mal employment. This brings to the fore, the relevance of the labour force framework (LFF) as an internationally recognized standard for computations of all employment and unemployment statistics. The framework divides the working age population into three categories (employed, unemployed and not economically active) depending on their labour market activities during a specified short reference period, either a day or a week. Figure 1 presents graphical illustrations of the framework as endorsed by the ILO in 2008.

According to the ILO (2008), the "employed" comprise all persons of working age who during the reference period were in paid employment or self-employment as defined below:

Paid employment:

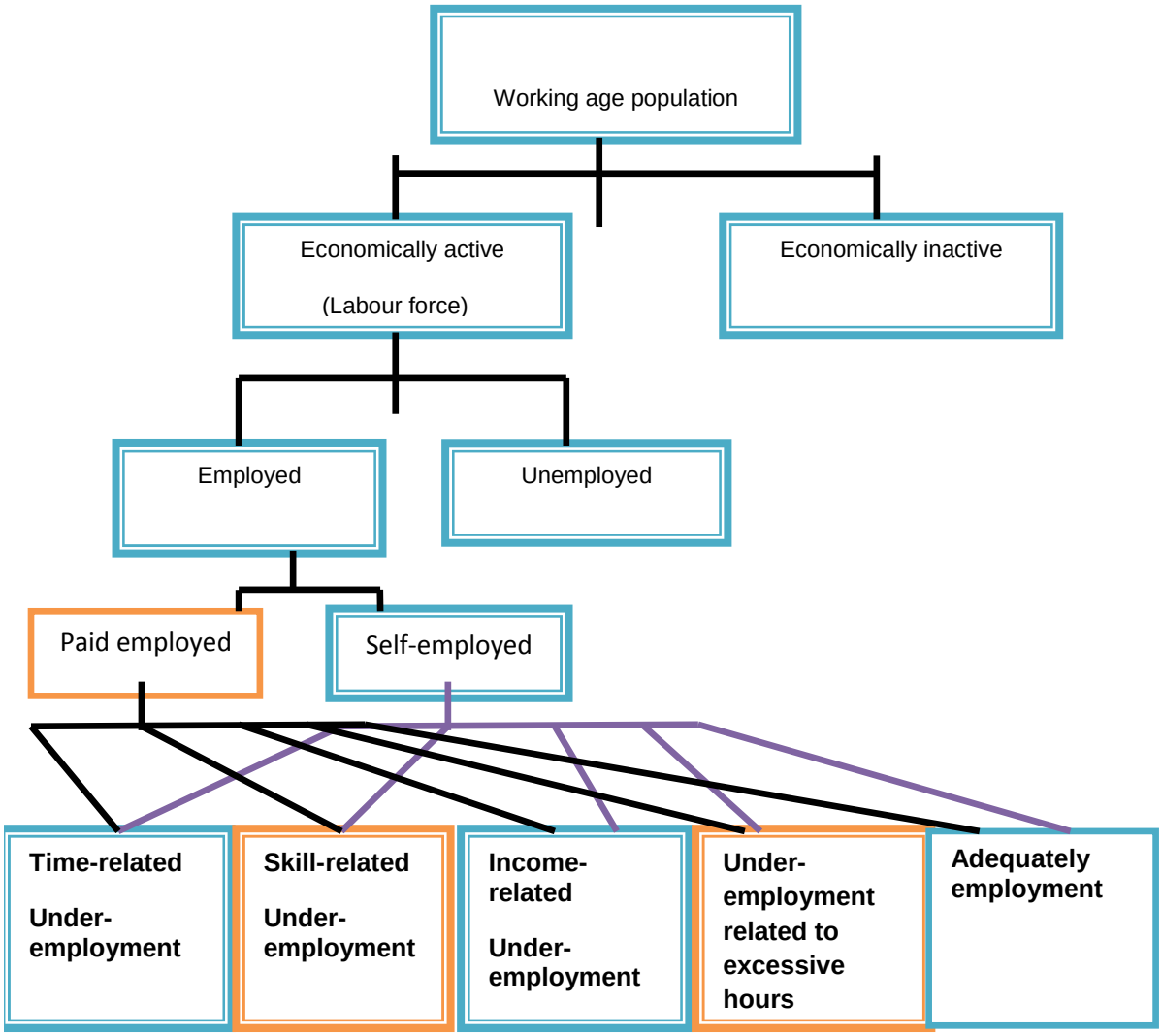
- "at work": persons who, during the reference period, performed some work for wage or salary, in cash or in kind;
- "with a job but not at work": persons who, having already worked in their present job, were temporarily not at work during the reference period but had a formal attachment to their job,

Self-employment

- "at work": persons who, during the reference period, performed some work for profit or family gain, in cash or in kind;
- "with an enterprise but not at work": persons with an enterprise, which may be a business enterprise, a farm or a service undertaking, who were temporarily not at work during the reference period for some specific reason.

[1] This framework was passed by a r*esolution concerning statistics of the economically active population, employment, unemployment and underemployment"*, during the Thirteenth International Conference of Labour Statisticians, Geneva, October 1982.

Figure 1: Labour Force Framework



Adapted from: ILO, 2008

2.1 Underemployment

Underemployment is a broad concept reflecting underutilization of the productive capacity of the employed population, including those which arise from a deficient national or local economic system. ILO (2008) describes the following as possible types of underemployment:

Time-related underemployment: This exists when the hours of work of an employed person are insufficient in relation to an alternative employment situation in which the person is willing and available to engage.

Skill-related inadequate employment: That is the willingness to change the current work situation in order to use current occupational skills more fully, and being available to do so.

Income-related inadequate employment: This is the desire to change the current work situation in order to increase income limited as result of low level of organisation of work or productivity, insufficient tools or equipment and training or deficient infrastructure, and being available to do *Inadequate employment related to excessive hours*:, i.e., wanting or seeking to work less hours either in the same job or in another job, with a corresponding reduction of income.

While labour underutilization framework (LUF) is adapted from LFF, it appears much more suitable for the study because of the inability of the available data to capture skill-related underemployment in the informal sector. With, LUF, the study will focus only on time-related and income-related underemployment.

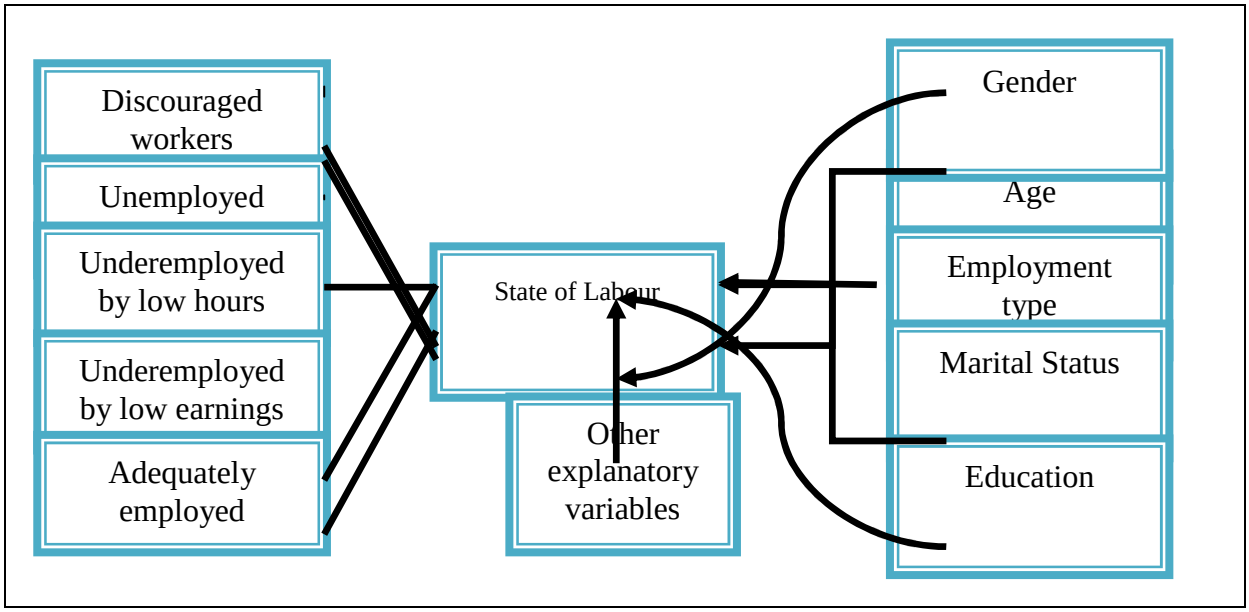
LUF maintains economically inactive population as either 'discouraged workers' or people who cannot work

because of certain reasons such as ill-health and training (including formal education). LUF also divides the employed into three categories as: underemployed by low hours, underemployed by low income and adequately employed. Setting up the basis for the classification, Findeis et al (1996), described an employed individuals either as adequately employed or underemployed. An underemployed is further described as individual workers who is either unable to find enough hours of work, or unable to earn above a poverty-level wage, or both.

Accordingly, Findeis et al., (2000), identified five states of labour and described them collectively as economic underemployment for the purpose of LUF classification**.** These five labour states are:

- *"Discouraged workers":* includes individuals not in the labour force because they are unable to find work, and part-year employees out of the labour force but looking for additional work.
- *Unemployed**:*** includes an individual who is unemployed and searching for work in the previous four-week period, and employed individuals laid off from work or in the job transition process.
- *Underemployed by low hours* (involuntary part-time workers): includes individuals working less than 35 hours per week who would prefer full-time employment.
- *Underemployed by low earnings (low-wage workers):* includes individuals whose labour income is less than 125 percent of the individual poverty threshold published by the Social Security Administration.
- *Adequately employed**:*** excludes individuals in LUF categories 1 to 4 above, but includes voluntary part-time workers.

Figure 2: Labour Underutilization Framework



Source: Adapted from Findeis et al., (2000)

3.0 **Descriptive Statistics**

Generally, the data suggests adequately employed as the most predominant category among the various states of the labour force in the MiDA intervention zones (see Table 1). About six out of every ten adults considered by LUF are adequately employed. Interestingly, while as much as 35.2 percent of the labour force is underemployed either by hour worked or wage income classification, only 4.4 percent[2] was captured as unemployed. This portrays a clearer picture of the level of incidence of underemployment in Ghana. Moreover, it appears about three percent of the people have only given up hope of finding any job after a reasonable amount time of fruitless search.

[2] This unemployment rate is slightly higher than the national rate of 3.6 percent as reported by Ghana Statistical Service in 2008 based on the 2005/06 national household survey

Table 1: Proportion of working-age population, by labour state and MiDA zone

Description	State of Labour	Northern Agricultural Zone	Afram Basin	Southern Horticultural Zone	All
All	**Discouraged workers**	4.8	0.9	3.6	3.2
	Unemployed	6.5	2.6	4.2	4.4
	Underemployed by hours worked	21.4	24.6	16.1	19.8
	Underemployed by wage income	23.2	15.8	11.1	15.4
	Adequately	44.2	56.0	65.1	57.3
Urban	**Discouraged workers**	3.9	3.0	5.0	4.2
	Unemployed	15.5	6.1	9.5	10.6
	Underemployed by hours worked	9.4	9.1	7.3	8.4
	Underemployed by wage income	19.4	17.0	6.7	13.1
	Adequately	51.9	64.9	71.5	63.8
Rural	**Discouraged workers**	5.2	0.4	3.1	2.8
	Unemployed	2.4	1.7	2.5	2.3
	Underemployed by hours worked	26.9	28.8	18.9	23.6
	Underemployed by wage income	24.9	15.5	12.5	16.2
	Adequately	40.6	53.7	63.0	55.1
Male	**Discouraged workers**	3.6	0.6	2.7	2.4
	Unemployed	5.7	2.2	4.5	4.2
	Underemployed by hours worked	16.0	22.3	15.4	17.5
	Underemployed by wage income	29.0	18.8	11.7	18.3
	Adequately	45.7	56.1	65.6	57.7
Female	**Discouraged workers**	5.9	1.2	4.2	3.8
	Unemployed	7.2	3.0	4.0	4.5
	Underemployed by hours worked	26.0	26.4	16.6	21.6
	Underemployed by wage income	18.2	13.4	10.6	13.2
	Adequately	42.8	56.0	64.6	57.0

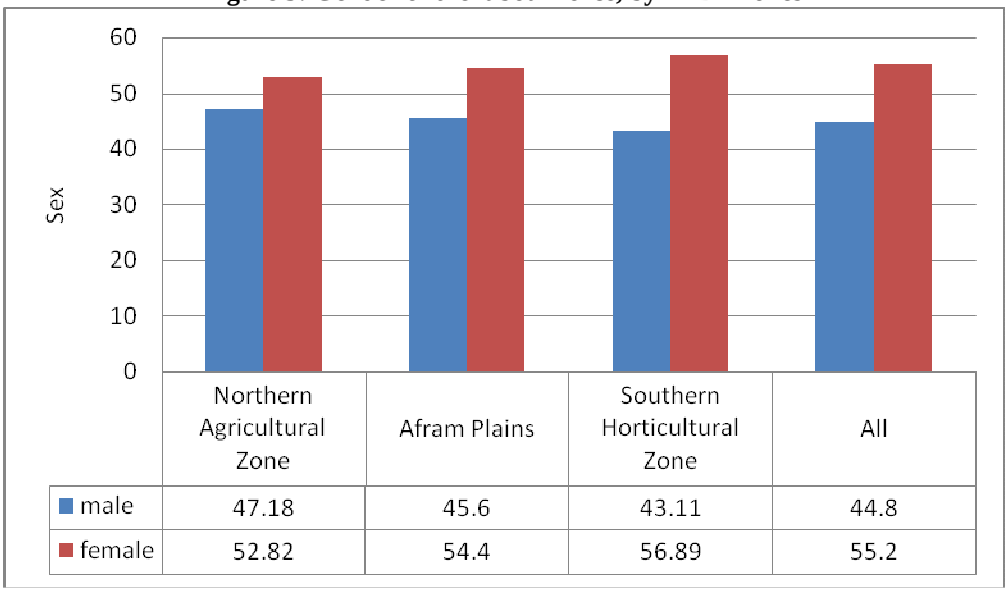
Source: Author's calculation based on GLSS 5+

There appears to be significant disparities of states of labour between the urban and rural dwellers. This is especially pronounced in the case of underemployment where the combined rates in the urban happen to be 21.5 percent compared to 39.8 percent in the rural. Expectedly, unemployment in the urban (10.6 %) appears higher than it is in the rural (2.3 %). Just like the MiDA intervention zone, other studies in Ghana also find unemployment as more prevalent in urban than rural Ghana, while underemployment is pervasive in rural Ghana (Sackey and Osei, 2006; ECA/SRO-WA, 2010).

There seems to be only a slight variation between the males and females in the state of labour classification. While underemployment by wage income classification (18.3 %) is higher than underemployment by the number of hours worked classification (17.5 %) among the males, the opposite is the case for the females. Additionally, the data suggests higher proportion of females (3.8 %) as being discouraged job seekers (see Table 1).

The gender of an individual person can influence his/her state of labour (Sackey and Osei, 2006). Figure 3 illustrates the proportion of the labour force that is either male or female in the various MiDA intervention zones. It appears the female has a higher presentation (55. %) in the labour force. This runs across all the three zones.

Figure 3: Gender of the labour force, by MiDA zones



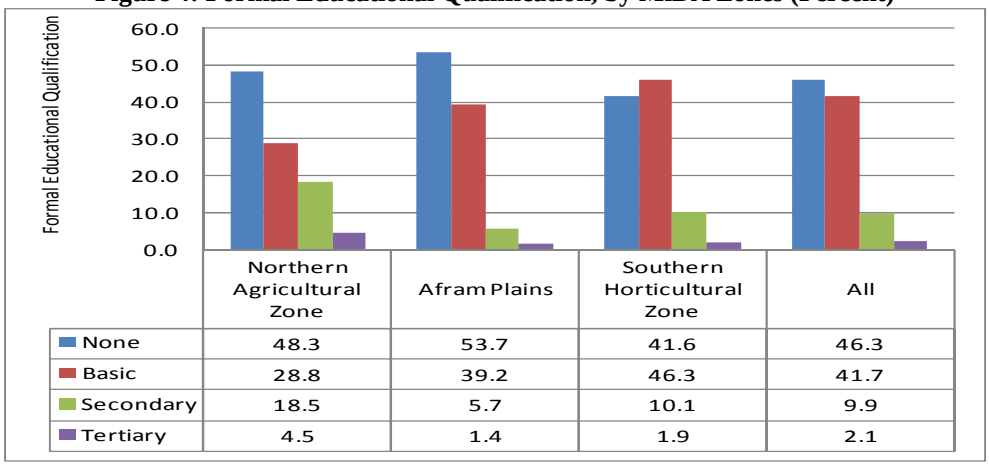
	Northern Agricultural Zone	Afram Plains	Southern Horticultural Zone	All
male	47.18	45.6	43.11	44.8
female	52.82	54.4	56.89	55.2

Source: Author's calculation based on GLSS 5+

Education is often considered as important variable in production of goods and services. According to Adofo et al. (2007), low level of education of farmers partly account for the low level of agricultural productivity in Ghana. The study is therefore curious in finding out the level of acquisition of formal educational among the labour force in the MiDA zones.

The data (Figure 4) suggest that about 9 out of every 20 members of the labour force have not acquired any certificate. Even those who are reported to have acquired certificates, about 8 out of every ten could only acquire basic level certificates. This illustrates the low level of formal educational qualification among the labour force in the MiDA study area. There appear no clear variations in academic qualification among the dwellers in the various zones.

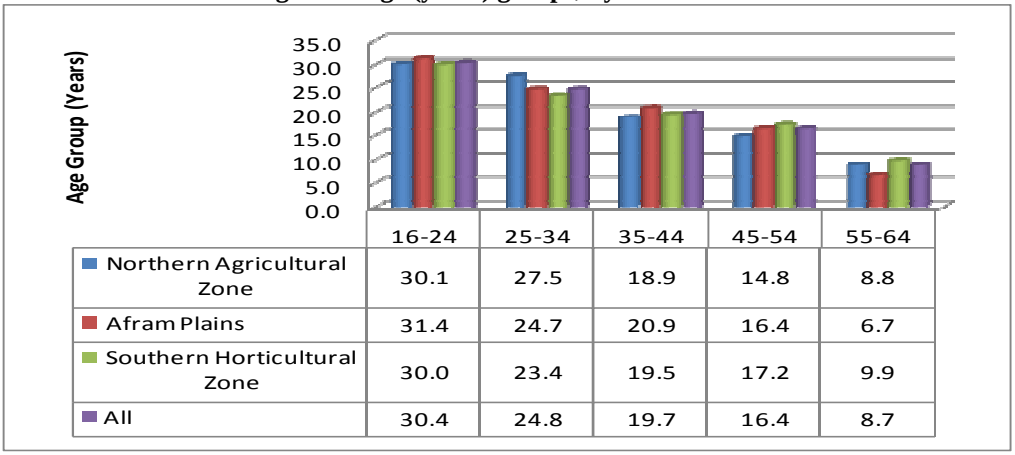
Figure 4: Formal Educational Qualification, by MiDA Zones (Percent)



	Northern Agricultural Zone	Afram Plains	Southern Horticultural Zone	All
None	48.3	53.7	41.6	46.3
Basic	28.8	39.2	46.3	41.7
Secondary	18.5	5.7	10.1	9.9
Tertiary	4.5	1.4	1.9	2.1

Source: Author's calculation based on GLSS 5+

Figure 5: Age (years) groups, by MiDA zones



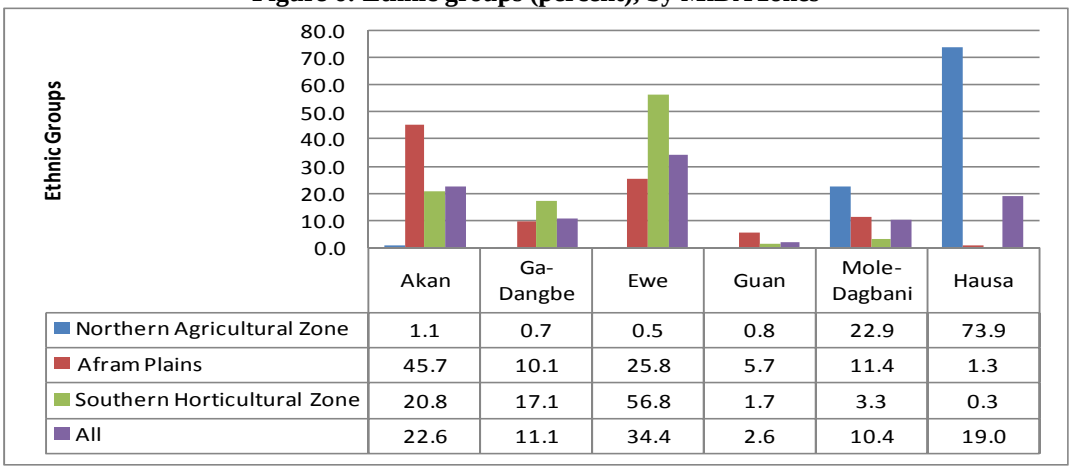
	16-24	25-34	35-44	45-54	55-64
Northern Agricultural Zone	30.1	27.5	18.9	14.8	8.8
Afram Plains	31.4	24.7	20.9	16.4	6.7
Southern Horticultural Zone	30.0	23.4	19.5	17.2	9.9
All	30.4	24.8	19.7	16.4	8.7

Source: Author's calculation based on GLSS 5+

Another demographic factor that can determines labour state of an individual is age. The data suggests labour force as youthful (Figure 5). While about 3 out of every 10 members of the workforce are between the ages of 16 years to 24 years, only 8.7 percent are between 55 years and 64 years. There is no clear deviation of proportion of workforce in the various age categories across the MiDA zones.

Ethnicity of the workforce can to some extent affect how easily an individual can secure a job in a certain geographical location. Figure 6 illustrates representations of the various ethnic groups in the three MiDA zones. Akans and Ewes are mostly found in the Afram Basin and the Southern Horticultural Zone while Mole-Dagbanis and Hausas are also predominant in the Northern Agricultural Zone. This seems to explain that migration of labour force from geographical area to the other is not popular among the individuals of the informal sector.

Figure 6: Ethnic groups (percent), by MiDA zones

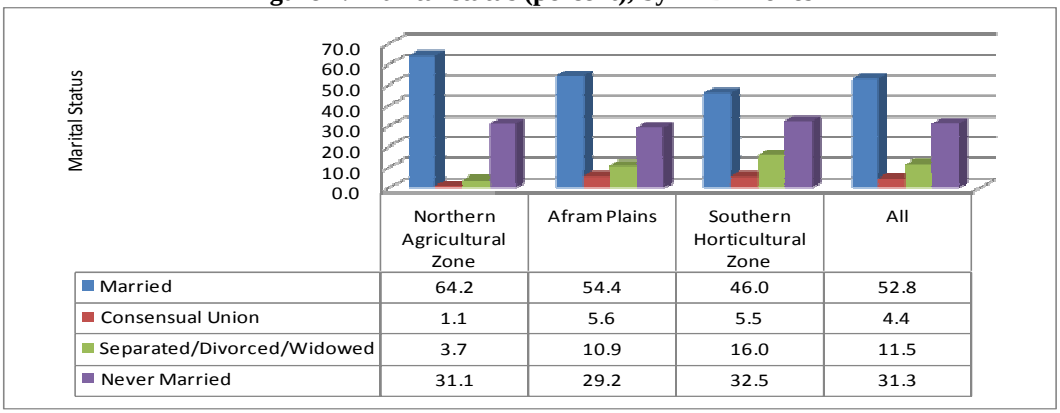


	Akan	Ga-Dangbe	Ewe	Guan	Mole-Dagbani	Hausa
Northern Agricultural Zone	1.1	0.7	0.5	0.8	22.9	73.9
Afram Plains	45.7	10.1	25.8	5.7	11.4	1.3
Southern Horticultural Zone	20.8	17.1	56.8	1.7	3.3	0.3
All	22.6	11.1	34.4	2.6	10.4	19.0

Source: Author's calculation based on GLSS 5+

The study suspects that the marital status of an individual can help explain his/her state of labour. Figure 7 shows that about half of the workforce at the informal sector of the MiDA intervention zones is married (52.8 %). While about one out of every ten has married before, about three out of every ten have never tasted marriage. There is a considerable variation in marital status across the MiDA zones. While about 64 percent of the individual members in the Northern Agricultural Zone are married, only about 46 percent of their counterparts in the Southern Horticultural Zone are reported to be having partners. Again, the proportion of those who have married before in the Northern Agricultural Zone appears too low (3.7 %) compared to their counterparts in the Afram Basin (10.9 %) and Southern Horticultural Zone (16.0 %).

Figure 7: Marital status (percent), by MiDA zones

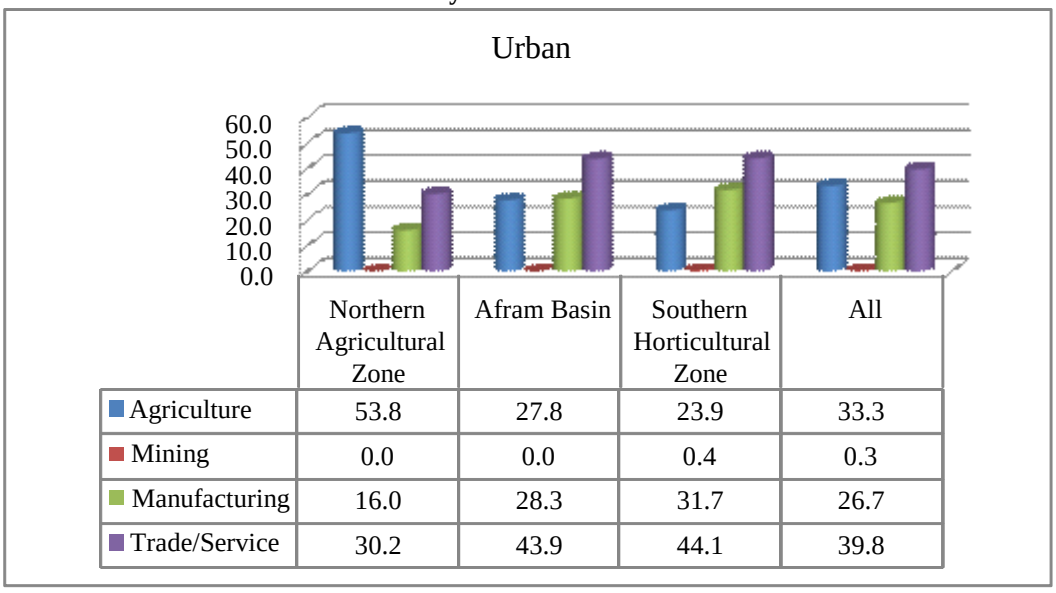


	Northern Agricultural Zone	Afram Plains	Southern Horticultural Zone	All
Married	64.2	54.4	46.0	52.8
Consensual Union	1.1	5.6	5.5	4.4
Separated/Divorced/Widowed	3.7	10.9	16.0	11.5
Never Married	31.1	29.2	32.5	31.3

Source: Author's calculation based on GLSS 5+

Certainly, the type of industry where an individual works can contribute in no small way to his/her labour status. Of the four predominant sectors in the urban of the informal economy of the MiDA intervention zone, about 4 out of every 10 are in the trade/service sector (Figure 8a). Proportion of the workforce in mining is almost insignificant; only Southern Horticultural Zone recorded mining activities. While agriculture appears not too popular among the urban settlers in the Afram Basin (27.8 %) and the Southern Horticultural Zone (23.9 %), more than halve of their counterparts in the Northern Agricultural Zone are involved in agriculture.

Figure 8a: Sectoral distribution of labour force (percent), by urban and MiDA zones

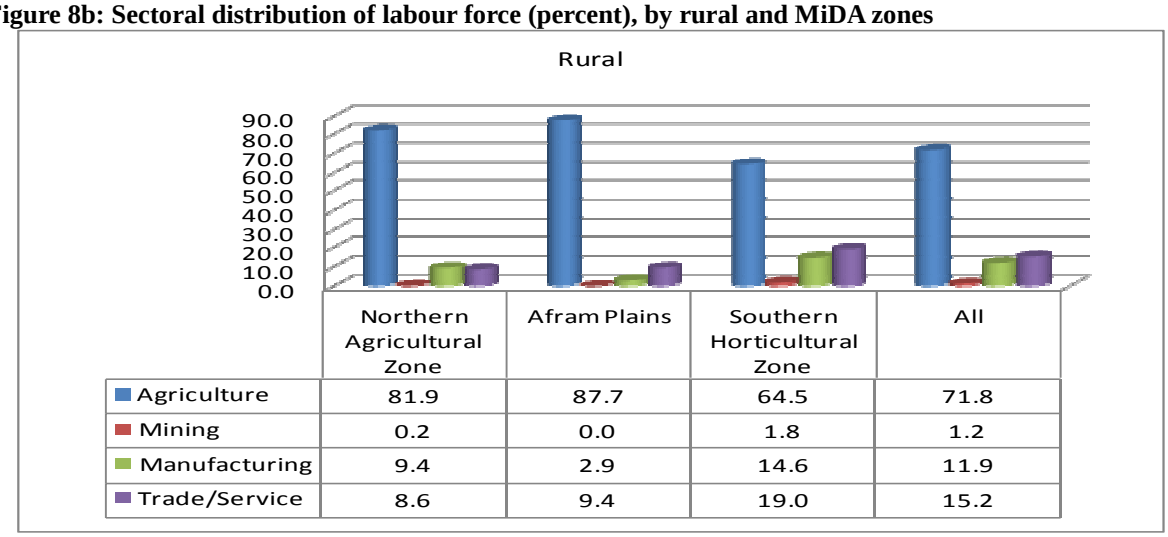


	Northern Agricultural Zone	Afram Basin	Southern Horticultural Zone	All
Agriculture	53.8	27.8	23.9	33.3
Mining	0.0	0.0	0.4	0.3
Manufacturing	16.0	28.3	31.7	26.7
Trade/Service	30.2	43.9	44.1	39.8

Source: Author's calculation based on GLSS 5+

Distribution of the workforce among the various sectors in the rural appears significantly different from it is in the urban (Figure 8b). Agriculture is the most important sector in the rural where about seven out of every 10 members of the labour force is engaged. Mining activities are relatively higher in the rural compared to the urban. However, like the urban, there is virtually no mining activity recorded in the Afram Basin.

Figure 8b: Sectoral distribution of labour force (percent), by rural and MiDA zones



Source: Author's calculation based on GLSS 5+

The data (Table 2) suggest higher proportion of rural dwellers in the lowest poverty quintile (20.8 %) compared to the urban (9.0 %). Likewise, more people in the urban are in the highest poverty quintile (33.3 %) compared to the rural (19.9 %). This implies that prevalence of poverty in the rural MiDA intervention zone is higher than it is in the urban.

Table 2: Poverty quintiles (percent), by location

Urban

Poverty Quintile	Northern Agricultural Zone	Afram Basin	Southern Horticultural Zone	All
Lowest	13.9	9.8	5.2	9.0
Second	21.6	16.2	12.4	16.2
Middle	19.4	20.6	16.4	18.3
Fourth	21.6	22.9	24.7	23.3
Highest	23.6	30.6	41.3	33.3

Rural

Poverty Quintile	Northern Agricultural Zone	Afram Basin	Southern Horticultural Zone	All
Lowest	30.0	21.7	16.1	20.8
Second	24.5	21.4	15.3	19.1
Middle	18.5	19.8	19.2	19.2
Fourth	14.8	20.0	24.3	21.0
Highest	12.2	17.1	25.1	19.9

Source: Author's calculation based on GLSS 5+

4.0 Econometric Results

The main econometric model for the study is *multinomial logistic regression*. This model is deemed appropriate for the study because the dependent variable (employment types) has five independent response categories namely: discouraged workers, unemployed, underemployed by low hours worked, underemployed by low earnings and adequately employed. The usual approach to multinomial data is to nominate one of the response categories as a baseline and then calculate log-odds for all other categories relative to the baseline. In line with this and also for a reason that majority of the labour force would like to be adequately employed, the response category, *adequately employed* was chosen as the baseline. The log-odds were then made to be a linear function of the predictors in a form, *f (k, i)* to predict the probability that observation *i* has outcome *k*, which is generally stated as:

$f(k,i)=\beta_{0,k} + \beta_{1,k}x_{1,I} + \beta_{2,k}x_{2,I} + \ldots\ldots + \beta_{M,k}x_{M,i}$.....(1)

Where: $\beta_{M,k}$ is a regression coefficient associated with the M^{th} explanatory variable and the k^{th} outcome. The regression coefficients and explanatory variables are normally grouped into vectors of size $M+1$, so that the predictor function can be written more compactly:

$$f(k,i) = \beta_k \cdot x_i \quad \text{.....(2)}$$

Where β_k is the set of regression coefficients associated with outcome k, and x_i (a row vector) is the set of explanatory variables associated with observation i. This paper considered the following explanatory variables: sex, age, formal education, marital status, economic activity, urban and MiDA zone. Separate relative risk ratios (RRR) were then determined for all independent variables for each category of the independent variable with the exception of the adequately employed variable, which is omitted from the analysis. RRR, the exponential beta coefficient, represent the change in the odds of being in the dependent variable category versus the comparison category associated with a one unit change on the independent variable. Mathematically, RRR is represented as:

$$Pr(y_i=j) = \frac{\exp(X_i \ \beta_j)}{1+\sum_j^j = 1 \ \exp(X_i \ \beta_j)} \quad \text{.....(3)}$$

where for the i^{th} individual, y_i is the observed outcome and X_i is a vector of explanatory variables. The standard interpretation of RRR is that for a unit change in the predictor variable, the RRR of outcome relative to the referent group is expected to change by a factor of the respective parameter estimate, provided the variables in the model are held constant. Having 'adequately employed' as the base outcome, we follow this interpretation to find out factors that affect individual's state of labour in the labour utilization framework (Table 3).

4.1 Determinants of Discouraged Work Effect

In the case of 'discouraged workers', it came out from the regression that gender and age of the job seeker might not have much influence. However, formal educational qualification appears to explain why individual would give up job search to become a discouraged worker. For example, adding an additional year to schooling, the relative risk of being a discouraged worker relative to having no academic qualification would be 2.053 times less likely when other variables in the model are held constant. In other words, one more discouraged worker acquiring a secondary school qualification would increase his/her chances of remaining a discouraged worker, compared to being adequately employed.

Interestingly, having tertiary education increases a job seeker's relative risk of being a discouraged worker by 0.335 times. This means tertiary education in the MiDA intervention zone would make individual fall into the category of adequately employed instead of being a discouraged worker. By implication, tertiary qualified graduates do not get easily discouraged from getting job the competitive the labour market.

While the results of the regression suggest that being a resident in either urban or rural MiDA intervention area does not influence one being a discourage worker, it came out quite strongly that residents of Afram Basin and Southern Horticultural Zone do not easily give up a job search compared to their counterparts in the Northern Agricultural Zone. This might probably be due to the fact that it is easy getting job offers in these two zones. As a result of unavailability of jobs in the north, many job seekers usually move to the south in search of jobs.

4.2 Determinants of Unemployment

The results of the multinomial logistic regression on the data indicate that for a male relative to female, the relative risk for unemployment relative to adequately employed would be expected to decrease by a factor 0.498 given the other variables in the model are held constant. In other words, females are less likely to be employed. Sackey and Osei (2006) had the same results and explain: "This is not surprising since the female labor force in Ghana is mostly found in the retailing sector and less in the formal sector".

Additionally, the results show that at the initial stages of life, given an additional year, the relative risk of being in the unemployment category would be 0.031 times less likely when other variables in the model are held constant. However, at the later point in life, a job seeker's relative risk for unemployment relative to adequately employment would be expected to decrease by factor 0.999. In other words, as one gets older, the less likely he/she would be an unemployed. This is consistent with findings of Sackey and Osei (2006) that "..the younger people are more likely to be unemployed due to the fact that they have lower labour market skills relative to older age cohorts".

Table 3: Multinomial Logistic Regression Models of Transitions from Discouraged Employment into Adequate Employment

	RRR (Robust Standard Error)			
Characteristic	***Discouraged Workers***	***Unemployed***	***Underemployed Hours Worked***	***Underemployed by low Income***
Sex	-0.789 (0.178)	-0.498 (0.137)***	1.340 (0.294)	-0.771 (0.164)
Age	-0.984 (0.486)	1.115 (0.031)***	-0.997 (0.065)	1.243 (0.078)***
Age Squared	1.000 (0.001)	-0.999 (0.000)***	-0.100 (0.001)	0.997 (0.001)***
Formal Education				
None (reference)				
Basic	-0.910 (0.106)	1.449 (0.184)***	-0.992 (0.116)	2.115 (0.355)***
Secondary	2.053 (0.082)*	-0.311 (0.165)**	-0.548 (0.297)	1.370 (0.652)
Tertiary	-0.335 (0.082)***	1.542 (0.369)*	3.358 (1.059)***	1.051 (0.432)
Marital Status				
Married (reference)				
Consensual Union	-0.654 (0.305)	2.407 (1.137)*	-0.992 (0.116)	1.642 (0.759)
Separated	2.373 (0.944)***	1.490 (0.137)***	0.548 (0.297)	-0.454 (0.099)***
Never Married	1.805 (0.665)*	3.509 (1.063)***	3.358 (1.059)	-0.975 (0.612)
Economic Activity				
Agriculture (reference)				
Mining	----------	----------	-0.474 (0.320)	-0.376 (0.265)
Manufacturing	----------	----------	-0.703 (0.149)*	1.668 (0.638)
Trade/Service	----------	----------	-0.979) (0.165)	-0.905 (0.215)
Urban	-0.880 (0.340)	1.794 (0.289)***	-0.287 (0.057)***	-0.364 (0.099)***
MiDA Zone				
NAZ (reference)				
Afram Basin	-0.019 (0.014)***	-0.258 (0.165)**	1.922 (0.602)**	4.217 (3.652)*
SHZ	-0.019 (0.010)***	-0.660 (0.361)	-0.540 (0.189)*	2.509 (1.772)
Diagnostic Statistics				
Number of Observation:	8,050			
Log pseudo likelihood:	9.513			
Prob > chi^2:	0.000			
Pseudo R^2:	0.062			
Base Outcome = Adequately Employed				

Note: Significance Level: 1 %(***), 5 %(**), 10 %(*)

Source: Results of Multinomial Logistic Regression based on GLSS 5+

The results of educational qualification are rather interesting. While having basic and tertiary educational qualifications relative to having no academic laurels would increase the probability of individual falling into the category of unemployment, having secondary level educational qualification appears to increase the chance of an individual becoming adequately employed instead of being unemployed. This portrays the general picture of the level of seriousness of tertiary graduate unemployment in Ghana. It is not surprising that a group of desperate young men and women in June this year, came together to form "Association of Graduate Unemployed" in Ghana. While some scholars[3] think the Ghanaian universities are not producing the right manpower needed by the corporate Ghana, many also think the economy has not been expanding enough to contain the higher number of graduates being turned out every year by the universities in Ghana. Having secondary school qualification

[3] The, Professor Ernest Aryeetey, the Vice Chancellor of the University of Ghana in reaction to the formation of the Association of the Graduate Unemployed, alluded to the universities inability to produce 'a complete' graduate ready for the job market.

increases the chances of falling from unemployment to adequately employed basket because secondary school graduates usually form the larger broad base of employment in the Ghanaian labour market (GSS, 2008).

The data suggest living alone (either separated/widowed/divorce or never married before) as having the tendency to increase the chance of a worker becoming unemployed relative to being adequately employed. For example, anytime there is an additional break-up in marriage, the relative risk for unemployment labour category relative to adequately employed category would be expected to increase by a factor of 3.509 given that other variables in the model are held constant. Some people take a break in marriage as an excuse to be irresponsible towards the upkeep of the product of the marriage. In Ghana, men are the worst culprit. As a result, they tend not to be too serious in getting themselves adequately employed.

Finally, one's chances of becoming adequately employed relative to being unemployed increases as s/he moves to stay in the Afram Basin instead of staying in the Northern Agricultural Zone. This result is consistent with the earlier revelation that agriculture, compared to the other sectors, is the most vibrant sector for curbing unemployment. While as a result of adequate rainfall, farmers in the Afram Basin operate their farms for most part of the year; their counterparts in the Northern agricultural Zone usually farm only five months in a year! Not surprisingly, unemployment in the north is usually the highest (GSS, 2008).

4.3 Determinants of Underemployment (by number of hours worked)

The results of the regression show that variables such as gender, age and age squared do not have significant effect on the probability of being underemployed by number of hours worked. However, tertiary education appears statistically significant to explain underemployment by number of hours worked in the MiDA intervention zones. For example, if one more individual acquires a tertiary educational qualification, her/his relative risk for being underemployed by hours worked relative to the adequately employed is expected to increase by a factor of 3.358. This means that holders of tertiary educational qualification in the MiDA intervention zones are more likely to be underemployed by hours worked instead of being adequately employed.

The results also show that the choice of manufacturing sector over agricultural sector will increase the worker's probability of being adequately employed instead of being underemployed by hours worked. This means that while agricultural sector encourages underemployment by hours worked, manufacturing sector encourages adequate employment. This is consistent with the earlier findings by some scholars that the rural economy of Ghana which is predominantly agriculture is bedeviled with high rate of underemployment (Baah-Boateng, 2004; Sackey and Osei, 2006; ECA/SRO-WA, 2010).

Additionally, the results indicate urban dwellers as having an edge over their rural counterparts in terms of a probability of moving away from underemployment by number of hours to adequate employment. Also, while being a resident in the Southern Horticultural Zone increases a worker's chances of being adequately employed instead of being underemployed by the number of hours worked, residents in Afram Basin are more likely to be underemployed instead of being adequately employed. This might probably be due to the fact that residents in Afram Basin are predominantly farmers.

4.4 Determinants of Underemployment (by wage income)

Results of the regression show that while being young is more likely to make a worker underemployed by the classification of wage income an older worker has a higher probability of being adequately employed instead of being underemployed by this classification. This is because an older worker should be more skilful and experienced enough to make more money for him/her to be classified as adequately employed.

While other forms of education appear statistically insignificant, basic level qualification can help explain underemployment of worker in the MiDA intervention zones by wage. According to the regression results, a basic level certificate holder has the least probability of moving from underemployment by wage status to adequately employment status. This is because the holder of a basic certificate has too little skills to be competitive in the labour market.

Finally, while being a resident in an urban will increase the probability of a worker choosing adequate employment over underemployment by wage, residents in the Afram Basin have just a little chance of escaping underemployment for adequate employment.

5.0 Conclusion

This section of the study summarizes the findings that emerged from the multinomial logistic regression analysis and make conclusions thereof. Firstly, it came out of the study that while a holder of a secondary certificate in the MiDA intervention zones is easily discouraged from a job search, holders of tertiary educational qualification do not give up easily in job search. The study therefore concludes that higher level of education inspires confidence to keep up a search for adequate employment. The study also finds out that residents of Afram Basin and Southern Horticultural Zone do not easily give up a job search compared to their counterparts

in the Northern Agricultural Zone. This the study concludes as being influenced by friendly environmental factors in the Afram Basin and Southern Horticultural Zone that make it possible for individuals to easily set up their own businesses/farms.

It came out of the study that a male is more likely to be adequately employed. While both male and female operate nonfarm enterprises, the study finds farming as laborious for women. This makes males less prone to unemployment. Again, the study finds out that an older job seeker stands a better chance of moving away from unemployment to securing an adequate employment. This, the study concludes attributes to experience needed to operate one's own business.

Also, the study finds basic and tertiary educational qualifications as influencing unemployment. It is concluded that while at the basic level, an individual might not have gained the needed skills to be labour competitive; having a tertiary academic qualification also naturally exempts a prospective worker from so many forms of employment. For example, a graduate would prefer being unemployed than to be a worker in *cheap jobs (factory hand, farm labourer, peasant operators of nonfarm enterprises)*. Unfortunately, while it is easy to get a *cheap job* in Ghana, decent jobs are hard to come by.

It also came out of the study that living alone without a partner would usually solidify one's unemployment status. This can arise from the fact that when one stays alone without a partner, the pressure of job search might subside, thereby dipping him/her into a perpetual unemployment.

In the case of underemployment by hours worked, the study finds acquisition of tertiary educational qualification as a counterproductive. This means that achievement of tertiary academic laurels rather plunges an individual into a yawning basket of underemployment instead of adequate employment. It is concluded that because the Ghanaian economy has not expanded enough to provide adequate employment to all tertiary graduate job seekers, they tend to engage themselves in part-time jobs.

The results also show the choice of manufacturing sector over agricultural sector as a better way to escape underemployment by hours worked. This is because of overdependence of farming on rainfall. In other words, farmers, especially those in the northern part of the country tend to work for only a few number of hours because of inadequate rainfall. It is therefore concluded that the agricultural sector is synonymous with underemployment by hours worked. Additionally, the results indicate urban dwellers as having an edge over their rural counterparts in terms of a probability of moving away from underemployment by number of hours to adequate employment. It is concluded that underemployment in the MiDA intervention zones is a rural phenomenon.

Finally, the study finds and concludes that an older worker in the MiDA intervention zone, because of experience, and an urban dweller as a result of availability of adequate employment opportunities, would all stand a better chance of escaping underemployment by the category of income earned.

6.0 Recommendation

In recent years, the issue of graduate unemployment in Ghana has enjoyed some amount of attention both among scholars and policymakers. The study reveals attainment of tertiary educational level certificate as a license to make one unemployed. However, it must be emphasized that it is not the certificate that makes one unemployed, but the attitude of the certificate holders towards informal self-employment, bringing to question, the current educational system in Ghana. Since a significant proportion of the Ghanaian labour force engage in the informal sector as self-employed, our educational system should be tailored along harnessing the best from the informal sector. High premium should therefore be placed on vocational education and skill training to encourage and equip graduates to embrace the concept of self-employment (entrepreneurship). Ghana has wasted a couple of years talking about technical and vocational education. Indeed, educational reforms in the late 1980s were geared towards this direction but alas, it was just a mere talk without any positive action. The paper suggests reexamination of the current educational system.

Also, having found farmers as suffering from both forms of underemployment considered by the study, it is important that particular attention is paid to this form of labour slack. Rainfall has been identified as the main reason of underemployment as most of the farmers either do not go to farm during the dry season or spend only few hours in their farms. This problem could therefore be minimized by making irrigation facilities available to the farmers.

Having succeeded in moving beyond the traditional measure of time-related underemployment to include income-related underemployment in a study in Ghana, it is recommended that further study makes an attempt to also consider developing appropriate data to measure all the four forms of underemployment. The study indicates that it is useful in the context of developing economies to consider placing all members of labour force in a specific labour category for effective policy considerations.

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APPENDIX 1

The data for the study:

- The econometric analysis used the data of the round one of the Ghana Living Standard Survey 5+ (GLSS5+) which was jointly conducted by the Institute of Statistical, Social and Economic Research (ISSER) and Ghana Statistical Service (GSS) in 2008
- 9,310 households in 620 Enumeration Areas (EAs) were surveyed using questionnaires
- The survey/project was located in three (3) zones covering 23 districts; these districts are by no means the poorest districts in Ghana. The data were collected as part of monitoring and evaluation process for assessing the impact of the Millennium Challenge Account (Ghana Compact) and was sponsored by the Millennium Development Authority (MiDA), the implementing authority set up for that purpose by the Parliament of the Republic of Ghana.