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Determinants of moonlighting in Ghana: an empirical investigation

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Abstract

The desire of workers to engage in moonlighting, a phenomenon of multiple job-holding is a reflection of some of the changing labour market outcomes. Public sector workers who suffered loss of jobs through public sector retrenchment and privatisation as part of Ghana's economic reform resorted to holding more than one job to earn enough to avert any substantial drop in their living conditions. Despite the seemingly conspicuous existence of multiple job-holding in Ghana, much remains to be learnt about its determinants and characteristics of the phenomenon. This article employs the probit regression estimation technique based on the two most recent nationwide household surveys conducted in 1998/99 and 2005/06 to investigate the main determinants of moonlighting in Ghana. It provides empirical evidence to suggest that personal and household characteristics as well as location and labour market characteristics such as individual earnings and hours spent in the main job significantly influence an individual's desire to engage in more than one job. The study concludes that apart from the financial motive that drives an individual's decision to moonlight, the engagement of moonlighting on account of lower working hours in the individual's main job could be a symptom of visible or time-related underemployment.

Keywords: Moonlighting, Multiple job-holding, Employment, Earnings, Underemployment, Ghana

1. Introduction

Ghana's economic reforms initiated in 1983 have left scores of changes in the Ghanaian labour market. Major elements of the reforms include restructuring of wages, privatization of state enterprises and retrenchment of the public sector workforce. Most workers who suffered retrenchment and privatisation sought refuge in other sectors of the economy and had to resort to moonlighting to keep them at an income level closer to what it was prior to the reform since their earnings in the new primary job were lower than before. Moonlighting, also referred to as multiple job-holding is commonly understood as having a second or a third job, usually part-time, in addition to a primary full-time job (Betts**,** 2006). Shishko and Rostker (1976) also define moonlighting as a situation where an individual maintains primary employment and engages in additional work for pay. The inclusion of a requirement that the moonlighting activity be paid employment distinguishes it from hobbies and other vocations and interests (Perrella, 1970).

People engage in moonlighting for various reasons such as ensuring continuous employment spells even in times of reduced working hours in the main job, overcoming financial constraints, and for accumulation of skills and expertise in other occupations. One could describe the first motive of moonlighting as a symptom of time-related underemployment which measures the individual's availability and desire to work more hours if he or she works less than the normal hours stipulated for the work. Whilst some schools of thought believe that the phenomenon the moonlighting stems from a constraint on the number of hours an individual can work or rigidity on the main job (Shishko & Rostker, 1976), others share the view that workers do so to balance their job portfolio and supplement incomes under conditions of financial necessity (see Allen, 1998; Krishman, 1990). Beyond survival motive, people also engage in multiple economic activities as a means of capital accumulation (Owusu, 2001).

Evidence of moonlighting has been established in Ghana (Owusu, 2001, and 2005; Maxwell *et al.*, 2000). Estimates from the Ghana Living Standards

Surveys indicate that about 18% of workers in Ghana were engaged in more than one job in 2005/06 dropping from 30% in 1998/99. This is generally high compared to 10.0% in the UK in 1998 (Böheim and Taylor, 2004), 10.1% in Russia in 1996, 6.2% in the US in 1989 and 5% in Brazil in 1999 (ILO, 2004). A number of factors have been identified globally to influence the decision to hold multiple jobs including employment type tends to suffer the brunt of moonlighting, and the characteristics of multiple job-holders. This paper thus seek to investigate the underlying triggers of moonlighting in Ghana with specific emphasis on the relevance of hours constraint effect as indication of visible underemployment and financial motivation of holding additional job. We refer to individual workers who were engaged in more than one job at the same time during the reference period as moonlighters. The study applies a binary regression model (probit) to two nationally representative household surveys to provide quantitative analysis of the determinants of moonlighting. Empirical evidence of the article suggests the importance of hours constraint and financial motivation in multiple job-holding in Ghana.

The study is motivated largely by the relatively sparse economic literature on moonlighting particularly in Africa. Even though some related studies on moonlighting have been carried out in a few African countries such as Tanzania, Cote d'Ivoire, Cameroon and Ghana (see e.g. Gaag *et al*., 1989; Owusu, 2005) a quantitative analysis that links moonlighting with relevant triggers has not been well established particularly in Ghana. Using binary regression approach to establish quantitatively the determinants of moonlighting in Ghana, this paper attempts to add to the existing stock of empirical work on moonlighting. It will also provide a source of empirical evidence for policy makers in relation to the sources of moonlighting, particularly its linkage with time-related or visible underemployment in Ghana.

The paper is structured into five sections. The conceptual framework and the theoretical and empirical literature survey are discussed in section two after the introductory section. Section three focuses on methodology and data sources, followed by empirical discussion in section four. Section five presents the summary and conclusion of the paper.

2. Conceptual Framework and Literature Survey

Multiple job-holding or moonlighting arises when individuals work in more than one job at the same time. According to Shishko and Rostker (1976), an individual is considered a multiple job-holder or said to be moonlighting if he or she maintains primary employment and engages in additional work for pay. Normally in the discussion of secondary job-holdings, two types of additional work are considered: working at a second formal job or engaging in individual (self employed) economic activity, i.e. formal and informal secondary work.

There are two main definitions of a moonlighter and these are the point definition and the duration definition (see Boateng, 1996). The point definition considers the worker at a particular point in time, and classifies the worker as a moonlighter if more than one job is held during the reference period. This definition does not consider the period over which the two jobs have been held simultaneously. The problem with this approach is that it includes in its definition of moonlighters individuals who might be holding transitional jobs and who have no intention of keeping both or all jobs simultaneously. Thus, this definition tends to overestimate the number of moonlighters and the incidence of the phenomenon of moonlighting in the population. This tends to be the approach used in studies relying on census-type data where the information about jobs pertains mostly to the survey reference week (see Shishko and Rostker, 1976). Using the duration definition on the other hand, the worker is observed over a time interval, and if more than one job is held during the entire period then the individual is considered as a moonlighter. In Krishnan (1990), for example, moonlighters were tracked over a period of nineteen weeks to ensure that both jobs were held during the entire sample period, while the self employed and those who held unpaid family jobs were excluded.

Relevant theories underlying individual behaviour linked to multiple job holding are fundamentally drawn from the economic theories of labour supply. Economic theories of labour supply derive the motivations for moonlighting from the basic work-leisure choice theory. The theory views individuals as optimising agents with the aim of maximising utility subject to a fixed time

endowment and resource constraint. The theory further hypothesises that the fixed time can be allocated to either time in the market, or work that yields income and satisfaction or time at home, or leisure which produces satisfaction but yields no income. Berman and Cuizon (2004) underscore the significance of some key assumptions that underlie the utility maximizing behaviour of individuals. These are the assumption that individuals have a given set of choice preferences, they are utility-maximisers with no market power in the market and the supply of work opportunities is elastic.

Traditionally, moonlighting behaviour focuses on the difference between desired hours and actual or scheduled hours on one hand, and primary wages and moonlighting wages on the other (Perlman, 1966; Shishko and Rostker, 1976). Two main arguments underpin the decision to moonlight i.e. individuals choose to work in more than one job either because they are hours constrained in their primary job (hours constraint view) or they seek heterogeneous jobs (job portfolio argument).

2.1 Hours Constraint View of Leisure-Choice Theory

The first motivation-hours constraint- posits that an individual may be constrained in the number of hours that can be spent in the primary job and this consequently limits earnings capacity from that job. According to the standard labour-leisure model, employees may be willing to work more but are not being offered the chance to do so in their primary occupation (Perlman, 1966). In response to the employer's inability to offer enough hours on the primary job, the individual may choose to take a second job to achieve the desired income level (Conway and Kimmel, 1998). Shishko and Rostker (1976) argue that firms often offer a fixed hours and wage employment package. As such if the number of hours a firm offers diverges from the optimal number of hours that a utility maximising worker would choose at the going wage, then a strong tendency exists for moonlighting under the condition that the second job pays more than the worker's reservation wage on that job. This is regarded as the hours constraint motivation for holding multiple jobs.

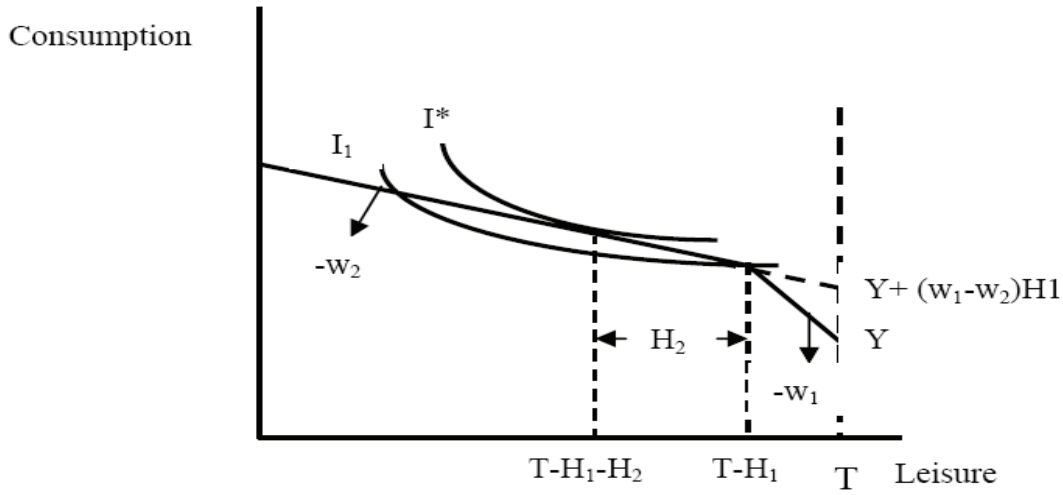

Figure 1: Utility Maximising Hours-Constrained Moonlighter
Source: Dickey *et.al*. (2009)

Consider Figure 1, where Y is non-labour income, W_1 and W_2 are the wages paid in the first and second job respectively, T denotes total time available, H_1 is the fixed hours of work in the first job, and H_2 is the time spent in a second job. As a utility maximiser, the individual would like to work $(T - H_1 - H_2)$ hours on his first job in order to reach utility level I^* , but cannot work more than H_1 hours because s/he is hours constrained. The decision to moonlight then depends on the wage offered in the second job. The second-job reservation wage is determined by the utility level I_1 given at the intersection of the first-job wage line and the allowable hours H_1. If the wage offered exceeds the reservation wage, the constrained worker will take a second job that makes him better off (i.e., I* utility curve). In essence, if the worker is constrained on the primary job, then H_1 is no longer a choice variable and the only option is to seek more working hours from a second job.

2.2 Job Portfolio Motive of Leisure-Choice Theory

The Job Portfolio Motive on the other hand is premised on the fact that there is a personal preference for job differentiation. Thus under this scenario, individuals may decide to allocate their working time between two or more jobs

not because there is a market constraint on their desired hours in any given job, but because they seek to allocate their working time among alternative employments or diversify their job portfolio. The second motivation thus recognises that the hours of labour supplied to the two jobs may not be perfect substitutes. Individuals may choose to work in a second job for reasons that are not connected to the primary job's hours of work or earnings (Böheim and Taylor, 2004). For instance, an individual may have a second job to learn about new occupations or acquisition of new skills, or to gain experience in alternative occupations (Heineck and Schwarze, 2004); or to smooth their consumption; or as an alternative to precautionary savings even if they are not experiencing immediate negative financial shocks (Guariglia and Kim, 2004a); or to maintain flexible work schedules such as women who have young children and holding two part-time jobs that suit their time-allocation needs of arranging child care instead of one full-time occupation (Heineck, 2003); or to gain job satisfaction not received from the primary job referred to as the heterogeneity motive of moonlighting (see for example Renna and Oaxaca, 2006).

Figure 2 shows the situation of a worker who is not constrained in the main job and can work any amount of hours H_1 that fall in the given standard working time span$(T - H_1)$**.** Work in a second job might nevertheless be supplied, if the wage paid at least maintains the individual's utility level I_1. This wage, however, has to be higher than the one paid in the first job. Assuming that hours of work on the second job H_2 is a choice variable, it can be argued that the individual facing this situation would aim at working more hours in the moonlighting job. However, due to the possible heterogeneous character of the two jobs, there are other likely reasons that drive the individual to supply labour in both occupations.

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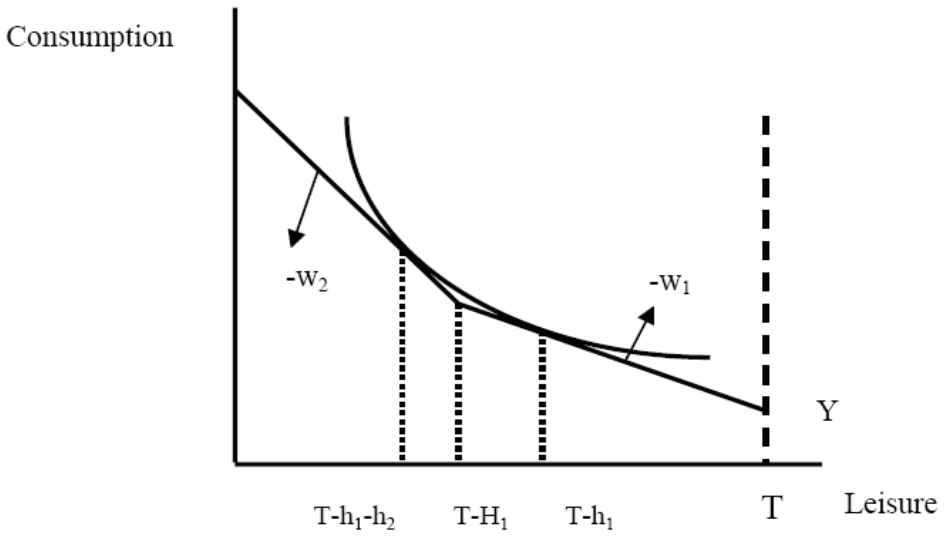

Figure 2: Utility Maximising Non Hours-Constrained Moonlighter
Source: Dickey *et.al.* (2009)

Despite the divergent motives underlying the moonlighting decision, Dickey *et al.* (2009) identified three key reasons to explain why an individual may not moonlight: first, either the individuals are not interested in moonlighting, or second, either they would like to moonlight but cannot find a second job with attractive features; and third, the individuals would like to moonlight but cannot find employment. Possible reasons why one individual cannot find employment in a second job and another individual can are twofold. First, observed moonlighters may be more informed or more engaged in the job market, which allows them to identify job opportunities, or they could be more aggressive in their job search. Second, multiple-jobholding is the outcome of a two-step process: an individual queues for a second job, and the employer hires the individual from a pool of applicants. By implication moonlighters and non moonlighters may differ in their attractiveness to employers. Multiple job-holding might also occur when jobs are heterogeneous and not perfect substitutes (Conway and Kimmel, 1998). This adds to the notion of constraints in the primary job hours. They propose that labour supply is more elastic than usually assumed, once moonlighting is acknowledged in the labour supply behaviour, and that there is presence of multiple motives for dual jobholding,

even though findings show that hours constraint is still the most common motive.

The phenomenon of moonlighting may be deemed to be desirable or a symptom of labour market challenge depending largely on the motive that drives one's decision to moonlight. Individual worker's decision to take up an additional job with the view to acquiring new skills or gaining experience in alternative occupation (Heineck and Schwarze, 2004) to enhance his/her labour market mobility or ensure continue employment spell in against potential challenges of lay off in the primary job could be described as rational. In addition, employees' decision for a second job in order to smooth their consumption, or as an alternative to precautionary savings even if they are not experiencing immediate negative financial shocks (Guariglia and Kim, 2004b) cannot be described as a negative move. Furthermore, moonlighting decision motivated by job heterogeneity (based on the desire to obtain different satisfaction from the primary and other jobs such as singing in a band during the evening (Böheim and Taylor, 2004) is equally good. These underlying reasons for moonlighting are in line with the job portfolio motivation of moonlighting. In contrast, hours constraint or lower earnings that provide a trigger for moonlighting may constitute a labour market challenge that requires policy action.

Some negative consequences associated with moonlighting including potential conflicts between the demands of the worker's primary and secondary jobs and the potential negative health impact of working long hours due to multiple jobs (ILO, 2004) with declining productivity effects. In effect, considering the possible cost associated with moonlighting, its desirability and socioeconomic significance is undermined if it is driven by the hours constraint as a symptom of underemployment or financial constraint on account of low earnings in primary job relative to household basic consumption expenditure. Thus, engaging in moonlighting under compelling circumstances from insufficient workings hours and lower earnings in primary job bearing in mind potential disadvantages cannot be deemed as desirable.

2.3 Empirical Review

To date the economics literature on multiple jobholding has largely centred on developed country data. Early theoretical works focused only on the hours constraint aspect of moonlighting. However, recent studies provide mixed results in support of the two main views, hours constraint and job portfolio motivations. Shishko and Rostker (1976) found that the labour supply becomes more elastic to changes in the wage rate after accounting for the decision to moonlight as a response to an hours constraint on the primary job. According to them, the hours spent in the secondary job increase with the secondary job wage rate and decrease with the primary job earnings, suggesting a financial motivation for multiple job-holding. Furthermore, increases in the earnings and hours worked in the primary job have a negative effect on secondary job hours.

Heineck (2003), using data from the United Kingdom, found evidence for the two most prominent motives for moonlighting. One is the usual hours constraint where individuals who would like to work more hours or are not satisfied with the total pay of their primary occupation are more likely to take a second job. Another is the heterogeneous jobs motive where individuals may hold on to their primary job for the sake of stability and security, and take a second job that provides monetary benefits, complementarities to the primary job, and additional skills outside those in the current job. In a similar study, Paxson and Sicherman (1996) found evidence to support the hours constraint motivation and confirmed that dual job holding is a dynamic process. Their study revealed that dual jobs and job change are used to adjust hours of work simply because evening and weekend hours are not available in their main job occupation. In a further study by Casari (2010) for urban and rural workers in Brazil, evidence was found to support the hours constraint motivation but adds that heterogeneity in occupation and stability contribute to increased labour in the secondary labour market.

The evidence that multiple job holding necessarily rises with the level of education has also been empirically established. For instance, Foley (1997) focusing on transitional economies with specific emphasis on Russia showed that education nearly doubles the moonlighting probability. Foley also provided

evidence to indicate that men, urban residents and higher educated individuals have the highest secondary employment rates. Tansel (1995) confirmed the significant relationship between moonlighting and education with an evidence of a strong positive effect of education on moonlighting in Turkey. In addition, the phenomenon is also found to increase with labour market experience, and decreases with primary job earnings and that having a working wife decreases the probability of moonlighting while wage earners are more likely to moonlight than self-employed (Tansel, 1995). Thus, whereas wage earners are hours constrained, the self-employed are able to adjust their hours on the primary main job and therefore less likely to hold a second job. Casari (2010) also revealed that income from the main job was inadequate even for workers with more schooling, suggesting that multiple job holding necessarily rises with the level of education in Brazil.

Gaag *et al.* (1989) found that moonlighting is much more prevalent among civil servants than among wage earners in the private sector in Cote d'Ivoire. In terms of age and education the differences between the two groups of employees are fairly small. Women were less likely to have a second job in Cote d'Ivoire and most second jobs were in self-employment.

Similarly, Averett (2001) explored the incidence and reasons for moonlighting behaviour with a focus on gender differences. Using a bivariate probit model of the decision to work and the decision to hold more than one job, she found that there is no substantive difference in the factors that influence males and females to moonlight. This is contrast to the findings of Gaag *et al*. (1989) for women in Cote d'Ivoire.

Flourishing urban informality as livelihood strategy can also be explained within the context of moonlighting. In Cameroon, urban agriculture remains an important livelihood strategy for resident in the city of Bamenda, particularly among the lower income class with the middle class involved in the shipping container business (Ojong, 2011). Income generated from multiple economic activities in the informal economy is used for smoothening in the household. Similarly, Maxwell et al. (2000) found that in Ghana, about 6% of individuals and 15% of households in Accra engaged in some kind of urban agricultural

activities. As noted by Owusu (2007), informal economy has become an avenue for 'part-time' employment for formal sector employees and as a source of additional income for many people with fulltime employment in the formal sector. This suggests that mere formalisation of informal economic activity is not necessarily the panacea (Adaawen and Jørgensen, 2012) to solving the challenges facing informal economy operators and congestions in the cities. The practice of multiple economic activities has also become a means of capital accumulation by the not-so-poor segment of the population (Owusu, 2001).

In Ghana, the practice of multiple is observed to be more prevalent in the public sector than the private formal sector due partly to strict supervision and higher wages in the latter which make the general environment less conducive for such activities (Owusu, 2001). In the public sector, teachers were found to have highest participation rate in multiple economic activities while doctors are the least likely to engage in multiple activities because of availability of overtime opportunities within their formal employment (Owusu, 2005). Drawing on case studies of two medium-sized towns in Ghana and nationally representative sample data, he concludes that multiple livelihood strategies is becoming "the way of doing things" for many urban salary employees (Owusu, 2000). On their part, Maxwell *et al.* (2000) in a survey of urban livelihood in Accra observed that about two-thirds of households in Accra had engaged in at least two income generating activities in previous 30 days.

3. Methodology and Data Sources

3.1 Model Formulation and Estimation Strategy

The quantitative specification and estimation procedure involves the formulation and estimation of a model of moonlighting that links multiple job-holding with independent variables that describe the worker's personal, household, location and labour market characteristics. The dependent variable is whether the individual worker is engaged in more than one job. It is measured in a dichotomous form and takes a value of 1 if the individual holds more than 1 job and 0 if he or she is engaged in one job. The model is generally specified as:

$$Y = X'\beta + \varepsilon \qquad (1)$$

Where Y is a vector of values representing the dependent variable; X is a vector of explanatory variables that affect the individual's decision to moonlight; β is a vector of parameters of the control variables and ε is the standard vector representing the stochastic error term.

Given the binary nature of the dependent variable, we employ the probit regression estimation technique to explore how each of the explanatory variables influences the probability of a worker engaging in moonlighting. Equation (1) is therefore specified as

$$\Pr(Y = 1 \mid X_i) = \Pr(J = 1 \mid X_1, X_2, ...X_k) \qquad (2)$$

where Y is the dependent variable and X_i denotes the set of explanatory variables. Assuming that the model is linear in the set of parameters, β_i,

$$\Pr(Y = 1 \mid X_i) = G(\beta_0 + \beta_1 X_1 + \ldots\ldots + \beta_k X_k) = \beta_0 + \beta_1 X_1 + \ldots\ldots\ldots + \beta_k X_k + \varepsilon_i \qquad (3)$$

where G is a function taking on values strictly between 0 and 1; and ε_i denotes the disturbance term with mean zero and variance σ_ε^2. The disturbance term captures measurement errors and all unobserved factors.

The alternative to the choice of probit estimation technique is the logit. The choice between logit and probit is usually with regards to the assumptions about the distribution of the error term. Though both yield similar results, whereas the probit model assumes a normal distribution for the error term that of the logit assumes a logistic distribution. The probit model is chosen over the logit because it is fairly simple to understand in terms of interpreting its marginal effects and also since the study ascertains the individual's probability of engaging in a moonlighting activity, it is preferred.

Following from equation (3) we specify the main probit estimation model for empirical analysis of the determinants of moonlighting as

$$J_i = \alpha_0 + \alpha_i P + \beta_i H + \delta_i Loc + \theta_i LM + \varepsilon' \qquad (4)$$

where J the is dependent variable which takes a value of 1 when the individual holds more than one job and 0 if the individual is engaged in only one job. The sample covers individuals aged 15 years[1] and above who are employed.

1 The minimum wage for admission to employment or work in Ghana and in line with the ILO Convention No. 138

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The explanatory variables are grouped into four categories. *P* is a vector of personal characteristics (i.e. age, age squared, sex, marital status, education). Age is measured in years and meant to capture the influence of one's age on the decision to moonlight while the age squared is introduced to capture the convexity or concavity in respect of the relationship between age and multiple job-holding. Sex of the worker captures female-male differences regarding moonlighting decision and enters the model as male dummy with a value of 1 assigned for male workers and 0 for female workers. A married dummy (with a value of 1 assigned if the worker is married or in consensual union and 0 for those are single) enters the model to measure the effect of one's marital status on the probability of engaging in moonlighting. The effect of the worker's educational status is introduced into the model in the form of a set of four categorical variables, i.e. basic (the individual has some or completed 9 years of education), secondary (the individual has some or completed secondary education), tertiary (the individual has some or completed a level of tertiary education) education with "no education" as the reference dummy).

H is a vector of household characteristics variables such as household size measured by the number household members and poverty status of the household introduced as a dummy variable. Workers from households that live below the national upper poverty line are assigned a value of 1 and those from households that live above the national upper poverty line and considered to be non-poor are assigned a value of 0 (i.e. poor 1: non-poor 0). The introduction of poverty status in the model is meant to capture the effect of working poverty (i.e. individual worker who is a member of a household that lives below the national poverty line) on moonlighting decision of workers.

Loc represents a vector of location dummies categorised into Accra (the capital city of the country) and other urban location with rural as the reference dummy. This is meant to capture the rural-urban differences in moonlighting decision of workers. Indeed, the rural labour market structure differs from that of urban structures in terms of wage levels, transportation systems and the propensity for part-time work (Monk and Hodge, 1995). Generally, rural areas have narrow industrial bases, smaller numbers of employers, and higher levels

of self-employment (Hodge *et al.*, 2002). Rural-urban differences in labour market structure are also reflected in the differences in employment opportunities and options available to workers as well as the efficiency of institutional mechanisms on disseminating job-related information. In some cases, moonlighting among farm households in rural areas arises as a result of variability of farm incomes (see, for example, Tailor *et al.*, 1995; Mather and Scopilliti, 2004).

LM denotes a vector of labour market variables such as time spent in the main job per week measured in hours, monthly earnings in the main job (in nominal terms) measured in logs, experience in the main job measured in years, and a dummy of employment type. The hours of work in the main jobs which is one of the variables of interest in the model captures the relevance of "hours constraint" effect of moonlighting in Ghana. A higher probability for engaging in moonlighting in response to a decline in working hours could be used to measure time-related (or visible) underemployment reflecting willingness and availability to work additional hours if the person had worked for less than the normal duration during the period. Introduction of earnings from the primary job as another core variable in the model is meant to capture the financial motive for engaging in moonlighting such as smoothing household consumption or maintaining the standard of living of individuals and households. The effect of worker's employment status in the primary job on the probability of holding more than one job is captured in the model in the form of dummies of paid employment, self-employment in non-agriculture and self-employment in agriculture with contributing family work and other type of employment as the default dummy.

The α_i, β_i, δ_i and θ_i represent vectors of coefficients of the control variables while ε denotes the stochastic disturbance term.

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3.2. Data Sources

The main data source for the empirical analysis are the fourth and fifth rounds of the Ghana Living Standards Survey (GLSS4&5) conducted in 1998/99 and 2005/06. These are nationally representative household surveys conducted over a period of twelve months beginning in September. The surveys collect detailed information on demographic characteristics of the population, education, health, employment and time use, migration, housing conditions, household agriculture and household income and expenditure patterns to evaluate the poverty status of households. The GLSS4 covered a sample of 5,998 households and 26,411 individuals yielding average household size of 4.4. The GLSS5 captured a total sample of 37,128 individuals and 8,687 households yielding an average household size of 4.3. The major difference between the two surveys is the sampling framework. While the sampling frame of the GLSS4 was based on the 1984 population census, the GLSS5 was based on 2000 population census.

The estimation focuses on employed adults who are 15 years and older. Generally, most workers in Ghana live on one job with about 30% in 1998/99 and 18% in 2005/06 engaged in more than one job (Table 1). A possible explanation for this decline is the remarkable expansion of the economy and improved incomes of citizens, reflected in a leap of the country from a lower to the entry point of middle income status in 2007 and a decline in poverty incidence from 39.5% to 28.5% between 1999 and 2006. From the financial motivation perspective of multiple job-holding, economic growth and improvement in the income of workers may invariably reduce their desire to engage in more than one job simultaneously.

Jobs	1998/99					2005/06				
	Male	Female	Urban	Rural	All	Male	Female	Urban	Rural	All
One	70.1	70.1	80.4	65.5	70.1	82.7	81.6	87.6	79.1	82.1
Two	28.1	26.6	18.3	31.3	27.3	17.1	18.1	12.2	20.6	17.6
Three	0.25	0.22	0.15	0.27	0.24	0.17	0.29	0.17	0.26	0.23
Four	1.59	3.09	1.11	2.97	2.39	0.03	0.11	0.03	0.04	0.07
Observations	4,298	5,151	2,878	6,571	9,449	7,141	7,676	4,956	9,861	14,817

Table 1: Multiple jobholding by sex and locality in Ghana, 1998/99 and 2005/06 (%)
Source: Computed by Authors

A lower proportion of employed people in the rural than in urban areas is engaged in one job implying that multiple jobholding is higher in rural than in urban areas. In 1998/99 even though an equal proportion of male and female workers held only one job, the proportion of men who held two or three jobs was slightly higher whilst the proportion of women who held four jobs was almost double the proportion of men. In 2005/06 the pattern is different. Slightly more males than females hold only one job and the proportion of women who hold more than one job is higher than men irrespective of the number of jobs held.

	1998/99			2005/06		
Variables	Mean	Min.	Max.	Mean	Min.	Max.
Multiple job-holders (%)	29.9	0	1	17.8	0	1
Age (in years)	39.12	15	99	38.3	15	99
Age square	1,740	225	9,801	1,684	225	9,801
Male (%)	46.5	0	1	48.4	0	1
Married	55.1	0	1	67.1	0	1
Basic education (%)	41.8	0	1	51.4	0	1
Secondary and above (%)	10.2	0	1	10.7	0	1
Tertiary education (%)	1.2	0	1	2.1	0	1
Household size (number)	5.2	0	21	5.23	1	29
Poor (%)	35.7	0	1	25.6	0	1
Accra (%)	8.6	0	1	11.0	0	1
Other urban areas (%)	22.5	0	1	25.0	0	1
Experience in main job (years)	---	---	---	13.0	1	67
Hours per week in main job	37.7	1	140	39.3	1	143
Log of nominal monthly earnings	10.9	3.9	17.8	12.7	5.1	19.8
Wage employment (%)	14.6	0	1	17.5	0	1
Self-employed non-agriculture (%)	30.1	0	1	25.4	0	1
Self-employed agriculture	38.6	0	1	34.2	0	1

Table 2: Descriptive Statistics of Variables
Source: Computed by Authors

Table 2 presents descriptive statistics of variables in the estimation model with an average age of workers of 39 years and 38 years in 1998/99 and 2005/06 respectively. Males accounted for marginally less than 50% of the sample while married people accounts for more than 50% of employed people. Most of the employed people have basic education while tertiary education accounts for the

lowest proportion with only 10% having entered or completed secondary, vocational, technical, nursing or commercial education. In 1998/99 and 2005/06 between 9% and 11% of the employed were in Accra compared with 22% and 25% in other urban areas indicating that more than 60% reside in rural areas. About 36% and 26% of employed people were poor in 1998/99 and 2005/06 respectively. The employed people worked 37 and 40 hours a week on average in each period with log nominal monthly earnings in the main job of 10 and 13. The average number of years of experience in the main job is 13 years. In terms of type of employment, less than 20% are engaged in wage employment while a greater proportion is working as self-employed in agriculture.

4. Discussion of Empirical Results

Table iii reports the results of marginal effects of the estimated probit model of determinants of moonlighting in Ghana. The statistical significance of the Wald Chi^2 underscores the joint significance of the control variables in determining moonlighting in Ghana. A higher predicted probability at the mean of control variables and the value of Pseudo R^2 were higher in the earlier period of 1998/99 than the latter period of 2005/06.

The empirical results generally confirm the 'hours constraint' motive of moonlighting within the leisure-choice model. This is based on the observation of a negative marginal effect of the variable that measures hours spent in the main job indicating that working less number of hours in the main job increases the probability of engaging in more than one job and vice versa. This observation is confirmed by a number of studies including Shishko and Rostker (1976), and Paxson and Sicherman (1996) who all found primary job hours as negatively impacting on moonlighting probabilities.

The empirical observation of the negative effect of working hours in the main job on the worker's decision to hold an additional job could be used to explain the phenomenon of time-related or visible underemployment. Visible underemployment is related to the phenomenon of being available and willing to work additional hours on account of working less than the normal duration of work during the period. Estimates from the GLSS indicate that 65.2% of

multiple job-holders (or 18.3% of all workers) in 1998/99 and 55.9% of multiple job-holders (or 9.7% of all workers) worked less than 40 hours a week in their primary job in 2005/06.[2] Thus based on our definition of underemployment a sizeable proportion of multiple job holders were visibly underemployed in their main job. Therefore, by implication, about 18% and 10% of employment in 1998/99 and 2005/06 could be considered as underemployment. The remaining 34.8% and 44.1% of multiple job-holders (or 9.8% and 7.7% of all workers) in 1998/99 and 2005/06 respectively who worked 40 hours a week or more might be participating in moonlighting for other reasons such as acquisition of new skills or the need to gain experience in alternative occupations, driven by job heterogeneity motive.

A significant negative effect of earnings in the worker's main job on the probability of engaging in moonlighting is an indication of evidence that financial motivation plays an important role in moonlighting decision of workers. This observation duly confirms the works of Allen (1998), and Krishnan (1990), who all found primary job earnings to negatively impact on the probability of moonlighting. Undoubtedly, rational workers would find the need to supplement their dwindling earnings from their main job by engaging in an additional job.

The results further indicate that wage employees in the main job are more likely to participate in moonlighting relative to contributing family workers and those in other type of employment. This outcome may be explained by the need for wage workers to diversify their job portfolio, gain experience and skill to enhance performance on the main job and the need to completely secure their jobs. Also they may not be satisfied with their pay (thus main job does not pay enough).

The results also give evidence to suggest that self-employed (both agriculture non-agriculture) in the main job are more likely relative to contributing family and other workers to moonlight due possibly to flexibility inherent in self-employment. Tansel (1995) observed in Turkey that wage

2 In Ghana, the normal working hours in the formal sector is 8 hours a day and calculating it over five working days in a week yield 40 hours a week.

earners are more likely to moonlight than self-employed because whereas wage earners are hours constrained, the self-employed are able to adjust their hours on the primary main job and therefore less likely to hold a second job. This may be consistent with the findings of this study based on stronger marginal effect of wage employment than self-employment even though, marginally stronger for those in non-agriculture.

Independent variables	1998/99		2005/06	
	Marginal effect	z-stats	Marginal effect	z-stats
Age	0.0193***	6.48	0.0168***	8.85
Age squared	–0.0002***	–6.67	–0.0002***	–8.73
Male†	0.0343**	2.22	0.0122	1.20
Married†	0.0128	0.88	0.0458***	4.50
Basic Education†	0.0221	1.43	0.0212**	2.05
Secondary education+†	–0.0030	–0.11	0.0288*	1.72
Tertiary education†	0.1002	1.37	–0.0090	–0.29
No education as reference dummy				
Experience in main job	---	---	–0.0002	–0.39
Accra†	–0.3354***	–14.73	–0.2257***	–19.38
Other urban†	–0.1572***	–9.71	–0.1299***	–13.12
Rural as reference dummy				
Household size	0.0054**	2.19	0.0025	1.61
Poor	–0.0265*	–1.72	–0.0540***	–4.87
Hours worked in main job	–0.0034***	–5.40	–0.0008**	–2.05
Log of monthly earnings in main job	–0.0158**	–2.50	–0.0058	–1.54
Wage employment in main job†	0.3923***	4.37	0.1498***	4.89
Self-employed n-agric in main job†	0.3917***	4.69	0.1452***	5.17
Self-employed agric in main job†	0.1855**	2.30	–0.0186	–0.72
Other employment type as reference dummy#				
Predicted probability (at x-bar)	0.3006	0.1725		
Pseudo R^2	0.1097	0.1002		
Wald Chi^2	429.34***	655.82***		
Number of observations	9,449	14,817		

Table 3: Marginal Effect of *Probit Model* of the Determinants of Moonlighting of equation (4),

Note: (i) z-statistic corresponds to the test of the underlying coefficient of probit regression being zero;
(ii) # employment type are contributing family work in agriculture and non-agriculture, domestic employees, apprentice and others
*(iii) *** p<0.01 ** p<0.05 * p<0.10 † dF/dx for discrete change of dummy variable*

A lower probability of urban workers in Accra or other urban areas than those in rural areas suggests that, being in the urban area tends to decrease the probability of an individual participating in moonlighting activities. This may confirm the view that unstable income of farming among rural folks is a major trigger for workers to engage in moonlighting. This finding is consistent with the empirical works of Mather and Scopilliti (2004) that multiple job-holding in rural America is triggered by insufficient earnings from farming activity to support their families. A justification for this result in the Ghanaian context may stem from the fact that rural workers relative to their urban counterparts may live in a state of deprivation and underemployed and hence will be in a greater disposition to hold secondary jobs as a means of moving out of the deprivation and catching up with the status quo. Another reason supporting the deprivation factor may be the infrastructural and technological gap that exists between the rural and urban worker; hence to better their lot or welfare, rural workers will be more predisposed to hold additional jobs.

The paper also provides evidence to suggest a statistically significant effect of personal and household characteristics of the Ghanaian worker on the probability of engaging in multiple job-holding. Specifically, the probability of engaging in multiple job-holding increases with age based on the positive marginal effect in both periods. A negative marginal effect of age squared suggests concavity of the relationship between the worker's probability of engaging in moonlighting and age. This implies that the probability of engaging in moonlighting assumes an increasing pattern initially and beyond a certain age, the probability declines. This is consistent with the findings by Boateng (1996) who found among Canadian immigrants and nationals that moonlighting possibilities increases with age at younger levels but diminishes with older folks. This finding may be explained by the fact that younger people are relatively endowed with energy to enable them take up more than one job and be able to meet deadlines or work under pressure and odd hours. But as they age, the energy factor become no longer relevant and they may experience performance decline on the primary job, hence a lower probability of taking on additional jobs or moonlighting.

Male workers are estimated to have a 3 percentage point higher probability compared to females of holding more than one job in 1998/99 and this is consistent with Heineck and Schwarze (2004) who found evidence from Germany to support the view that women tend to moonlight less than men. It also confirms Gaag et.al (1989) who observed that women are less likely to have a second job in Cote d'Ivoire and this could be explained by the greater responsibility of males than females in the homes. Married workers or those in consensual union are also found to have a higher probability than unmarried workers to engage in more than one job in 2005/06 and is consistent with observation by Owusu (2001). Indeed, marriage places some extra financial and social burden on partners creating an incentive to generate additional income through moonlighting.

Additionally, workers with basic or secondary education are observed to have a higher probability relative to the uneducated of engaging in moonlighting in 2005/06 with no significant effect of tertiary education on the probability of engaging in moonlighting. This may be linked to the fact that most workers with tertiary education may be engaged at the middle to high echelons of the primary job ladder with relatively more responsibilities that keep them glued to the primary job. However, the irrelevance of higher education for moonlighting appears to be at variance with findings of Tansel (1995) that urban wage earners with university education in Turkey are twice as likely as primary school leavers to moonlight. Similarly, our observation does not confirm the conclusion reached by Foley (1997) that higher education nearly doubles the moonlighting probability in Russia.

Household characteristics of the worker are also found to influence the probability of participation in moonlighting in varying directions. As expected, individuals from larger households have a higher probability to engage in moonlighting in 1998/99 in line with findings of Owusu (2001) suggesting that larger households could reflect higher dependency and more financial strain. However, contrary to expectation, workers living in poor household are less likely to work in more than one job. This observation may be explained by

limited search abilities and lower information of the working poor on available vacancies and jobs.

5. Summary and Conclusion

Our analysis of moonlighting suggests that the incidence of moonlighting in Ghana is generally high compared to developed countries such as the United Kingdom, United States, and Russia and emerging economies such as Brazil. A number of factors have been empirically identified to influence moonlighting in Ghana key amongst these are the number of working hours, earnings and type of employment in the main job, rural location and worker's age. Specifically, individuals in poor households are less likely to moonlight with household size having increasing influence on the individual desire to hold more than one job while education and age are estimated to have positive effect on individual decision to moonlight. Workers in Accra and other urban areas have been found to be less likely to desire multiple jobholding relative to their rural counterparts.

Generally, moonlighting represents a rational and positive choice of options available to the individual worker. Evidence is provided to suggest that less than sufficient working hours in the main job as a driving force for individuals to moonlight confirms the hours constraint motive of holding multiple jobs within the utility maximisation framework and could be related to the problem of visible underemployment. Besides, the declining probability of moonlighting with increasing earnings also explains the financial motive of moonlighting. The combination of the hours constraint and financial motives of engaging in multiple jobs could suggest that the individual may not have sufficient working hours to meet their desired income level. In addition, the limited search abilities and lack of information on available job openings of the working poor to resort to moonlighting as income improving strategy calls for strategies to help the poor in that direction. These observations may be related to labour market challenges that require policy intervention. The establishment of an efficient labour market information system to facilitate effective job search particularly for the poor who may want to resort to multiple job-holding to supplement low income from main job is recommended.

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