

Determinants of Moonlighting Decisions Among Government Employees In Sri Lanka: Evidence from government employees who dwelt in Kegalle district

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DOI: 10.29322/IJSRP.10.12.2020.p10832
<http://dx.doi.org/10.29322/IJSRP.10.12.2020.p10832>

Abstract- Objective of this study is to investigate the determinants which motivate the government employees in Sri Lanka for moonlighting. For this purpose, 925 government employees who dwelt in Kegalle district were randomly selected during the period of 2019. Moonlighting is the dependent variable which takes a value of 1 when an individual holds more than one job and 0 if an individual is engaged in only one job. Since, the dependent variable has two categories of dichotomous such as moonlighter or non-moonlighter, binary regression models namely, probit and logistic models were applied with education levels, number of Dependents, primary income from main job, and civil status which were considered as four explanatory variables in the study. Results of chi - square test, Probit and logistic model testing reveal that all the independent variables have significant association with the moonlighting. Further the results are showing that two variables namely Education level & Income from primary job are negatively impacted in case of being a moonlighter while other two variables namely number of dependents & civil status are positively affected to been a moonlighter. And the results are showing a consistent with the results previous studies too. The overall results of the study may support to the policy planners and relevant stakeholders to develop strategies that affect workers choice and attitude to work in the labour market, specially in related to the government employees.

Index Terms- Moonlighting, Education Level, Number of Dependents, Civil status

I. INTRODUCTION

Moonlighting is defined by various person in different ways such as The American Heritage Dictionary of the English Language (2009), defined Moonlighting as working at a secondary job, to work at another job, often at night, in addition to one's full-time job. According to Shishko and Rostker (1976) moonlighting is a situation where an individual maintains primary employment and engages in additional work to pay. Generally, Moonlighting occurs when a full-time worker has a second (or even a third or fourth) job in addition to primary one. As an example, musician sing in the hotels rather than their primary job that they are doing and also school teachers are conducting tuition classes rather than their primary job. Moonlighting has become a prominent feature in most of labour market because it provides huge contribution for the economic development of a country. In the present situation, economic and business environment of a country change rapidly as a result of micro and macroeconomic factors. These rapid changes badly affected to the people's job and job preferences. Thus, moonlighting or multiple jobs holding arise when individuals work in more than one job at the same time and it has been increased considerably in transition & industrialized countries in recent decades. Statistical information on multiple jobs holding is limited in developing countries also in Sri Lanka when comparing with some other developing or developed countries. However, at present, developing countries also collects information on multiple jobs due its importance at the statistical estimations on entire labour market. Also, multiple jobs holding directly affect the country's job market and thus, it is vital to the economic development of Sri Lanka. (Labour force survey annual report,2016). According to the survey results show that 11.0% of total employed, persons hold secondary jobs during the survey year 2016 and out of these secondary employed persons, 655,488 were males and 222,140 were females during the same year. Above statistics are proved that there is a high level of moonlighting activities in Sri Lankan context. But, even though some related studies on moonlighting have been carried out in local and foreign context (see e.g. Gaag et al., 1989; Owusu, 2005., Samaraweera and Ranasinghe, 2012., Boateng, 1996., Heineck, 2009), a quantitative analysis that links moonlighting with relevant triggers has not been well established particularly in Sri Lanka. So, it is researchable to identify determinants of moonlighting activities in case of Sri Lankan context using a quantitative approach. Further, it is better to test those relative to the different segments of the workforce as in government sector.

II. REVIEW OF LITERATURE & HYPOTHESES DEVELOPMENT

Moonlighting is defined by various persons in different ways. According to the American Heritage Dictionary of the English Language (2009), Moonlighting refers to working at a secondary job, work at another job, often at night, in addition to one's full-time job. 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 an individual (self-employed) economic activity, i.e. formal and informal secondary work. When consider about who is the moonlighter simply can define individual who moonlight is moonlighter. But there are two broad definitions of moonlighter and they are point definition and duration definition (Boateng, 1996). The point definition considered the worker at a particular point in time, and classified the worker as a moonlighter if more than one job was held during the reference period. This definition did not consider the period over which the two jobs had been simultaneously. According to the duration definition the worker was observed over a time interval, and if more than one job was held during the entire period then the individual was considered as moonlighter. The problem with the point definition is that it included in its definition of moonlighter individuals who might be held transitional jobs and who have no intention of keeping both or all jobs simultaneously.

Most researchers put their effort to identify the determinants of moonlighting. Heineck (2009) examined the determinants of secondary jobholding in Germany and the UK. Through his research he revealed that secondary jobholding is a persistent phenomenon in both Germany and the UK. He has examined both male and female workers separately by using panel data whereas the results are varying across gender and countries. There is a support for both main theoretical stands, either for the hours constraint motive and, through less clear, for the heterogeneous jobs motive. Hall and Pertrosky (2016) have also examined the determinants of moonlighting among lecturers of State Universities in Cameroon. According to his research paper he identified that in addition to the classical determinants of moonlighting (hours of work in the main job, pay in the primary job, pay in the secondary job) gender and localization of the university also play major roles. Shishko and Rostker (1976) have 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 hour's constraint on the primary job. According to them, the hours spent in the secondary job increases 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. Paxson and Sicherman (1996) have found evidence to support the hours constraint motivation and confirmed that dual job holding is a dynamic process. Their study has been revealed that dual jobs and job changes are used to adjust hours of work simply due to the evening and weekend hours are not available in their main job. 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. William et al., (2013) have identified that a number of factors have been influence to moonlighting decisions in Ghana. Key amongst these are the number of working hours, earnings, 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 the moonlight. According to Samaraweera and Ranasinghe (2012), moonlighting among married men is high for two groups with children less than 6 years of age and 6-14 years of age. Furthermore, the total hours of work of this two life cycle stages are higher for married males and they have concluded that low per hour income and the educational level encourage more moonlighting. While most of the researchers have tried to find the reasons for the moonlighting some researchers put their effort to find the impact of moonlighting. It may be positive or a negative one. Adeyeye (2009) has conducted a study to measure out the impact of moonlighting practices on job satisfaction of the university teachers. That study meant to put its effort to explore the impact of moonlighting practices on job satisfaction of teachers of public sector universities of the province of Punjab and Federal Capital. In order to consider this research paper, the researcher has identified factors responsible for moonlighting university teachers as additional income, blocked promotion, skill diversity and the job autonomy. Further, Recently Pathirana and Thayabaran (2019) has conducted a same type of study in Sri Lankan context and have concluded that household characteristics such as secondary and higher education levels and number of children and as well as among labour market characteristics, two income ranges from primary job such as income between Rs 10000/= and Rs39999/= and the income Rs 40000/= and above were found statistically significant influence on an individual's motivation to engage in more than one job in labour market in the country.

According to the prior studies, researcher has identified five major determinants of moonlighting decisions as below.

- Level of education.-Kimmel (2001), has considered the level of education as a determinant of moonlighting decisions in his study. Furthermore, Samaraweera and Ranasinghe (2012) have also considered years of education as a determinant of moonlighting decisions in their study.
- Income earns through the primary job.-Perlman (1966), Shishko and Rostker(1976), Samaraweera and Ranasinghe (2012), Heineck (2009) have tested that whether income earn through the primary job would be a determinant of moonlighting decisions.

- Number of dependents:-Samaraweera and Ranasinghe (2012) have considered number of children as a determinant of moonlighting decisions.
- Civil status:-Pathirana & Thayabaran (2019) have tested working hours of primary jobs a variable of their studies.

In this study, researcher has tested the validity of these determinants in Sri Lankan context. In that case researcher has tested following hypothesis which have been developed by the researcher based on prior studies.

- H1- There is a significant relationship between educational level of a person and be a moonlighter.
- H2- There is a significant relationship between the income from the primary job of a person and be a moonlighter.
- H3- There is a significant relationship between a numbers of dependents of the household and be a moonlighter.
- H4- There is a significant relationship between the marital status of a person and be a moonlighter.

III. ADOPTED METHODOLOGY

In this academic study, the positivism research approach is chosen and used in general by natural scientists. Positivism is a natural theoretical approach that assumes that the findings are based on positive facts rather than on impressions. Everything, which is not observable and cannot be proved through scientific experiment or ethical and theological questioning is against the positivism approach. From the observed part of society, which will be surveyed during the research process, a generalization of the whole society can be made. The research strategy of collecting data should be built on existing theory. This was discussed in the previous literature review to develop the research hypothesis, which will be proved or refuted. If the hypotheses are refuted, further theory has to be tested. Moreover, the positivism approach assumes an on-going scientific progress and a value-free attitude of the researcher.

Following conceptual model gives a brief outline about the related variables and how the particular variables of the study connected together.

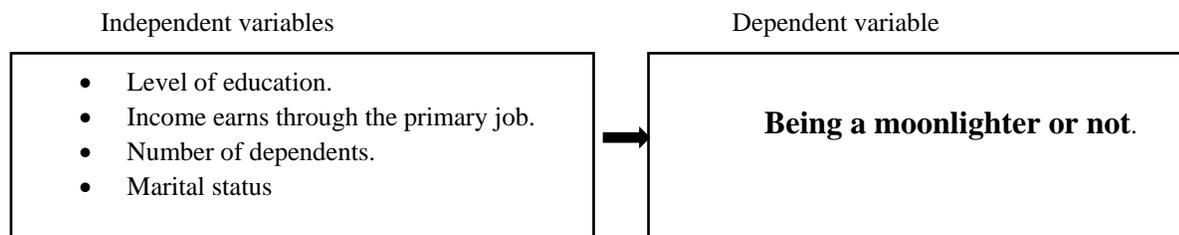


Figure 1 Conceptual Framework

Following operationalization table has been developed by the researcher based on the prior studies

Table 1 : Operationalization

Variable	Measurements
Being a moonlighter	1- If the worker is doing more job rather than their primary job, he is moonlighter. 0- If the worker is not doing more jobs rather than their primary job he is not moonlight.
Income from the Primary Job	1- Less than Rs.10000 2- Rs.10000 to Rs.39999 3- Rs.40000 and above
Number of dependents	1- No any 2- 1-2 Dependents 3- More than 2 Dependents
Level of Education	1-Primary education 2-Secondary education 3-Higher education
Civil status	1-Maried 2-Unmaried

In this research, researcher has concerned only about government employees who dwelt in Kegalle district. Here, identifying the total population is difficult. Anyhow, the number of government employees in Sri Lanka is 1,104,219 (Census of Public and Semi Government Sector Employment Preliminary Report,2016) Therefore, researcher will concern comparatively a big sample to minimize the impact of this matter to this study. Sample is chosen by using random sampling method. Government employees of all categories (Permanent and Pensionable, Permanent and non-pensionable, Contract basis) who live in Kegalle would be cover up by the researcher when selecting the sample. To collect reliable primary data, researcher has collected data from 925 government

employees who dwelt in Kegalle district through a structured online questionnaire (in year 2019). Questionnaire will be developed by the researcher based on the developed operationalization.

To investigate the major determinants of the government employees towards the secondary job or moonlighting and identify the characteristics of government employees in moonlighting, descriptive analysis and econometrics analytical techniques were applied in the study. Those have been explained in below table.

Table 2 Data Analysis Methods

Statistical test	Objective
Frequency analysis	Describing the characteristics of the set of data
chi-squared test	Testing relationships between categorical variables
probit model	calculate the marginal effects of explanatory variables & Hypothesis Testing

The dependent variable of this research is to identify whether the individual worker is engaged in more than one job. It has measured in a dichotomous form and takes a value of 1 if the individual holds more than one job and 0 if he is engaged in one job. Because of the binary nature of the dependent variable, has used the probit regression estimation technique to explore how each of the explanatory variables influences the probability of a worker engaging in moonlighting. Probit regression model can be mentioned as follows.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 \dots \dots \dots (1)$$

Where;

- Y – Be a moonlighter
- O - Other factors
- X1 – Educational level
- X2 – Primary job income
- X3 – Number of dependents
- X4 – Marital status

After estimate the probit regression estimation to identify the impact of independent variable on dependent variable in terms of probability, estimation of marginal effect is also has been tested. William et al., (2013) also have used probit regression in a same type of study.

IV. RESULTS & DISCUSSION

According to the accepted responses 51.35% of respondents are moonlighters and remaining 48.65% of respondents are only doing their primary job. Above results disclosed that the target group (sample) have higher moonlighting rate. 41.1% moonlighters who have responded for this study are having secondary education and 30.3% and 28.6% moonlighters are having primary education and higher education respectively. In fact, 45.9% of the respondents have income of Rs.10000 - Rs.39999 from their primary job, 29.2% of the respondents have income of less than Rs.10000 and remaining 24.9% of the respondents have income of higher than Rs.10000. Further, researcher has noted that nearly 46% of the sample of surveyed government employees have one/ two dependents and nearly 32% of the sample are not having any dependents. Rest of the other 22% had more than two dependents. And, most of respondents are married, giving approximately 78% of the sample size and rest of other 22% of sample size are unmarried.

Table 3 Results of Chi-square test (Source: Survey data)

Variable	Moonlight (%)	Non-Moonlighter (%)	χ^2	Sig.
Education				
Primary	91.1	8.9	63.738	0.000
Secondary	47.4	52.6		
Higher	15.1	84.9		
Primary job income				
<10000	96.3	3.7	78.186	0.000
10000-39999	45.9	54.1		
<40000	8.7	91.3		
Number of Dependents				
0	25.0	75.0	35.067	0.000
1 -2	54.1	45.9		
<2	85.0	15.0		
Civil status				
Married	46.2	53.8	7.105	0.008
Single	70.0	30.0		

According to the table 3 (Results of Chi-square Tests), All the variables are affected to behavior of government employees in Kegalle district as Through the chi-squire test researcher can identify whether there is an association between the dependent variable and independent variables.

Further, researcher has used Probit regression estimation technique to explore how each of the explanatory variables influences the probability of a worker engaging in moonlighting. The result of particular model is given in Table 4.

Table 4 Results of Estimated Probit Model

Variable	Coefficient	Standard error	z	P> z
Education	-1.191	0.219	-5.42	0.000*
Primary income	-1.678	0.278	-6.04	0.000*
No. of dependents	0.451	0.200	2.26	0.024**
Civil status	-0.585	0.355	-1.65	0.099***

*NOTE: *, **, ***, represent significant level of 1%, 5% and 10% respectively.*

According to the estimated Probit model all independent variables are statistically significant at 1%, 5%, and 10% levels, indicate that all the above variables are the main factors to determine the decision of moonlighting among government employees of Kegalle district.

Through Marginal effect results researcher has identified the probability of independent variables affected to dependent variable.

Table 4 Results of Marginal Effect

Variable	dy/dx	Standard error	z	P> z
Education	-0.185	0.025	-7.61	0.000*
Primary income	-0.260	0.026	-9.45	0.000*
No. of dependents	0.070	0.029	2.36	0.018**
Civil status	0.091	0.053	1.69	0.091***

*Note: *, **, ***, represent at 1%, 5% and 10% significant level respectively.*

This estimation also provide evidence to suggest a statistically significant effect of government employees who are in Kegalle on the probability of engaging in multiple job holding. Specifically, the probability of engaging in moonlighting decreases with education based on negative marginal effect. Negative marginal effect of education suggests concavity of the relationship between worker’s probability of engaging in moonlighting and education. This implies that the probability of engaging in moonlighting assumes an increasing pattern initially and beyond a certain level of education, the probability decline. Additionally, workers with secondary and higher education are observed to have less probability relative to the primary educators of engaging in moonlighting. Based on the 4 table when education increases from primary to higher, they have 18% of less probability to moonlight. Income earn from primary job also have negative marginal effect and represent 26% of less probability to moonlight. This may confirm the view that lower income of primary job among government employees is a major trigger to engage in moonlighting. Table 4 provides evidence to suggest a statistically significant effect of household characteristics of the workers on the probability of engaging in multiple job-holding. Probability of engaging in moonlighting increases with number of dependents based on the positive marginal effect of it. Larger households could reflect higher dependency and more financial strain. However, workers who have a smaller number of dependents are less likely to work in more than one job. Same time marital status also has positive marginal effect and according to the table 4, it means there is a high probability of being a moonlighter when government employee’s marital status becomes married.

Based on the findings of above statistical analysis, following table 5 shows a conclusion of these findings.

Table 5 Hypotheses testing results

Hypotheses	Accepted/ Reject	Relationship status (If accept)
H ₁ - There is a significant relationship between educational level of a person and be a moonlighter.	Accepted	Negative
H ₂ - There is a significant relationship between the income from the primary job of a person and be a moonlighter.	Accepted	Negative
H ₃ . There is a significant relationship between a number of dependents of the household and be a moonlighter.	Accepted	Positive
H ₄ . There is a significant relationship between the marital status of a person and be a moonlighter.	Accepted	Positive

Findings of the data analysis have been disclosed that researcher is having enough statistical evidences to accept all the hypotheses which have been tested through this study.

V. CONCLUSION

The main objective of this study is to identify the factors that affected to moonlighting preferences of government employees in Kegalle District. To achieve this objective chosen 925 sample and delivered an online structures questionnaire. Different econometric methods enable to use to capture the real picture of moonlighting behavior based on their responses. According to finding these is a statistically significant association between all the independent variables with the dependent variable. Furthermore, it has been revealed that two variables namely Education level & Income from primary job are negatively impacted in case of being a moonlighter while other two variables namely number of dependents & civil status are positively affected to be a moonlighter. On the other hand, in simple words, in case of Kegalle District Government employees there is a high probability of being a moonlighter when people are having less education level, less income from primary job, higher number of dependents in the family and being a married person.

In a very recent study Pathirana & Thayabaran (2019), has identified that level of education, earning income from main job and number of children has significant association with the moonlighting in case of Sri Lankan Labour Market. So, finding of this study also are showing a consistent with the findings of that study. The results from the empirical analyses provide the evidence mainly focusing on the motivation factors which are influencing the moonlighting and characteristics of moonlighters in government employees, Kegalle District, Sri Lanka. The empirical analyses from frequency test indicate that secondary jobholding is a persistent phenomenon and over the time period considered, more than 50% of the responded government employees doing more than one job in the study area. In the study of Pathirana & Thayabaran (2019) which has obtained same type of results has suggested that Education of the respondents mainly secondary and high levels, and workers' earnings capacity and the income from their primary job which may encourage them to do only one job while the respondents who have dependents motivate them to become as a moonlighter in order to adjust their financial strain and burden of their family in Sri Lanka. Here, these study providing more empirical evidences to make strong the opinion which have socialized by Pathirana & Thayabaran (2019).

Moonlighting generate opportunities to the labour market to get the best from worker's strength and abilities. Specially the person who have special knowledge with regarding some specific areas can optimally utilize by using moonlighting. So, moonlighting opportunity must be extended in relevant situations. With moonlighting behaviors of government employees arising some socio and health problems (Less caring about children, Less happy/ satisfaction/ Mental diseases). By developing flexible work schedule helps to achieve work-family balance and it led to higher family welfare. So must give the attention to develop flexible work environment within the organization.

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