

# What factors matter for choice of livelihood by the Older workers

**Samanthi Bandara**



INSTITUTE FOR  
HUMAN DEVELOPMENT

**SARNET**

South Asia Research Network

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# What factors matter for choice of livelihood by the older workers?

Samanthi Bandara<sup>1</sup>

## 1. Introduction

Having a firm livelihood not only gives a financial safeguard for ageing, but it also works as a policy solution for rapid ageing. Like many countries across the world who experience 'population ageing', Sri Lanka is also confronting rapid ageing phenomena—as an adverse outcome of declining total mortality plus total fertility, and increasing life expectancy. As per the latest statistics, the percentage of population ages 60 years and above is 12.2 per cent in 2012, and it is expected to double to 24.4 per cent by 2040 (Engelgau, Okamoto, Navaratne, & Gopalan, 2010). Increasingly, the elderly people walking out from the work force could be one of the reasons towards shrinking the labour force, and on the other hand, old age dependency ratio could increase rapidly. This burden could further accelerate because of transformation from extended family structure to nuclear family structure. At present, 100 persons of the working age population in Sri Lanka support approximately 20 old persons (60 years and above) (Department of Census and Statistics, 2012)

Consequently, evidences suggest that taking human resource policy solutions to retain older workers in the labour force longer is one of the measures which can prevent the economy as well as the individual households from excess burden of old age dependents (World Bank, 2008). To create such an environment, understanding the age related factors of older workers' motivation on employment is vital. Therefore, studying the determinants of participation in labour force by the older workers will provide directions towards preparing comprehensive policy solutions to mitigate labour force exit by the older workers.

This study aims to investigate what factors explain the choice of livelihood by the older labour force aged 50 years and above using the Sri Lanka Labour Force data set 2013 (LFS). The 'occupation choice model' is employed to explore the factors affecting for labour force participation and sector participation (government, private, and self-employed) (Varme, 2000). Accordingly, non-income determinants namely, individual, household, and geographical characteristics were considered as the key explanatory variables of this model. However, unavailability of income information in the data set is one of the key limitations for absence of the income determinants in the model. In addition, previous work experiences of employees matter for choosing sector participation by older workers (Raymo, Warren, Sweeney, Hauser, & Ho, 2010; Johnson, Kawachi, & Lewis, 2009). However, the LFS data does not capture such

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<sup>1</sup> Institute of Policy Studies of Sri Lanka

information. Consequently, this study does not consider another vital explanatory variable – previous work experience, which is another limitation of the study.

The study has chosen an age cohort of 50 years and above. This category is named as older workers in the literature. As per the previous studies, the older workers are more crucial segment in the labour force. Literatures show that the older workers, 50 years and older, are tend to either change their careers or exit from the labour market prior to retirement owing to many reasons (Johnson, Kawachi, & Lewis, 2009; Vodopivec & Arunathilake, 2008; Gamenen, 2010). Accordingly, those literatures recommended formulating effective policies and actions to address explaining factors of the older workers' behavior on career change. Countries where whose population is aging are more proactive for policy changes for expanding the spaces and opportunities for older workers in the job market; otherwise the economy has to invest additionally in a social security system to safeguard the jobless older workers. In this context, studying the determinants of labour force participation by the older workers will be worthwhile to identify the critical areas where the older people are deteriorated when choosing employment. These evidences then can be used to strengthen and develop the labour market policies or labour force related policies (i.e. occupational health policies) to better utilizing the older people. As long as the older people can be kept active in the labour market, excess burden fall on the economy due to older age dependency, health related issues (i.e. depression due to loneliness), and social issues (i.e. increasing demand for elderly care due to absence of family support and social support) could be mitigated to a considerable extent. This is further recognized by the World Bank (2008).

## **2. Literature review**

With the purpose of this study, the literature review has two folds. First, the review focuses the empirical evidences on why people aged 50 years and above chooses to participate in different occupations in their latter part of life. Next, factors that explain the behavior of older workers will be discussed including the appropriate economic model to be employed.

### ***2.1 Importance of studying the occupation diversity of 50+ population***

Sri Lanka has been seeing a considerable increase of her population being aging over the last decades. Like Sri Lanka, other countries in the world are also experiencing the same phenomena. Within this system change, early retirement by the older group of population – 50 years and above – is commonly seen in many countries owing to many reasons namely, ill health, having a sustainable social security policy from the current job or any other sources, imposing tax on earnings, low education level and low income etc. (Boskin, 2007; Coile & Gruber, 2007; Borsch-Supan & Schnabel, 1998; Mascherini & Lestón, 2011). Another important fact is that older individuals are more likely to change their employment in the later in life than that of the younger group. Many reasons are caused for this. For instance, Cahill, Giandrea, & Quinn (2010) found that older employees change the career from 'wage-and-salary employment to self-

employment' mainly due to wage reductions being occurred in later in working life. Further, likelihood of switching the career to self-employment is higher in those who occupy in part time careers than that of full time careers (Cahill, Giandrea, & Quinn, 2010). Moreover, older workers aged 50 years and above are much enthusiastic to be self-employed, compared to that of youth (ages 16-24) and prime ages (ages 25-49) (Bell & Rutherford, 2013).

Owen and Flynn (2004) found that changing employment and willing to work after retirement is mainly influenced by the experience of job change gained in mid to late working life. According to them, people do so as a precursor to retirement. In addition, Johnson, Kawachi, & Lewis (2009) revealed that likelihood of changing careers amongst the older worker (ages 65 to 69) is disproportionately higher. In particular, join a new job by the retirees is twice higher than to those who quit their previous job and rejoin new one. In addition, flexible working hours is the key concern for seeking a new job by those who has defined benefit plans (social security plan, pension etc.) in order to enjoy their older life (Johnson, Kawachi, & Lewis, 2009). But, older people who undergo with fewer or no benefit plans are struggling to acquire money, and financial needs are therefore considered (salary/wage) for choosing a new job (Johnson, Kawachi, & Lewis, 2009). Senanayaka and Kumara (2012) revealed that more than 50 percent of the Sri Lankan elderly aged 60 years and older in 2012 were currently inactive. Moreover, they have statistically proved that older people, who have a full time job with social security plan (e.g. pension) and health insurance are less likely to change their careers. Even though, changing their career is their need, treating them fairly, disregarding the level of occupation is the responsible of the economy. In this context, demanding for the older people by the job market at low cost, and fewer or no benefits (i.e. health insurance) is seen as another area of concern, where the older workers suffer and it is yet to be addressed (Vodopivec & Arunathilake, 2008). Since falling into diseases in the older ages is prevalent, poor health of older people leads to reduce the probability of being employed (Gameren, 2010; Vodopivec & Arunathilake, 2008). This in turn accelerates with an increase of non-communicable disease prevalence particularly amongst the older people.

When looking at the literatures on sector participation by the older workers in the context of Sri Lanka, no published studies were found. However, a very few studies looked at determinants of sector participation by different segment of individuals. Gunasekara (2013) looked at the determinants of the informal sector participation by the youth cohort of aged 25-35 years. She has used Sri Lanka Labour Force data. Arunathilake & Jayawardane (2010) examined the determinants affecting for individual preferences on informal sector participation by using two data sets--Sri Lanka Integrated Survey (SLIS-1999-2000) and Consumer Finance and Socio-economic Survey Data (CFS-2003-2004). Senanayaka and Kumara (2012) studied the patterns and determinants of employment status of the Sri Lankan elderly (60 years or above), using Household Income and Expenditure Survey (HIES) data. Consequently, analyzing different factors affecting on choosing diverse careers by the older people (50 years and above) will help to fill the gap in the literature and that in turn support the labour market players to keep retain the older people actively in the employment.

## ***2.2 Factors affecting for occupational choices of individuals***

This study is used economic and non-economic variables to address the research question of what factors explain the livelihood of the older workers. In the economic variables, monthly wage and allowances are included. Non-economic variables are further categorized into three pillars; (1) individual characteristics; (2) household characteristics; (3) Geographical Characteristics. Therefore, the scope of the literature review is mainly on these three aspects, but slightly touches on other variables.

Varme (2000) studied how non income and income determinants affect sector participation by the adults in Kazakhstan using the 'occupation choice model'. The author used wage as income variable while non income variables were individual (i.e. age, years of schooling), location (i.e. regional employment rate), and household characteristics (i.e. head of the household, household own a car, household children 13 years of below). According to the study findings, the entering to the different sectors by the unemployed people is well explained by the personal characteristics. In conclusion, the author said the choice of sector participation is determined by the non-income factors than the income factors.

As the individual characteristics, gender, age, marital status, and household head-ship, education status are used in the studies by Gunasekara (2013), Dogrul (2012), and Arunathilake & Jayawardane (2010) to explain the occupation choice by the people. According to the literature, these three factors explain the individual preferences for choosing occupations. For instance, as per the Dogrul (2012) findings, there is a considerable difference in sector participation by the males and females. Gunasekara (2013) has also experienced the same, but not the similar findings. As per the Dogrul's findings, among the employees in the urban areas of Turkey, a higher participation by the males has been seen in the formal employment of public and private sectors while the female reported a higher participation in the inferior informal sector in the urban sector. In contrast, Gunasekara (2013) found that a majority of youth (aged 25-35 years) engaged in the informal sector, but a higher proportion of women is unemployed.

Moreover, Dogrul (2012) stated that the life cycle effects are greatly explained by the age factor (level of age) while Blundell, Ham, & Meghir (1987) also proved age as a significant factor for explaining female labour supply (Blundell, Ham, & Meghir, 1987). In addition, 'level of education' is considered as a key factor for choosing the sector participation by the workers (Dogrul, 2012; Hunter & Gray, 2002). As per Hunter & Gray (2002), reducing the probability of being a discouraged worker by females is also determined by the level of education. According to Dogrul (2012) findings, people whose level of education attainment is up to university or above are more likely to be in the public sector while those who attain primary education and below are prefer to employ in the private sector.

'Household characteristics' is far more important for choosing a certain occupation/job by individuals. In which, household size, and number of dependence – children in school age, as well as elderly people— were identified as important determinants by of the many researches. In particular, 'child care and other family responsibilities' was the most prominent reason for

not looking for a work by the women aged between 25 and 44 years in indigenous people of Australia in 1994 (Hunter & Gray, 2002).

Geographical Characteristics is also plays a key role in occupation preferences. Many studies used 'location' as to represent the labor market conditions (e.g. infrastructure facilities, distribution, and concentrated of different types of jobs etc.).For examples,Verme (2000)has tested 'local economic and labour market characteristics'while Gunasekara (2013) and Arunathilake&Jayawardane (2010) have used 'districts/province/sector' as location to capture different job preferences by the employees.

Labour force participation by Mexican adults aged 50 years and above has been studied by Garmen (2010) using the data from Mexican Health and Aging Study, and multinomial logit model has been employed as the empirical model. He has used the similar variables as in Verme's study. In which, demographic information (i.e. age, health status, level of education, able to read and write, able to count from 1 to 100, speak English, speak indigenous language, occupation), household information (living with spouse and children, household assets), and degree of urbanization as a location variable were used as non- economic variables while salary/wage, and having social security plan were applied as income variables in the model. Having a family support from spouse or children reduces the likelihood of engage in a paid work by the older women, but working women are influenced to continue their work if they become eligible to a pension scheme. In overall, having a social security and family support reduces strongly the need and tendencyfor a paid job for both men and women. Johnson, Kawachi, & Lewis, (2009) also used multinomial logit model to understand the extent and nature of the career change by the older workers. Findings said that the older workers those who have a pension and other benefits (e.g. health insurance) of their current work are reluctant to move to another job. Education is also another key factor that for instance the older workers who attained college education are less likely to change their jobs than those who do not achievethat level.

Many studies on self-employment has been identified a strong association between individual characteristics and choose to participate in self-employment. Blanchflower& Oswald (1998), and Lombard (2007)found that being self-employed by the educated and married old men are well explained by the demographic factors namely, sex, age, education, and marital status.However,Julie &Karloly (2003) by using a multinomial logit model,have observed no association between demographic factors and choosing self-employment by male and female. Self -employment transition by the older men (50 years and older) are not determined by race, marital status, and age. But, for female, marital status is significantly associated with choosing to participate in self-employment, while race is not. Further, having a pension/social security benefits reduces to transform from paid job to self-employment. Cui, Tani, &Nahm (2012) applied a multinomial logit model to determine the factors that affects of employmentchoice by the rural migrant workers in China. They used demographic characteristicsasthe explanatory variables in the model, namely, age (15 to 60), gender, marital status, education (years of

schooling) , ethnicity, health status, and political identity, and wage/month, pension benefits as income variables.

### 3. Methodology

#### 3.1 Data

This study used 2013 Sri Lanka Labour Force Survey (LFS) data that was conducted through 9 months from April to December 2013. The survey was covered the sample of 19,420 housing units representing all district of the country.

#### 3.2 Variables

The study used two broad variables --economic and non-economic variables as explanatory variables. Under the economic variables, wage per month and monthly allowances were included while non-economic variables were further disaggregated into three categories namely, individual, household, and geographical characteristics. With regard to dependent variables, there were two sets of variables. Labour force participation is one set of variable, and under this, three variables -- employed, unemployed, and not in labour force -- were taken. Sector participation is the next and public (government), private, and self-employed were the key sectors used in this study.

#### Independent variable

Table 1 shows the independent variables by key categories and their description.

**Table 1: Description of the Independent Variables**

Variable	Description
<b>Economic Characteristics</b>	
Wage (including monthly allowances)	
Less than 5000	1 if Less than 5000
Between $\geq 5000$ & $< 15000$	1 if Between $\geq 5000$ & $< 15000$
Between $\geq 15000$ & $< 25000$	1 if Between $\geq 15000$ & $< 25000$
Between $\geq 25000$ & $< 35000$	1 if Between $\geq 25000$ & $< 35000$
Between $\geq 35000$ & $< 45000$	1 if Between $\geq 35000$ & $< 45000$
Between $\geq 45000$ & $< 55000$	1 if Between $\geq 45000$ & $< 55000$
Equal and greater than 55000	1 if Equal and greater than 55000
<b>Individual Characteristics</b>	
Gender	1 if male
Age	Age
Head of household	1 if head of the household
Wife/Husband	1 if Wife/Husband
Son/Daughter	1 if Son/Daughter



Parent	1 if Parent
Other Relative	1 if Other Relative
Marital Status	
Currently Married	1 if Currently Married
Previously Married	1 if Previously Married
Never Married	1 if Never Married
Literacy	
Able to read and write Sinhala	1 if Able to read and write Sinhala
Able to read and write Tamil	1 if Able to read and write Tamil
Able to read and write English	1 if Able to read and write English
Ethnicity and Religion	
Sinhala Buddhist	1 if Sinhala Buddhist
Sri Lankan Tamil Hindu	1 if Sri Lankan Tamil Hindu
Indian Tamil Hindu	1 if Indian Tamil Hindu
Sri Lankan Moor	1 if Sri Lankan Moor
Education status	
Studied grade 5 and below	1 if either no education or studied upto grade 5 and below
Studied grade 6 to 10	1 if Studied grade 6 to 10
Passed Ordinary Level	1 if Passed Ordinary Level
Passed Advanced Level	1 if Passed Advanced Level
Degree	1 if Degree
Post Graduate	1 if Post Graduate
Household Characteristics	
Number of Young Dependents	Number of children aged 0-15 years old in a household
Number of Old Dependents	Number of older people aged 64 and above in a household
Household size	Number of members in a household
Geographical Characteristics	
Districts	1 if in a particular district
Sector	
Urban	1 if in urban sector
Rural	1 if in rural sector
Estate	1 if in estate sector

## Dependent Variables

Labour force participation and sector participation were the two sets of dependent variables in this study. Labour force participation is further disaggregated into three categories; (1) employed, (2) unemployed, and (3) not in labour force. The older workers those who are in labour force refer to employed while those who are currently not working, but expecting a paid or self-employment are defined as unemployed. 'Not in labour force' refers to those who currently not doing any job (i.e. retirees, sick people, even not expecting a paid or self-employment). Secondly, employed people are further divided into three categories based on the nature of their occupations-- public, private, and self-employed, and those three variables were considered as the sector participation.

### 3.3 Model

Varme (2000) revealed that maximizing the expected utility by participating in a particular sector mostly depends on two different factors namely, rationing and individual preferences (Varme, 2000). According to his study, above two factors were disaggregated further; 'rationing' refers to employer's demand for different occupation needs (e.g. education qualification, skills, experiences, and training etc.), and location – particularly the existing status of local economy and labour market status; 'individual preferences' represents a couple of factors that are 'expected income' and 'household causes'. Finally, those were considered as the explanatory variables in the empirical model by Varme (2000).

#### Theoretical model

Theoretical model in this study is drawn following to the Verme's choice model. Accordingly, wage ( $W$ ) and 'non-economic factors' ( $K$ ) are the key determinants by which the individual's utility is maximized. Therefore, the following model explains an individual's expected utility  $[E(U_{ij})]$ :

$$\text{Max } E(U_{ij}) = U(W_{ij}; K_{ij})$$

With regard to the above theoretical model, an individual's expected utility ( $Y_{ij}$ ) would be measured using the following model, in which  $W_{ij}$  represents the potential wage while  $K_{ij}$  is a vector of non-economic variables.

$$Y_{ij} = \alpha_j W_{ij} + \beta_j K_{ij} + \epsilon_{ij}$$

Simple  $I$  ( $i$ ) represents individual ( $i=1, \dots, N$ ), and simple  $J$  ( $j$ ) presents sector participation ( $j=1$ =public,  $2$ =private, and  $3$ =self-employed)

In addition, the potential wage is a function of different factors. Therefore, the wage could be explained by;

$$W_{ij} = \Omega_j R_{ij} + \mu_{ij}$$

According to Verme (2000), an individual chooses sector participation by a couple of factors-- individual preferences/ characteristics and labour market rationing, therefore, wage depends on individual characteristics ( $Z_{ij}$ ) and location or local economic and labour market characteristics ( $X_{ij}$ ).

$$W_{ij} = \lambda_j Z_{ij} + \beta_j X_{ij} + v_{1i}$$

Finally, choice of sector participation ( $N_{ij}$ ) is a function of wage ( $W_{ij}$ ), individual characteristics ( $Z_{ij}$ ), location or local economic and labour market characteristics ( $X_{ij}$ ), and household characteristics ( $H_{ij}$ ).

$$N_{ij} = 1 - \text{if } (\gamma_j W_{ij} + \Phi_j Z_{ij} + \psi_j X_{ij} + \delta_j H_{ij} + v_{2i}) > 0 \text{ (sector participating)}$$

0 – otherwise (not participating)

### Empirical model

The study used two multinomial logit models, as the empirical model to determine the different factors affecting for **labour force participation** and **sector participation** by the age group of 50 years and above. The study adopted Verme's choice model only to look at the sector participation.

Following to Verme's occupation choice model, rationing and individual preferences are the key determinants for choosing certain sector participation. Based on the utility maximizing theory, an individual capitalize his/her utility on 'wage ( $W$ )' and 'other factors (non-economic factors) ( $K$ )'. Therefore, an individual ( $i$ ) keeps his/her expected utility  $E(U)$  to maximize by employing sector  $j$ .

$$\begin{aligned} \text{Max } E(U_{ij}) = U(W_{ij}; K_{ij}) & \quad i=1, \dots, N \\ & \quad j=1, 2, 3 \text{ (as mentioned above)} \end{aligned}$$

Then, both independent variables –  $W$  and  $K$ —can be explained further from following functions. First, 'other factors' could be further disaggregated as individual ( $Z_{ij}$ ), local economic and labour market ( $X_{ij}$ ), and household ( $H_{ij}$ ) characteristics. Accordingly,  $K_{ij}$  is a function of  $Z_{ij}$ ,  $X_{ij}$ ,  $H_{ij}$ .

$$Y_{ij} = \gamma_j W_{ij} + \Phi_{1j} Z_{ij} + \psi_{1j} X_{ij} + \delta_j H_{ij} + v_{1i} \text{ ----- (1)}$$

Second, individual, and local economic and labour market conditions will determine the wage of individual  $i$  choosing sector  $j$ . Therefore, wage is a function of individual characteristics ( $Z_{ij}$ ), and local economic and labour market conditions ( $X_{ij}$ ).

$$W_{ij} = \Phi_{2j} Z_{ij} + \psi_{2j} X_{ij} + v_{2i} \quad \text{----- (2)}$$

Finally, both 1 and 2 models will merge to obtain the 'empirical model'.

$$Y_{ij} = \gamma_j W_{ij} + (\Phi_{1j} + \Phi_{2j}) Z_{ij} + (\psi_{1j} + \psi_{2j}) X_{ij} + \delta_j H_{ij} + (v_{1i} + v_{2i}) \quad \text{----- (3)}$$

$$Y_{ij} = \gamma_j W_{ij} + \Phi_j Z_{ij} + \psi_j X_{ij} + \delta_j H_{ij} + v_i \quad \text{----- (4)}$$

$Y_{ij}$  is a latent variable represent individual preferences.

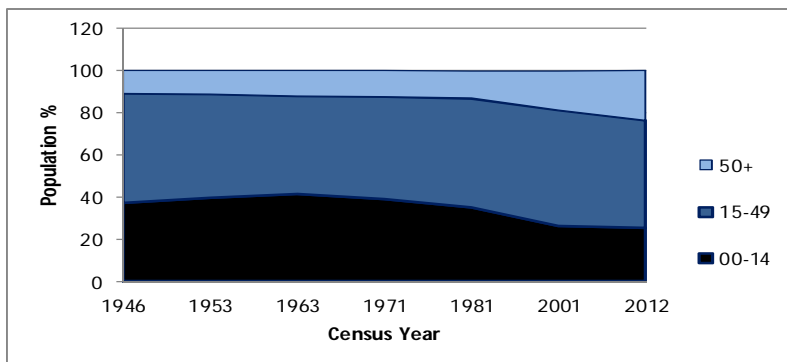
$\gamma_j, \Phi_j, \psi_j,$  and  $\delta_j$  are parameters.

$v_{1i} + v_{2i}$  represent the normally distributional errors

#### 4. Status of older workers in Sri Lanka

No difference between developed and less developed countries is seen about the implications of demographic transition. Many countries in the developed world have already experienced the consequences of the transition while other countries in the less developed world continue experiencing it. Sri Lanka has already experienced the third stage of the transition in which proportion of working population, and aged population are increasing compared to the proportional increase of young population. Population aged 50 years and above in Sri Lanka is accounted for almost one fourth of total population while the similar amount is seen in the age group of 0-14 years. The rest, almost a half of the population are aged at 15 to 49 years (Census and Population Housing, 2012). When considering the trend cross the census years starting from 1949, a gradual increase is seen only within the age group of 50 years and above, compared to other two age groups.

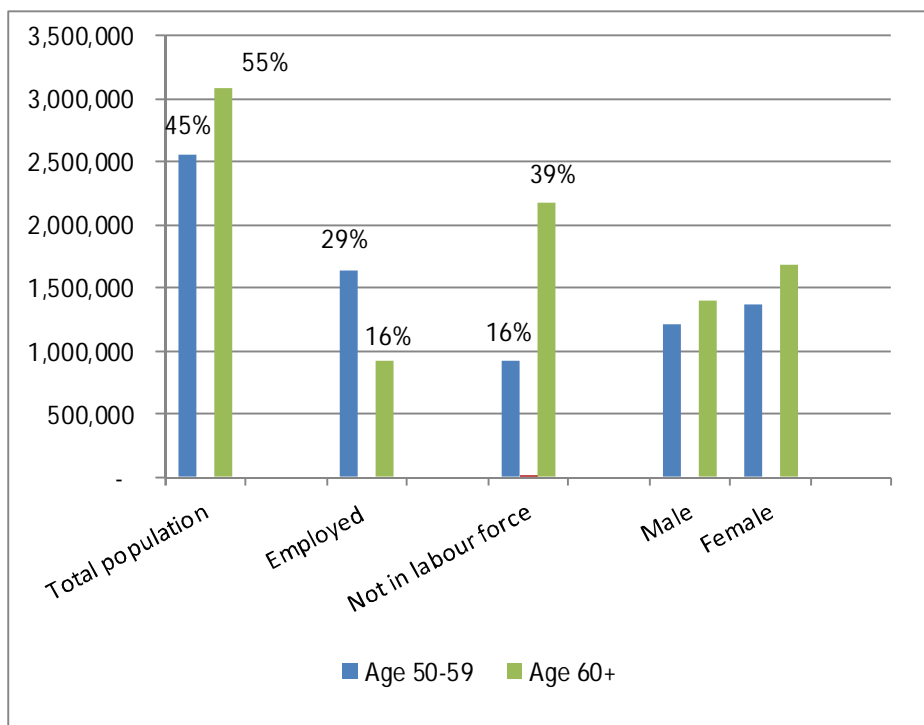
**Figure 1: Population by Age Category, 1949-2012**



Source: DCS (2015), Census of Population and Housing, Final Report 2012

Labour force status and why majority not in LF

**Figure 2: Labour Force status of 50+ population, 2013**

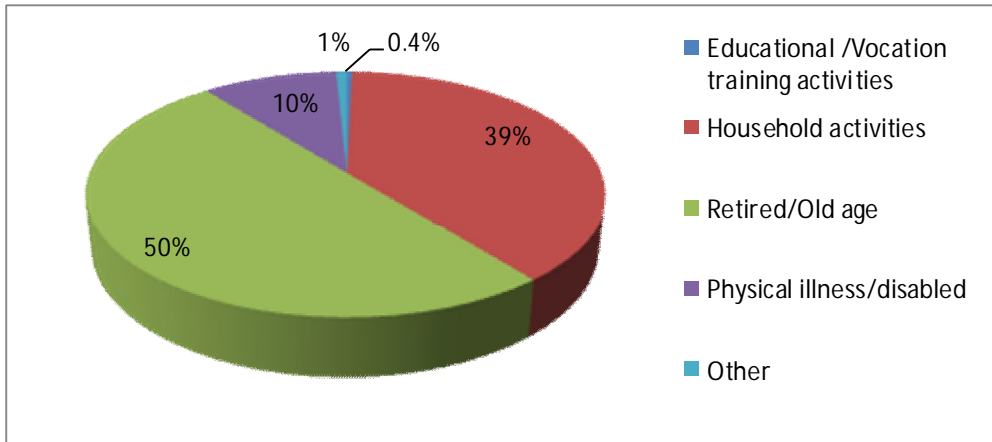


Source: Author calculated using LFS 2013 data set

Note: Numbers on the top of bars are the percentages out of total older population.

As figure 2 illustrates, majority of 50+ population (55 per cent) are aged 60 years and older while the rest is aged between 50 to 59 years. Amongst the 50+ older population, almost 54 per cent are female. Importantly, majority of the older workers in Sri Lanka (55 per cent) are not in labour force, while about 45 per cent are employed. Unemployed proportion is negligible (0.3 per cent). Out of total older workers, 29 per cent are aged below 60 years, and the same group of people as a percentage of employed population is 64 per cent. In contrast, out of older people, majority of 60+ population are not in labour force while only a small proportion (16 per cent) is employed. When considering the gender distribution among 'not in labour force' category, almost 71 per cent of them are female while males are 29 per cent. As per the LFS 2013, there are four main reasons for not being in labour force, in which almost a half of the older workers are recorded as retirees or not able to work due to old ages. The next highest proportion that is 39 per cent is engaged in household activities, so they do not employ in any economic activities. Further, a significant proportion, about 10 per cent, are physically not fit for doing any wage employment. Only a lesser proportion (0.4 per cent) engages in educational activities while almost 1 per cent of people do not work due to other reasons.

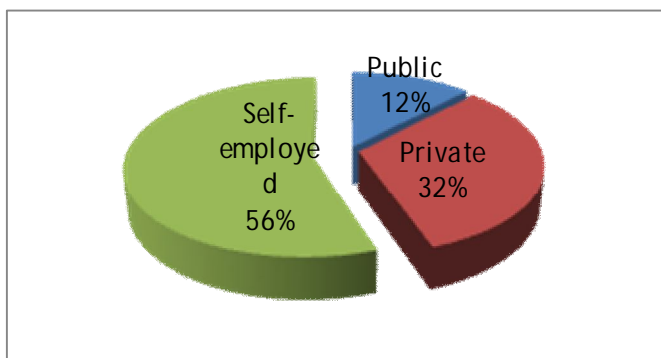
**Figure 3: Reasons for not being in labour force of 50+ population, 2013**



Source: Author calculated using LFS 2013 data set.

Being retired by the majority of the older workers (50+ population) in Sri Lanka is inevitable because of the official retirement age is set at 55 years. However, the real world the situation is bit different. Even though, the official retirement age in Sri Lanka is set at 55, many people are reluctant to retire and they prefer to continue working for another five year extension, to which every worker is entitled. However, majority have to leave from work aged at 60 years, and join formal or informal private sector for low salaried employment, which is not a positive trend. Besides, many professional in Sri Lanka have brought the proposals for making an extension to the retirement age, since Sri Lanka's life expectancy rate increased to 76 years. So, after the retirement, a person has to live 21 years without any employment. Therefore, this suggestion is positively justified by the professionals. Once the older retirees are allowed to work more years that then would be given a financial protection to the elders, and it would replace the absence of universal social protection in Sri Lanka. In addition, engaging in poor salaried employment or menial services by the retired workers can be prevented by providing chances for working in their usual occupation more years.

**Figure 4: Employment Status of 50+ population, 2013**



Source: Author calculated using LFS 2013 data set.

When considering the employment status of the older workers, majority engage in self-employment that is almost 56 per cent, out of total 50+ employed population. The mean age for self-employed population is 59 years while the same for public and private sectors are 54 years and 57 years respectively. No mean age variation can be observed among sectors in terms of public and private sector employees. However, those who self-employed and live in the estate sector whose mean age is 64 years, which is significantly higher compared to urban (58 years) and rural (59 years) sector employees. Relatively, self-employed is more vulnerable because they just work in their own business and contributing to the provident fund is not mandatory for the self-employees. Therefore, any prior financial safeguard is not arranged officially to use in their older ages. Only means is their personal savings which is not certain. Consequently, a special attention should be paid by the social and labour policy formulators and implementers on those who do self-employment.

## **5. Results and Discussion**

### **5.1 Sample Characteristic – Model 1 and 2**

#### **Economic Characteristics**

In Sri Lanka, wages/salaries are the main source of the household income, and an average contribution to monthly household income by wage in 2013 was Rs. 16,134 (Department of Census and Statistics, 2015). In addition, monthly per capita income and expenditure in 2013 was Rs. 11,819 and Rs. 10,677 respectively. **The findings revealed that a majority (72 per cent) of the older workers received monthly wage compatible to the country's minimum level of per capita income and expenditure.** Amongst the older workers, a majority of wage earners are concentrated more on self-employed sector (55 per cent) compared to public (12 per cent) and private sectors (32 per cent). Majority of them however earned less salary. For instance, almost 36 per cent of self-employed and 43 per cent of private employees earned monthly wage of between 5,000 rupees and less than 15,000 rupees. Further, wages of almost 19 per cent of self-employed category received monthly wage less than 5,000 rupees. Only a small proportion (less than 1 per cent) is earned monthly wage more than 25,000 rupees, which is only from the self-employed category.

#### **Individual Characteristics**

Of total population aged 50 years and over, a majority is not in labour force (55 per cent), and of which, males represent a less proportion (29 per cent) (refer Table 2 and 3). In relation to 50 years and older population who are currently in labour force (45 per cent), almost 99 per cent are employed, and a majority of them (67 per cent) are males. However, this scenario is significantly different in the unemployed group where unemployment exits proportionately among males and females.

With regard to employed older workers, 56 per cent are self-employed, while 32 per cent and 12 per cent are engaged in private and government (public) sectors respectively. Compared to females' sector participation, male participation is higher in all three sectors (more than 60 per cent each), but, the highest rate of participation is reported from the private sector (70 per cent) compared that of other two sectors.

Average age of employed people is 58, while that in unemployed is 56. But, the older workers whose average age reached 65 years exit from in the labour force. Further, the older workers who are in mid-fifties are in the public sector, while by late-fifties their participation in the private and self-employment is prevalent.

Of employed older workers, a majority is the head of the household (71 per cent), and they engage mostly in the private sectors (72 per cent), followed by self-employment (70 per cent), and public sector (64 per cent). Besides, of those who are unemployed and not in labour force, the majority are the head of the household, representing 66 per cent from unemployed and 42 per cent from not in labour force.

With regard to marital status of the older workers, 84 per cent of employed are married and, majority of employed are working in the public sectors (90 per cent), followed by in the self-employment (84 per cent), and the private sector (81 per cent). In contrast, the employed older workers those who previously married and never married choose to participate in the private sector, compared to other two sectors.

Majority of the older employed people have studied up to grade 10 (42 per cent), and the next highest proportion, 32 per cent, has studied up to grade 5 or below. In contrast, only one fourth of the older employed workers have studied up to ordinary level and above. However, when considering the sector participation by education status, the public workers are more educated than the private sector workers and self-employed. Majority of the public workers passed advanced level, while 9 per cent and 5 per cent of them have qualified degree and post-graduate degree. But, this happens in the other way around among the private and self-employed sectors— a higher amount of less educated people move to the private and self-employed sectors, than in the public sector. In comparison with the education status of employed and unemployed people, even better educated people -- passed ordinary level, advanced level, and even degree holders-- are unemployed, and that is debatable.

Since Sri Lanka's majority population are Sinhala Buddhist, this highly represent in the labour force status as well. For instance, of the older population, those who can speak, and read Sinhala and their religion are Buddhist is the highest proportion in employed, unemployed, and not in labour force categories. Likewise, the same pattern can be observed in the sector participation. However, participation in the private sector by the other minority groups –Sri Lankan Tamil, Indian Tamil, and Sri Lankan Moor— is higher compared to the participation in other two sectors.



## Household Characteristics

Household size on average –4 members in a family-- is the same of the older workers who are in/not in labour force and in any sector. Being an employed or unemployed with having young dependents is higher than being employed or unemployed with having old dependents. However, this works inversely in the group of not in labour force. In addition, participation in the public or private sector with having young dependents is higher compared to having old dependents and being in public or private sector. However, no much difference observed among the self- employed group having young or old dependents.

## Geographical Characteristics

When considering the district variation of the older workers, the highest proportion of employed people– almost 10 per cent each—is concentrated in Colombo, Gampaha, and Kurunegala districts, while the lowest is reported (1 per cent) from the Trincomalee districts. In contrast, Puttlam is reported the highest unemployed older workers (17 per cent), followed by Kalutara (13 per cent), and Gampaha (11). Of employed population, public sector workers are concentrated highly in Colombo, Gampaha, Kandy, and NuwaraEliya, whereas private sector workers are mostly from both Colombo and Gampaha districts. With regard to self-employed, the highest proportion of workers – 12 per cent—is reported Kurunegala districts, followed by Colombo and Gampaha as 7 per cent each.

In addition, more than 80 per cent of the employed workers are from the rural sector, while 14 per cent are from the urban. Even though the estate sector representation is relatively minimal (4 per cent), much attention should be paid on this, since the estate sector is the most deprived area compared to urban and rural sectors. There is no much difference among the sector participation by the older workers. The majority of them are from rural, while the next highest is from urban, and the estate has the lowest.

**Table 2: Sectoral Characteristics of Independent Variable – Status of Labour Force Participation**

Variable	Employed	Unemployed	Not in Labour Force
Population	2,538,131	17,074	3,086,414
Gender	0.67	0.52	0.29
Age	58.17	56.20	65.74
Head of household	0.71	0.66	0.42
Wife/Husband	0.21	0.24	0.34
Son/Daughter	0.02	0.04	0.01
Parent	0.02	0.02	0.13
Other Relative	0.03	0.03	0.10
Never Married	0.04	0.09	0.05
Married	0.84	0.67	0.62
Previously Married	0.12	0.23	0.33
Grade 5 and below	0.32	0.35	0.39
Grade 6-10	0.42	0.30	0.38
Passed Ordinary Level	0.14	0.21	0.14
Passed Advanced Level	0.09	0.11	0.07
Degree	0.02	0.03	0.01
Post Graduate	0.01	0.00	0.01
Literacy on Sinhala	0.78	0.81	0.70
Literacy on Tamil	0.15	0.13	0.16
Literacy on English	0.14	0.20	0.13
Sinhala Buddhist	0.78	0.70	0.72
Sri Lankan Tamil	0.06	0.11	0.08
Indian Tamil	0.03	0.00	0.03
Sri Lankan Moor	0.06	0.03	0.07
Young dependents	0.28	0.37	0.29
Old dependents	0.19	0.14	0.46
Household size	3.84	3.84	4.01
Colombo	0.10	0.06	0.15
Gampaha	0.10	0.11	0.14
Kalutara	0.06	0.13	0.07
Kandy	0.06	0.04	0.07
Matara	0.02	0.03	0.02
Nuwara-Eliya	0.04	0.00	0.03
Galle	0.06	0.03	0.05
Matara	0.04	0.08	0.04

Hambantota	0.04	0.02	0.03
Jaffna	0.02	0.03	0.04
Mannar	0.00	0.00	0.00
Vavunia	0.01	0.02	0.01
Mullativu	0.00	0.00	0.00
Killinochchi	0.00	0.00	0.00
Batticaloa	0.02	0.00	0.02
Ampara	0.02	0.02	0.02
Trincomalee	0.01	0.02	0.01
Kurunegala	0.10	0.09	0.08
Puttalam	0.03	0.17	0.03
Anuradhapura	0.04	0.01	0.02
Pollonnaruwa	0.02	0.02	0.02
Badulla	0.05	0.04	0.03
Moneragala	0.03	0.00	0.01
Ratnapura	0.07	0.07	0.05
Kegalle	0.05	0.01	0.05
Urban	0.14	0.14	0.21
Rural	0.82	0.83	0.76
Estate	0.04	0.03	0.03

**Table 3: Sectoral Characteristics of Independent Variable – Sector Participation**

Variable	Government	Private	Self-Employed
Population	300,029	789,828	1,357,553
Gender	0.61	0.70	0.65
Age	54.42	57.44	59.42
Head of household	0.64	0.72	0.70
Wife/Husband	0.29	0.16	0.23
Son/Daughter	0.03	0.03	0.02
Parent	0.01	0.02	0.02
Other Relative	0.02	0.05	0.03
Never Married	0.03	0.06	0.04
Married	0.90	0.80	0.84
Previously Married	0.06	0.14	0.12
Grade 5 and below	0.12	0.40	0.33
Grade 6-10	0.20	0.43	0.46
Passed Ordinary Level	0.24	0.10	0.14
Passed Advanced Level	0.30	0.06	0.06
Degree	0.09	0.01	0.01
Post Graduate	0.05	0.00	0.00
Literacy on Sinhala	0.84	0.71	0.81
Literacy on Tamil	0.20	0.17	0.11
Literacy on English	0.39	0.11	0.08
Sinhala Buddhist	0.78	0.71	0.83
Sri Lankan Tamil	0.05	0.08	0.05
Indian Tamil	0.09	0.05	0.01
Sri Lankan Moor	0.03	0.06	0.05
Young dependents	0.43	0.32	0.23
Old dependents	0.17	0.18	0.21
Household size	3.98	3.90	3.76
Less than 5000	0.001	0.007	0.191
Between >=5000 &<15000	0.01	0.043	0.358
Between >=15000 &<25000	0.005	0.015	0.183
Between >=25000 &<35000	0.001	0.004	0.062
Between >=35000 &<45000	0.001	0.001	0.015
Between >=45000 &<55000	0.001	0.000	0.010
Equal and greater than 55000	0.001	0.000	0.010
Colombo	0.14	0.14	0.07
Gampaha	0.13	0.13	0.07
Kalutara	0.07	0.08	0.05
Kandy	0.09	0.06	0.06

Matara	0.02	0.02	0.02
Nuwara-Eliya	0.10	0.02	0.03
Galle	0.06	0.08	0.06
Matara	0.04	0.04	0.04
Hambantota	0.02	0.02	0.05
Jaffna	0.01	0.02	0.02
Mannar	0.00	0.00	0.00
Vavunia	0.01	0.01	0.00
Mullativu	0.00	0.00	0.00
Killinochchi	0.00	0.00	0.00
Battticol	0.01	0.02	0.01
Ampara	0.02	0.02	0.02
Trincomalee	0.01	0.01	0.01
Kurunegala	0.08	0.08	0.12
Putlam	0.02	0.04	0.04
Anuradhapura	0.02	0.01	0.06
Pollonnaruwa	0.01	0.01	0.02
Badulla	0.04	0.04	0.06
Moneragala	0.02	0.02	0.05
Ratnapura	0.03	0.07	0.07
Kegalle	0.04	0.05	0.05
Urban	0.22	0.17	0.10
Rural	0.68	0.78	0.89
Estate	0.10	0.06	0.01

## 5.2 Results of the Empirical Models

### Labour Force Participation - Model 1 (Table 4)

#### Individual Characteristics

Being a male increases the likelihood of being employed and unemployed, compared to being in 'not in labour force'. When age increases a year, probability of being employed and unemployed is less. Compared to head of the household and 'not in labour force', being a parent has less likelihood of being employed and unemployed while being a wife/husband and son/daughter have shown a less likelihood of being employed. In relation to married old workers, previously married people have less probability of being employed, and the same group has high probability of being unemployed. Compared to those who passed advanced level, likelihood of being employed by the graduates and post-graduate holders is higher while it has seen a less likelihood of being employed by those who studied up to grade 10 and passed ordinary level exam. Being unemployed is not explained by education status, compared those in 'not in labour force' category.

With regard to literacy of languages, those who can read and write English have less probability of being employed in relation to those who can read and write Sinhala. Sri Lankan Moor has less likelihood of being employed in relation to Sinha-Buddhist and 'not in labour force' category.

### Household Characteristics

Having young dependents increases the chance of being employed and unemployed compared to those who do not seek any paid job. In addition, an increase of the household size by one person reduces the probability of older workers being employed.

### Geographical Characteristics

Except the districts of Gampaha, Jaffna, Mannar, Vavunia, Killinochchi, Trincomalee, and Pollonnaruwa districts, the older workers from the districts of Galle, Nuwara-Eliya, Hambantota, Kurunegala, Anuradhapura, Badulla, Monaragala, and Ratnapura have higher likelihood of being employed, compared to older workers living in Colombo district, and 'not in labour force'. Older workers being live in Kalutara, Matara, Hambantota, Puttlam, and Ratnapura districts have higher probability of being unemployed. In relation to living in urban sector, those who live in rural sector have high probability of being employed.

**Table 4: Results of the Multinomial Logit Model for Labour Force Participation**

Variable	Employed	Unemployment
<b>Individual Characteristics</b>		
Male	1.70***	1.52***
Age	-0.13***	-0.18***
Head of household	B	B
Wife/Husband	-0.60***	-0.54
Son/Daughter	-0.23*	-0.56
Parent	-1.33***	-2.19**
Other relatives	-0.90***	-2.22**
<b>Marital Status</b>		
Married	B	B
Never Married	-0.16*	1.00
Previously Married	-0.30***	0.80*
<b>Education</b>		
Studied upto Grade 5 or below	-0.10	-0.004
Studied upto Grade 6-10	-0.19***	-0.34
Passed Ordinary Level	-0.24***	0.12

Passed Advance Level	B	B
Degree	0.45***	0.03
Post Graduate	0.47**	-13.45
Literacy		
Literacy on Sinhala	B	B
Literacy on Tamil	0.002	-0.19
Literacy on English	-0.14**	0.61
Ethnicity and Religion		
Sinhala Buddhist	B	B
Sri Lankan Tamil	-0.13	0.38
Indian Tamil	-0.11	-0.84
Sri Lankan Moor	-0.48***	-1.00
Household Characteristics		
Young Dependent	0.12***	0.44**
Old Dependent	0.07	-0.05
Household Size	-0.07***	-0.01
Geographical Characteristics		
Districts		
Colombo	B	B
Gampaha	-0.40***	0.86
Kalutara	-0.04	1.86**
Kandy	0.02	0.95
Matara	-0.10	1.55
Nuwara-Eliya	0.39***	-12.38
Galle	0.36***	0.90
Matara	0.02	2.06**
Hambantota	0.44***	1.72*
Jaffna	-0.41***	0.92
Mannar	-0.46***	-12.81
Vavunia	-0.38**	1.72
Mullativu	-0.31	1.30
Killinochchi	-0.83***	-13.40
Batticaloa	-0.16	-12.91
Ampara	-0.16	1.17
Trincomalee	-0.31**	1.60
Kurunegala	0.26***	1.32
Puttlam	0.08	2.89***
Anuradhapura	0.93***	1.77
Pollonnaruwa	-0.36**	0.83
Badulla	0.61***	1.38
Moneragala	0.84***	-12.23

Ratnapura	0.48***	1.76*
Kegalle	0.01	0.09
Sector		
Urban	B	B
Rural	0.44***	0.09
Estate	0.18	0.91

Note: Asterisks indicate the significant levels of 1 per cent for \*\*\*, 5 per cent for \*\* and 10 per cent for \*.

## Sector Participation – Model 2 (Table 5)

### Economic Characteristics

Even though wage is a significant variable of choosing the sector participation, increasing monthly wage reduces the probability of older workers being employed in government and private sectors, compared to self-employed sector, and monthly wage equal and greater than Rs. 55,000.

### Individual Characteristics

In relation to being self-employed, chance of being employed in the private sector is increased by being a male, and it is decreased by being older. In contrast, being older reduces the probability of being employed in the government sector. Compared to head of the household, being older workers a wife/husband, a son/daughter, or another relative reduces the likelihood of employed in government and private sectors. In relation to married older workers, never married and previously married people have the high probability of being in the private sectors. With regard to education status, those who studied primary education (up to grade 5) and lower, up to grade 10 and passed grade 10 have less probability of being employed in the government sector, however, degree holders have high probability of being employed in the public and private sectors, compared to being self-employed. Those who are able to read and write English increase the likelihood of being employed in public sector, compared to being self-employed.

In relation to Sinhala Buddhist, being an Indian-Tamil has high likelihood of being in the public and private sectors, while Sri Lankan Moor has less likelihood of being in the public sector. However, Sri Lankan Tamils have shown high probability of being employed in the private sector.

### Household Characteristics

An increase of a household by one member decreases the probability of employed in the private sector. Further, having young dependents increases the chance of being employed in the public and private sectors, compared to self-employed.



## Geographical Characteristics

Older workers living in all the other districts apart from Gampaha, Kalutara, Galle, Matara, Mannar, and Puttlam show a less probability of being employed in the private sector, compared to self-employed and Colombo district. In addition, older workers living in Kandy shows high probability of being in the public sector. However, those who live in Hambantota, Mannar, Kurunegala, and Ratnapura have less likelihood of being employed in the public sector. In relation to urban sector workers, being in urban sector decreases the being employed in public and private sectors, while being live in estate sector increases the likelihood of being in the private sectors.

**Table 5: Results of the Multinomial Logit Model for Sector Participation**

Variable	Government	Private
<b>Economic Characteristics</b>		
<b>Wage (including monthly allowances)</b>		
Less than 5000	-6.90***	-6.03***
Between >=5000 &<15000	-6.51***	-5.04***
Between >=15000 &<25000	-6.99***	-5.56***
Between >=25000 &<35000	-7.56***	-6.12***
Between >=35000 &<45000	-7.15***	-5.98***
Between >=45000 &<55000	-6.54***	-19.10
Equal and greater than 55000	B	B
<b>Individual Characteristics</b>		
Male	-0.28	0.83***
Age	-0.15***	-0.06***
Head of household	B	B
Wife/Husband	-2.02***	-1.95***
Son/Daughter	-0.83**	-0.64**
Parent	-1.77***	-1.66***
Other relatives	-1.64***	-0.91***
Married	B	B
Never Married	-0.40	0.75***
Previously Married	-0.004	0.61***
<b>Education</b>		
Studied upto Grade 5 or below	-2.97***	0.84
Studied upto Grade 6-10	-2.35***	0.27
Passed Ordinary Level	-0.75***	0.08
Passed Advance Level	B	B
Degree	1.01***	0.55***
Post Graduate	0.05	-1.16**

Variable	Government	Private
Literacy		
Literacy on Sinhala	B	B
Literacy on Tamil	0.03	0.23
Literacy on English	0.44***	0.18
Ethnicity and Religion		
Sinhala Buddhist	B	B
Sri Lankan Tamil	0.47	0.5**
Indian Tamil	1.51***	0.85***
Sri Lankan Moor	-0.65**	0.22
Household Characteristics		
Young Dependent	0.29***	0.21***
Old Dependent	0.03	-0.003
Household Size	-0.01	-0.04*
Geographical Characteristics		
Districts		
Colombo	B	B
Gampaha	-0.01	-0.14
Kalutara	0.53	0.16
Kandy	0.46*	-0.52**
Matara	-0.12	-1.24***
Nuwara-Eliya	0.22	-2.36***
Galle	0.30	-0.15
Matara	0.03	-0.37
Hambantota	-0.86***	-1.76***
Jaffna	-0.77	-1.23***
Mannar	1.59***	-0.03
Vavunia	-0.72	-1.39***
Mullativu	-1.19	-1.50***
Killinochchi	-1.21	-1.37***
Batticaloa	0.03	-1.38***
Ampara	0.46	-1.12***
Trincomalee	-0.26	-1.49***
Kurunegala	-0.48*	-1.05***
Puttlam	0.11	-0.13
Anuradhapura	-0.41	-1.97***
Pollonnaruwa	-0.32	-2.00***
Badulla	-0.37	-1.05***
Moneragala	-0.99	-1.68***
Ratnapura	-1.00***	-0.73***
Kegalle	-0.03	-0.55**

Variable	Government	Private
Sectors		
Urban	B	B
Rural	-0.33*	-0.30**
Estate	3.09	2.29***

Note: Asterisks indicate the significant levels of 1 per cent for \*\*\*, 5 per cent for \*\* and 10 per cent for \*.

## 6. Conclusion

This study compares the individual, household, and geographical characteristics of individuals in employment status and sector participation. Results found that male educated older workers have high tendency to be employed, than male with lower education. With regard to ethnic minorities, Sri Lankan Tamil and Sri Lankan Moor are most likely to be employed. Having young dependents has tendency to be employed and unemployed. Increasing number of members in the family reduces the probability of being older workers employed. No much difference observed among districts in terms of employment status, even in districts with fewer resources, likelihood of being employed is high. Compared to urban sector, rural sector's workers have high probability of being employed.

An increase of monthly wage is not associated with nor did being employed in the public or private sectors. Older males have higher the tendency of engage in the private sector, compared to self-employed. Being older reduces the probability of being employed in the government sector, and being a wife/husband, a son/daughter, or another relative reduces the likelihood of employed in government and private sectors. Higher education status of individuals --having literacy on English and holding a degree -- increases the employability either in public and private sectors, compared to lesser educated people. Having young dependents pushes people to be employed either in public or private sector, and likelihood of being employed in the private sector is reduced by an increase of one member in the household. Importantly, an increase of public sector participation is seen in the districts where population density and access to resource is higher. However, even in resource rich settings, likelihood of being in private sector is less. Compared to urban sector, people in rural sector has less probability of engage in public and private sectors, but a high probability of being employed in the private sectors is seen in the estate sector.

## 7. Policy Implications

The study shows the effects of economic and non-economic factors on sector participation and non-economic factors on employment status by the older workers. As per the findings, employment opportunities are disproportionately distributed among provinces. Entering to different job opportunities is mostly concentrated in the urbanized cities and job opportunities in less developed districts are limited only to the public sector. Accordingly, effective policy decision needs to be taken to re-distribute the benefits of economic development equitably.

In addition, lower educated people have less chance to engage in employment, and majority is unemployed. Higher educated people – passed advanced level and graduates— mostly occupy in public sectors, than in the private sector. Importantly, effective mechanisms should be enforced to absorb the unemployed and lower educated people into the job market, and to strengthen the skills of them to engage in productive occupations. Further, it is important to treat all the ethnic groups fairly, therefore, effective policy solutions should be taken to expand the job opportunities even for minority groups in the country.

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Former Special Advisor, ILO, Geneva

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Distinguished Fellow, Centre for Policy Dialogue (CPD), Dhaka

Dr. Saman Kelegama

Executive Director, Institute of Policy Studies (IPS), Colombo, Sri Lanka

Professor Aliya H. Kha

Professor of Economics and Dean, Faculty of Social Sciences, Quaid-i-Azam University  
Islamabad

Professor Deepak Nayyar

Professor Emeritus, Jawaharlal Nehru University and Former Vice Chancellor, Delhi  
University

Dr. Posh Raj Pandey

Executive Director, South Asia Watch on Trade, Economics and Environment (SAWTEE)  
Kathmandu, Nepal

Professor T. S. Papola

Visiting Professor, Institute for Human Development, New Delhi and Honorary Professor  
Institute for Studies in Industrial Development, New Delhi

Dr. Gerry Rodgers

Visiting Professor, Institute for Human Development, New Delhi

Professor Ashwani Saith

Emeritus Professor, Institute of Social Studies, The Hague

South Asia Research Network (SARNET): Employment and Social Protection for Inclusive Growth aims to bring together researchers and institutions working on issues of employment and social protection in South Asia. Initiated by the Institute for Human Development (IHD), New Delhi in collaboration with ILO and UN-ESCAP with support from International Development Research Centre (IDRC), Canada, SARNET addresses the ways of achieving the development priorities of inclusive growth or growth that produces good quality employment with increasing access to social protection. Its activities include research and preparation of a data bank relating to labour markets and social protection as well as capacity-building of young scholars in the region through training and methodology courses and organizing workshops through competitive call for papers.



## SOUTH ASIA RESEARCH NETWORK

Institute for Human Development  
NIDM Building, IIPA Campus, I.P. Estate  
Mahatama Gandhi Marg, New Delhi -110002  
Phone: + 91 11 2335 8166, + 91 11 2332 1610  
Fax: + 91 11 2376 5410, Email: [sarnet@ihdindia.org](mailto:sarnet@ihdindia.org)



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