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Article

DETERMINANTS OF WORKING IN OLD AGE: EVIDENCE FROM SRI LANKA

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ABSTRACT

This study aimed to investigate the determinants of labour force participation among elderly individuals in Sri Lanka, specifically focusing on the influence of health status. By employing data from the 2018 Labor Force Survey (LFS), the analysis utilized both descriptive and regression approaches to examine how different socioeconomic factors, household characteristics, and education levels shape the decision of older adults to remain economically active. The study illuminated how variations in these factors affect labour force participation through logistic regression, underscoring health's critical role in the economic activity of elderly individuals. The findings of this study reveal that health is a crucial determinant of labour force participation among older adults. Elderly individuals with excellent or manageable health conditions are significantly more likely to remain active in the labour force compared to those facing severe health challenges. This highlights the importance of promoting healthy ageing, which can directly impact extending the working lives of older adults. The data suggest that if policies and programs were implemented to support healthier ageing, labour force participation among older people could increase by approximately 10%. This is particularly relevant in Sri Lanka's rapidly ageing population, where many older individuals could contribute to the economy if they remain in good health.

INTRODUCTION

The 2012 Population Census reported Sri Lanka's population at 20.4 million people where there were 2.5 million people (12.4 per cent) living above the age of 60 years (Department of Census and Statistics of Sri Lanka, 2012). Population ageing in Sri Lanka is accelerating at a faster rate than in other South Asian countries and has been increasing rapidly since the 1980s (Perera, 2017). According to Perera (2017), Sri Lanka's population is projected to increase moderately to 22.2 million by 2038 and decline in subsequent years. It is projected that the population of the 15-59 age group will reach a peak in 2026. The number of older persons, i.e. those aged 65 or more will double by 2040 compared to that in 2015 (ADB, 2024). It is expected that age structure will gradually switch from a pyramid structure to a pillar share. In other words, population structure will transform from a developing country structure to a developed country structure (ADB, 2024). This shift in the shape is the result of a rapid rise expected in the share of the population over 60 years in Sri Lanka's total population. In line with these changes, old-age dependency ratio will increase (from 9.4 per cent in 2015 to 21 per cent in 2045) in the economy exerting greater pressure on working age population and the economy to allocate more resources for the welfare of the elderly population (ADB, 2019). Notably, the old-age dependency ratio will surpass the child-dependency ratio by 2030 due to the rise in life expectancy and the decrease in total fertility (Gunawardena, *et.al.,* 20210).

According to the Sri Lanka Population and Housing Census of 2012, one in every four older persons was employed where 43 per cent of older men and 11 per cent of older women were employed. The Labour Force Survey of 2022 data showed nearly 46 per cent of older men and 15 per cent of older women are employed. In other words, despite multiple crises in the economy, old age labour force participation has increased marginally during the last decades. What determines the old age labour force participation? In the context of Sri Lanka, a number of studies attempted to examine the determinants of old age labour force participation (Vodopivec and Arunatilake, 2011, Nilmini and Samaraweera 2022, Senanayaka and Kumara 2015, Thilakaratne, 2019). Most of these studies found some individual and household level characteristics are associated with the old age labour force participation. Nevertheless, previous studies, except Thilakaratne (2019), did not examine the relevance of individual health status on old age labour force participation. The health indicator considered in Thalakaratne, (2019) is a binary variable – whether disabled or chronically ill – and, as a result, it does not fully capture the varying degree of health status of an individual. Moreover, it does not capture the different types of disabilities and severe illnesses. Kalwij and Vermeulen (2007) argue that health is multidimensional, in the sense that different health indicators have their own significant impact on individuals' labour force participation decisions.

This study aims at examining the impact of health status on old age labour force participation in Sri Lanka. The Department of Census and Statistics started collecting data on the health status of all the Labour Force Survey (LFS) participants in 2018. Following the Washington Group on Disability Statistics, the LFS collects data on six key indicators at four different levels. It is assumed that this rich information could explain the old age labour force participation decisions.

LITERATURE SURVEY

Economic and social theories provide a comprehensive framework for understanding the determinants of labour force participation among older adults, emphasizing the interaction between incentives, constraints, and broader life experiences. Foundational economic perspectives highlight how individuals respond to changing financial and opportunity structures over the life cycle (Mincer, 1962; Heckman, 1974). Three principal mechanisms emerge from these models. First, the substitution effect

suggests that as individuals age, the trade-off between leisure and labour evolves. When financial pressures intensify, older individuals may substitute leisure for work and extend their participation in the labour market; however, shifts in preferences or declining capacity may also reduce participation. Second, the income effect indicates that individuals with sufficient financial resources may opt for retirement, thereby reducing labour force engagement. Third, human capital theory posits that accumulated skills, knowledge, and experience enhance productivity and employability over time (Becker, 1962). Older individuals with higher levels of human capital are therefore more likely to remain employed, as their expertise remains valuable and the opportunity cost of withdrawal from the labour market is comparatively high. Beyond economic explanations, sociological and psychological frameworks deepen the analysis by situating labour force participation within broader life contexts. The life course perspective underscores the importance of historical, social, and cultural influences in shaping individual trajectories (Elder, 1995). Labour force transitions are not isolated decisions but are embedded in life events such as health changes, family responsibilities, and macroeconomic conditions. The timing of entry into and exit from the labour market significantly affects long-term outcomes, while early-life opportunities in education and employment exert lasting effects on participation in later life.

Complementing this perspective, social identity theory emphasizes how individuals' self-perceptions and group affiliations influence behaviour (Tajfel and Turner, 1979). Older adults who maintain a positive perception of ageing and a strong work-related identity are more inclined to remain economically active. Employment can reinforce self-worth and social belonging, thereby motivating continued participation. Similarly, role theory examines how socially defined roles shape expectations and behaviour (Newman and Newman, 1995). Retirement represents a major transition in social roles, often requiring individuals to renegotiate their sense of purpose. Those who occupy multiple roles, such as worker and caregiver, may experience different motivations compared to individuals who perceive retirement as a complete disengagement from productive activity. Disengagement theory offers a contrasting viewpoint, proposing that ageing is accompanied by a natural withdrawal from social and occupational roles (Cumming and Mccaffrey, 1960). According to this perspective, such withdrawal benefits both individuals and society by facilitating generational succession. However, this theory has been widely criticized for its deterministic assumptions and its failure to account for heterogeneity in ageing experiences. In contrast, activity theory argues that sustained engagement in meaningful activities, including employment, enhances life satisfaction and well-being in older age (Leontiev, 1978). Continued participation in the labour force is thus associated with physical health, cognitive functioning, and emotional stability, largely due to the social interactions and sense of purpose that work provides. Motivational theories further illuminate the drivers of continued employment among older adults (Hackman and Oldham, 1976). These frameworks distinguish between intrinsic motivations, such as personal fulfilment, social interaction, and identity maintenance, and extrinsic motivations, particularly financial necessity. Together, these theoretical approaches highlight that labour force participation in later life is shaped by a complex interplay of economic incentives, social roles, psychological needs, and life-course dynamics.

Socioemotional selectivity theory (SST) posits that as individuals age and perceive their future time as limited, their motivational priorities shift from knowledge acquisition to emotionally meaningful goals (Carstensen, 1992). In the context of labour force participation, this implies that older adults are more likely to remain employed when work provides emotional satisfaction, social connection, and a sense of purpose rather than purely financial rewards. The person–environment (P–E) fit framework emphasizes the alignment between individual capacities and workplace characteristics (Edwards, 1996). Continued participation among older adults is more likely when job demands correspond with their physical abilities, skills, and preferences, and when workplaces provide supportive, flexible conditions. In contrast, misalignment can accelerate labour force exit. The multidimensional

determinants framework adopts an integrative perspective, arguing that labour force participation in later life is shaped by the interaction of health status, financial incentives, institutional arrangements, and socio-cultural factors (Wang and Bai., 2024). This approach highlights that employment decisions are dynamic and context-dependent, influenced by both individual-level characteristics and broader policy environments. Collectively, these frameworks underscore the importance of psychological motivation, workplace compatibility, and structural conditions in shaping older adults' labour market behaviour.

Empirical evidence broadly supports these theoretical insights, demonstrating that both structural and individual-level factors influence elderly labour force participation (Coile and Gruber, 2007; Munnell et. al., 2016; Dwyer & Mitchell, 1999; Vodopivec and Arunatilake, 2011; Nilmini and Samaraweera 2022; Senanayaka and Kumara 2015; Thilakaratne, et.al., 2019). Economic necessity emerges as a primary driver, particularly in contexts where retirement savings are inadequate. Many older adults face financial insecurity due to insufficient pension coverage or the transition from defined-benefit to defined-contribution schemes, which shift financial risk onto individuals. As a result, a substantial proportion of older individuals delay retirement or re-enter the workforce to maintain their standard of living. This phenomenon is especially pronounced in developing countries, where over half of the workforce is engaged in informal employment and lacks access to formal pension systems (Vodopivec and Arunatilake, 2011; Nilmini and Samaraweera 2022; Senanayaka and Kumara 2015; Thilakaratne, et.al., 2019). Consequently, many individuals continue working beyond the age of 60 to support themselves and their families.

Policy changes also play a significant role in shaping participation patterns. In response to demographic ageing and fiscal pressures on pension systems, many countries have increased the statutory retirement age, thereby encouraging prolonged labour force engagement. Evidence from developed economies such as the United States and Germany indicates that such reforms are associated with higher participation rates among older workers (Dwyer & Mitchell, 1999). Additionally, macroeconomic conditions influence employment opportunities. Periods of economic expansion tend to increase labour demand and facilitate job access for older individuals, whereas economic downturns disproportionately affect them due to hiring biases and reduced job availability.

Health status is another critical determinant of labour force participation. Improvements in healthcare and living standards have enabled many older adults to remain physically and mentally capable of working, thereby challenging traditional retirement norms (Coile and Gruber, 2007). However, health is multidimensional, encompassing physical, cognitive, and psychological aspects, each of which can differentially influence employment decisions (Kalwij and Vermeulen, 2005). While good health promotes continued participation, declining health can act as a significant barrier.

In addition to economic and health-related factors, psychosocial considerations play an important role. Employment provides not only income but also intangible benefits such as identity, purpose, and social engagement. Empirical research indicates that continued work participation enhances mental health and overall well-being among older adults (Nesti et al., 2019). Nevertheless, ageism and negative societal attitudes toward older workers remain significant obstacles. Persistent stereotypes regarding reduced productivity and adaptability can lead to discriminatory hiring practices, thereby limiting employment opportunities for older individuals (Posthuma et al., 2012). Addressing these challenges requires the creation of age-friendly work environments. Flexible work arrangements, including part-time employment and remote work, enable older workers to balance professional responsibilities with personal needs. Evidence suggests that such arrangements improve job satisfaction and retention rates among older employees (Koo et al., 2019). Furthermore, lifelong learning and continuous skill development are essential for maintaining competitiveness in a rapidly evolving labour market. Training programs tailored to older workers can enhance their employability, confidence, and job satisfaction (Wang et al., 2024). Policy interventions are equally crucial in

promoting inclusive labour markets. Anti-discrimination legislation, incentives for employers to hire older workers, and public awareness campaigns can help counteract ageist attitudes and foster a more equitable work environment. Such measures not only support older individuals but also contribute to economic efficiency by leveraging the skills and experience of an ageing population.

In summary, the literature on elderly labour force participation reveals a multifaceted phenomenon shaped by economic, social, psychological, and institutional factors. The integration of theoretical perspectives with empirical findings underscores the importance of considering both individual motivations and structural constraints. As populations age globally, promoting the continued engagement of older workers will be essential for sustaining economic growth and enhancing social well-being. Collaborative efforts among policymakers, employers, and society are necessary to create supportive environments that enable older adults to remain active contributors to the workforce, thereby benefiting both individuals and the broader economy.

METHODOLOGY AND DATA

This study employs both descriptive and regression approaches in examining the determinants of old age labour force participation. In particular, this analysis examines to what extent individuals' health conditions, measured multi-dimensionally, are associated with the old age labour force decisions. The descriptive data analysis captures the variations in labour force participation decisions in different socio-economic sub-groups and household-level conditions. In particular, the association between individuals' health conditions and labour force participation will be looked at under different socio-economic and household contexts. The results will be presented using graphs and multi-dimensional tables.

This study employs a logistic regression framework in examining the determinants of old age labour force participation with a special focus on individual health conditions. Logistic regression is a statistical method used for binary classification problems, where the outcome variable is categorical and typically takes on two values. In this study, the dependent variable, labour force participation variable takes 1 if an individual of 60 years or more is active in the labour market and otherwise 0[1]. Logistic regression uses the logit function to model the probability that the dependent variable equals one. The logit function is the natural logarithm of the odds ratio:

$$logit\ (p) = ln\left(\frac{p}{1-p}\right)$$

where p is the probability of the event occurring (e.g., active in the labour market).

The odds are defined as the ratio of the probability of the event occurring to the probability of it not occurring. The odds ratio compares the odds of the event for different groups. The logit function is expressed as a linear combination of the independent variables:

$$logit(p) = \beta_1 + \beta_2 X_1 + \beta_2 X_2 + \cdots + \beta_k X_{k-1}$$

where β_1 is the intercept and $\beta_2,\ \beta_2, and\ \beta_k$ are the coefficients for the independent variables X_1, X_2, and X_{k-1}. This study employs a number of independent variables representing both household and individual characteristics. Household characteristics include variables such as the number of working

[1] Active in the labour market means an individual is either engaging in an economic activity (employed) or searching for an economic activity (unemployed).

people in the household, the number of kids below 6 years old at the household, household size, and residence status – whether the elder(s) live as co-residents or not. It is assumed that if more members, who are less than 60 years, in a household participate in the labour market, the probability of elders' labour force participation is relatively low due to the fact that the household is relatively well-off in terms of household income. In Sri Lanka, around 65 per cent of the total workforce engages in informal employment. Hence, elders are more likely to engage in the labour market provided less number of household members participate in the labour market. Another important determinant of old age labour force participation is the family level commitments, in particular, child caring. In Asian countries, co-residence – living with older children – is quite widespread compared to the Western countries. In that context, elders are often entrusted with looking after their grandchildren. Hence, it is assumed that elders are less likely to participate in the labour market provided there are small kids in the household. This study constructs a dummy variable taking 1 if at least a kid, below 6 years old, lives in the household and otherwise 0. As pointed out previously, elders residing with working children may have less incentives to participate in the labour market since they receive financial and other support from their children when compared to living alone.

A number of individual characteristics are introduced as independent variables in the regression model. These include age, marital status, education, training, gender, race, and language (English) ability. More importantly, few independent variables are introduced to represent individuals' health status. As reviewed in the theoretical literature, it is assumed that ageing will have a negative impact on labour force participation. Similarly, it is assumed that individuals having completed higher levels of education and/or training are more likely to be active in the labour market since their opportunity costs of not participating are high. However, it is possible for such individuals to receive retirement benefits if they have engaged in formal jobs in their past labour market engagement. Older females are less likely to engage in the labour market given the limited labour market opportunities in the economy for older females compared to that of *the* males. Similar to education and training, English language ability is assumed to be part of human capital that encourages labour force participation.

The LFS collects information related to individuals' health characteristics in six dimensions[2]. These include difficulty in (a) seeing, (b) hearing, (c) communicating, (d) walking & climbing, (e) remembering & concentrating, and (f) doing self-care. Level of difficulty in each is recorded under four levels namely, (i) cannot do anything, (ii) have major difficulties, (iii) have minor difficulties, and (iv) no difficulties. Based on the above information, a categorical variable on health status will be developed where it is assigned 1 if an individual's level of difficulty is *cannot do anything* in any one of the dimensions and it takes the value of 2 if the individual's level of difficulty is *major difficulties* in any one of the dimension. The categorical variable is assigned 3 if the individual's level of difficulty is *minor difficulties* in any one of the dimensions while the variable takes the value of 4 if the individual's level of difficulty is *no difficulties* in all the dimensions. Dummy variables will be constructed for all the categorical variables such as health status, education, race, and marital status.

The study extracted data from the LFS 2018 conducted by the Department of Census and Statistics of Sri Lanka. Even if recent LFS surveys are available, data in such surveys are collected under unusual socio-economic contexts. Sri Lanka witnessed multiple crises during 2019-2022 affecting the labour force decisions of elders. Hence, this study makes use of 2018 LFS data for the study. The LFS collects data on a number of areas such as demography, education, health status, labour force participation,

[2] The six dimensions and their levels of difficulty are in line with the Washington Groups of Disability Statistics.

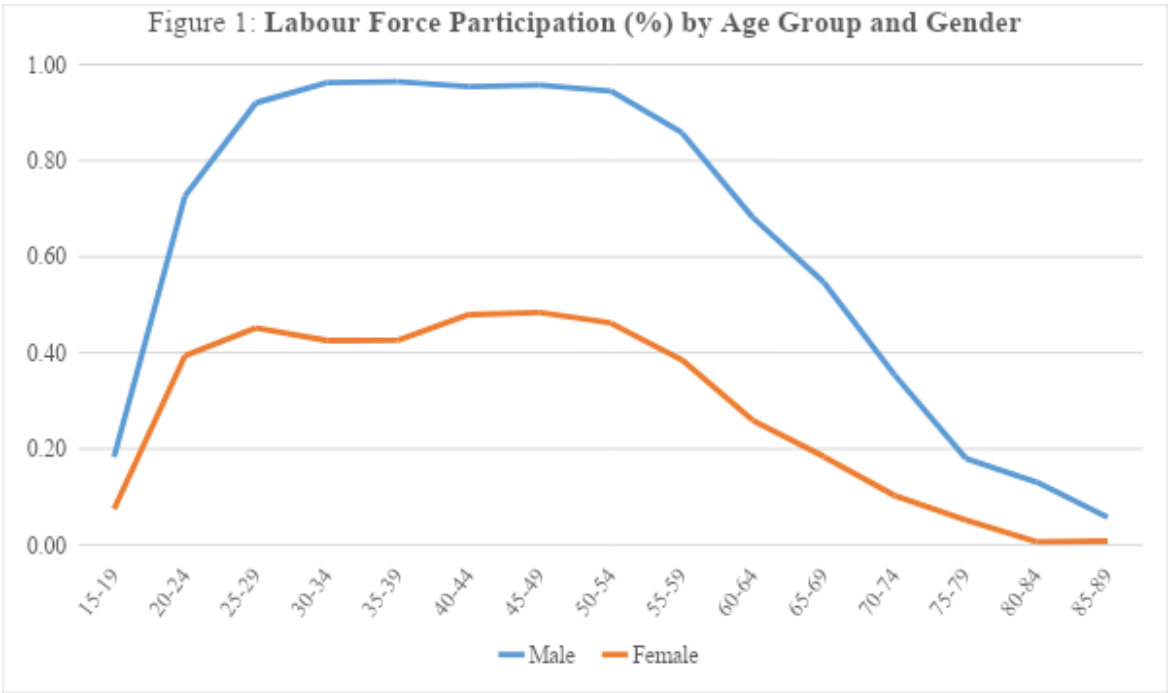
employment, unemployment, and wages. Nevertheless, it does not collect data on remittances and retirement benefits received by household members.

ESTIMATION AND DISCUSSION

Characteristics of Old Age Population

As per LFS 2018, old age population accounted for 16.7 per cent (3.5 Mn) of the total population, and around 55 per cent (1.9 Mn) of the total old age population is females[3]. Out of the total old age population, nearly 30 per cent (1 Mn) is economically active comprising 0.7 Mn males and 0.3 Mn females. The data clearly show that the old age female labour force participation rate (30 per cent) is somewhat lower than the female labour force participation rate (34 per cent) of 15-59 age group. Labour force participation rates of both males and females decline after 60 years on words while the decline is somewhat sharper for male than the female (see Figure 1). Older females tend to exit the labour market somewhat earlier than their male counterparts.

Figure 1: **Labour Force Participation (%) by Age Group and Gender**



Source: Author's construction based on LFS, 2018

Around 15% of total old age females and 47% of total old age males participate in the labour market. Over 80 per cent of the total old age labour force participants fall into 60-69 age group while less than 2 per cent is over 80 years old. The decline in labour force participation of both males and females could be due to a number of factors. One of the factors among them is the faster decline in health status largely due to non-communicable diseases ((ADB, 2019). The level of NCD prevalence is quite high in Sri Lanka and comparable with advanced economies compared to its peers.

[3] According to population census of 2012, old age population accounted for 12.4 per cent of the total population.

Over half of the total old age labour market participants have completed at most the secondary level of education (Table 1). For instance, 57 per cents of total male participants and 52 per cent of total female participants have completed a secondary level of education. It is also interesting to note that a sizable share of the secondary educated old age population is economically active in the labour markets. In contrast, in all other education groups, the majority of old age population opt to be out of the labour market, i.e be economically inactive. Relatively low labour force participation among highly educated old age people is quite contrary to the economic theory. Economic theory assumes the opportunity cost associated with educated people is relatively higher than that of the less educated ones, hence, it is assumed that labour force participation is relatively higher among educated ones. Nevertheless, limited formal sector labour market opportunities, re-skilling opportunities, and poor public transportation facilities could discourage educated old age people to participate in the labour market.

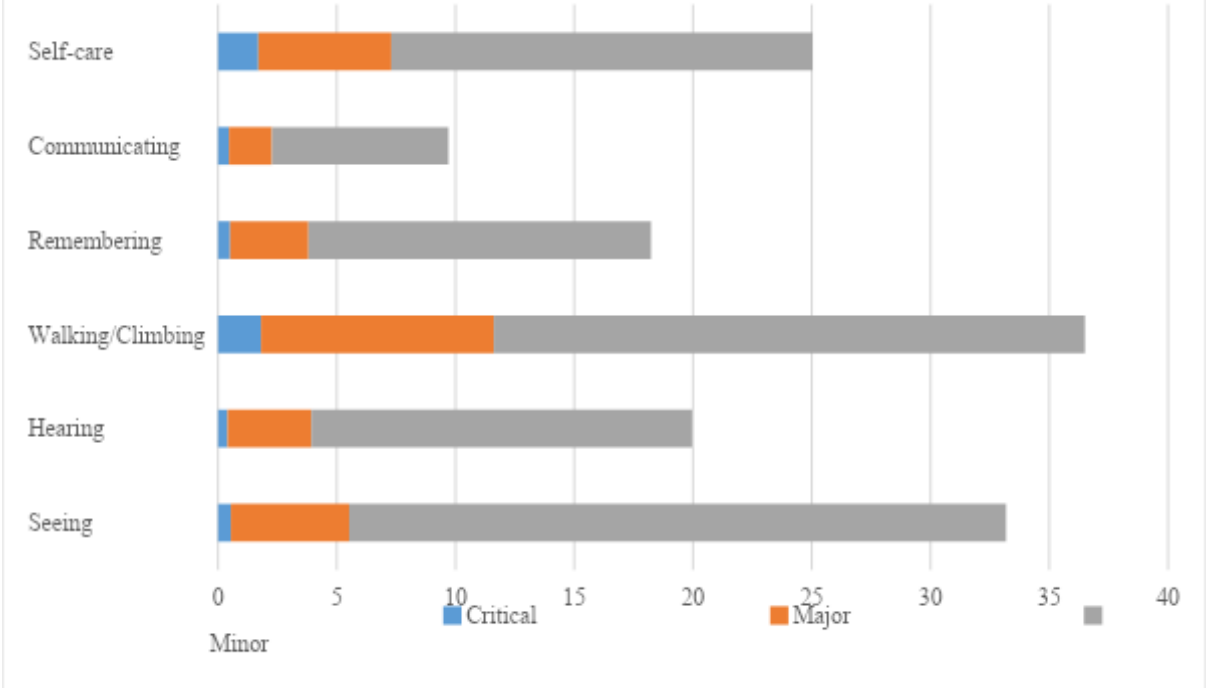
Table 1: **Economic Status of Old Age Population by Education Levels (%)**

Education group	***Male***		***Female***	
	Active	Inactive	Active	Inactive
No schooling	4.44	5.60	8.65	11.34
Primary	17.71	20.17	20.52	21.05
Secondary	57.28	46.67	52.49	46.34
GCE O/L passed	12.47	16.53	12.58	13.27
GCE A/L passed	6.13	7.98	4.37	6.37
Degree	1.97	2.99	1.31	1.63

Source: Author's estimation based on LFS, 2018

As detailed out in the methodology section, LFS collects data on six health dimensions covering broadly the physical and mental fitness of an individual. The level of difficulty is measured by four levels, from severe difficulty to no difficulty. Over 95 per cent of economically active old age people are relatively healthy (either minor or no issue). In contrast, only around 70-80 per cent of the total economically inactive people are healthy. This implies that health status is a decisive factor in labour supply decision of the old age people. Quite alarmingly, around 4-5 per cent of total old age labour market participants suffer from critical health issues (severe or major health issues). Older females tend to engage more in the labour market despite their poor health. Table 1 reports the share of economically active labour by health status. Around 60 per cent of total old age males and 21 per cent of total old age females who do have health difficulties participate in the labour market (see Table 2). These shares gradually decline for the other health status categories. For instance, only 14 per cent of total males experiencing major health difficulties opt to supply labour while the female share of this health status remains around 4 per cent. Following the overall labour force participation patterns, more males opt to supply labour under each health category compared to that of *the* females. The decline in labour force participation is quite drastic from the *no difficulties* to the *severe* health status indicating health status is one of the key determinants of old age labour force participation.

Figure 2: **Level of Difficulty by Health Dimensions**



Source: Author's estimation based on LFS, 2018

Figure 2 depicts the level of difficulty by six health dimensions which broadly represent the physical and mental conditions of old age individuals. Among the health conditions, a sizable share of total old age people seem to experience difficulties in walking and climbing (see Figure 2). For instance, around 12 per cent of total old age people experience either *severe* or *major* difficulties in walking and climbing difficulties and 25 per cent of old age people face *minor* difficulties. In other words nearly one-third of old age population face at least minor difficulties in walking/climbing in Sri Lanka. The difficulties in walking/climbing could be due to a number of health conditions such as arthritis, high blood pressure, heart diseases, and excessive weights. Difficulties with respect to walking/climbing cold be a decisive factor preventing individuals joining the labour force. Difficulties with respect to seeing (even with spectacles) is also a major issue among old age population in Sri Lanka. Among the other non-communicable diseases (NCD), diabetes could damage eyes over the time and cause vision loss or total blindness. Some studies have found the prevalence of NCD among 60-80 year group is around 40-60 per cent of the corresponding total population[4]. Relatively higher prevalence of NCD is the main cause of the physical and mental health status captured by the six health dimensions reported in Figure 2.

[4] https://www.dailymirror.lk/features/Controlling-NCDs-in-Sri-Lanka-in-age-of-a-pandemic/185-195810

Table2: Economic Status of Old Age Population by Health Status

	Male		*Female*	
Level of difficulty	Active	Inactive	Active	Inactive
Severe	3.56	96.45	2.80	97.20
Major	14.56	85.44	4.92	85.08
Minor	41.37	58.63	14.10	85.90
No difficulty	60.41	39.59	20.64	79.36
No of observations	2,790	3,109	1,145	6,181

Source: Author's estimation based on LFS, 2018

Table 3 reports data on labour force participation by age group and residential status; namely co-residence (living with older children) and living alone (as separate household). Labour force participation is clearly higher among older people when living alone compared to living with older children (co-residence). For instance, in the age group of 60-64, 47 per cent of total old age people living alone opt to participate in the labour market while this share is less than *the* half of the above (21 per cent) for older people living with their older children (see Table 3). Almost all elders who reside with their children tend to be economically inactive beyond 79 years whereas some of those who live alone continue their participation in the labour market till 90 years. In other words, those who live alone stay more years in the labour market compared to elders residing with their older children. Relatively low labour force participation among elders living with their older children may be due to a few reasons. First, a sizable share of elders living with older children may receive income and expenditure support from their children compared to those who live alone. Second, those elders may be involving in attending to house activities such as looking after grandchildren and accompanying grandchildren to schools and classes. Finally, there can be some family resistance towards working due to social factors. On the other hand, those who live alone may have more time, freedom, and financial and physiological necessity to participate in the labour market due to insufficient income and/or social disengagement during the old age. As reviewed in the literature survey, economic and social factors could influence older people living alone to join the labour force.

Table 3: Economic Status of Old Age Population by Residential Status

	Co-Residence		*Living Alone*	
Age Group	Active	Inactive	Active	Inactive
60-64	20.94	79.06	46.61	53.39
65-69	10.83	89.17	36.84	63.16
70-74	5.84	94.16	23.59	76.41
75-79	3.85	96.15	12.53	87.47
80-84	n.o	95.21	7.07	92.93

84-89	n.o	99.26	3.72	96.28
90-94	n.o	100	n.o	97.8
95-99	n.o	100	n.o	96.77

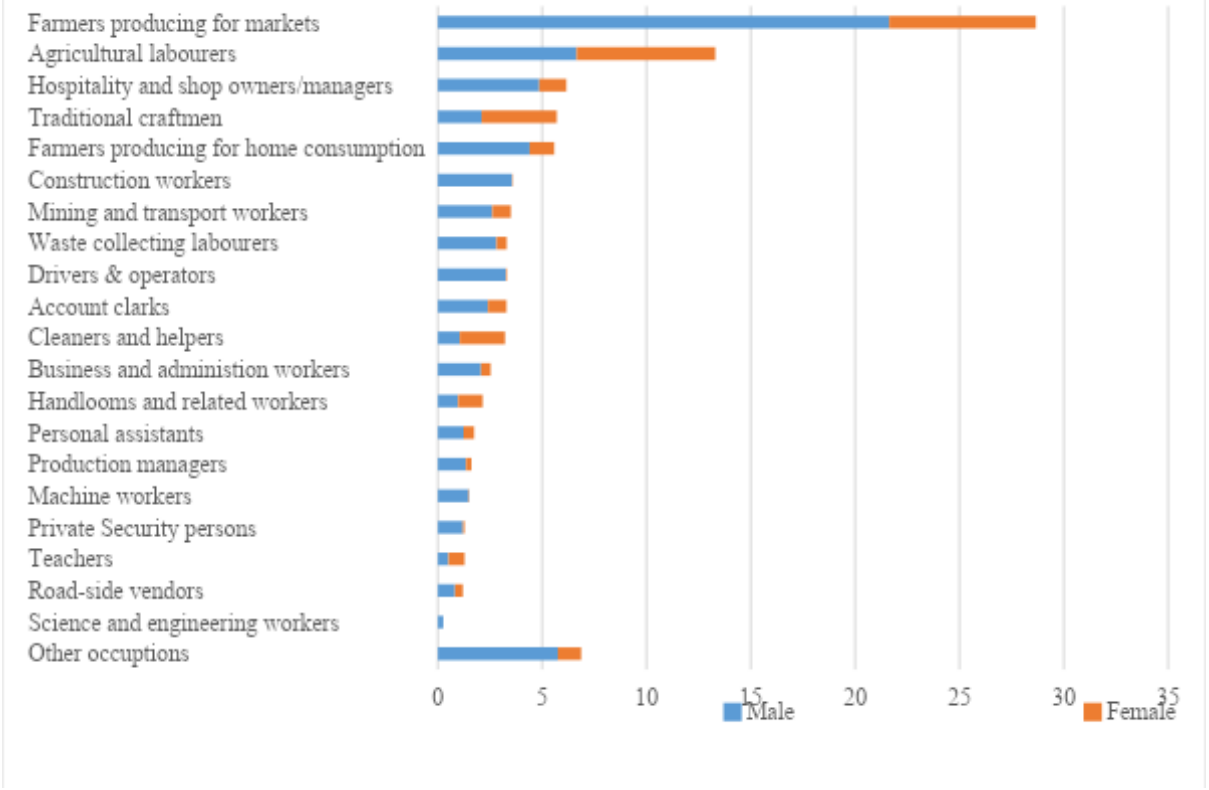
Note: n.o. stands for 'no sufficient observations', % is not estimated if a cell does not have minimum of 5 observations.

Source: Author's estimation based on LFS 2018

Characteristics of Old Age Workers

Nearly half of the total old age workers engage in agriculture related activities. For instance, nearly 29 per cent of total old age workers engage as *farmers producing for market* while around 5 per cent are involved as *farmers producing for home consumption*. Additionally, around 14 per cent of total old age workers engage as *agricultural labourers I* (see Figure 3). This means nearly 500 thousand or one fourth of the total agriculture sector workers are old age workers. In other words, one in every four agriculture sector workers is 60 years or above. Around 6 per cent of total old age workers engage as shop workers/owners while traditional craft men account for around 5 per cent. This implies that a sizable share of old age workers engage in low skilled jobs. The share of old age workers engaged in skilled jobs remains below 5 per cent of the total old age workers. Male old age workers are largely engaged in the agriculture sector and services sector while female old age workers engage in all *the* three sectors somewhat equally. This may partly be due to low demand for old age workers in skill-intensive jobs in the economy. The labour market in Sri Lanka remains somewhat rigid and under-developed, and it hardly provides jobs on part-time hourly paid basis. These labour market characteristics force old age people to opt to join the labour market to take up either agriculture sector job opportunities and/or initiate their own business in the informal sector. Hence, labour market flexibility through reforms is very much needed for creating opportunities in the economy for the growing health old age population who are willing to stay active for additional years in the labour market.

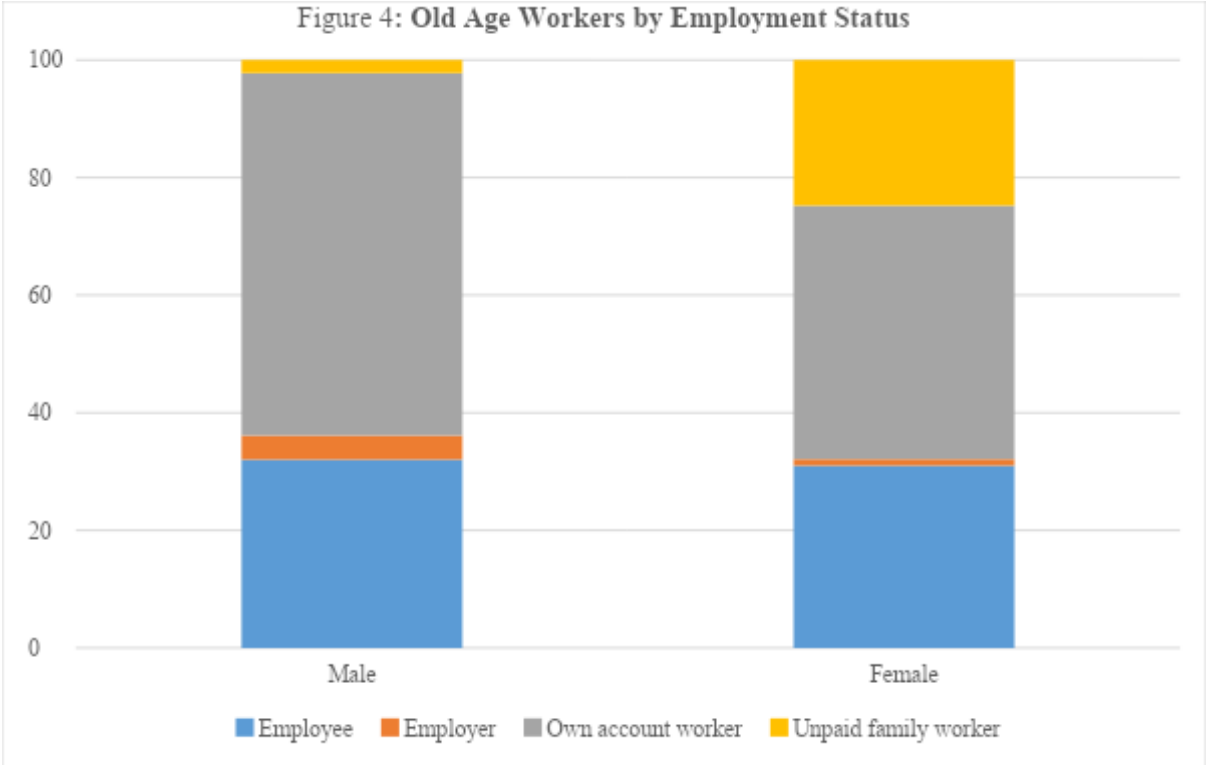
Figure 3: **Old Age Workers by Occupation (% of total old age worers)**



Source: Author's estimation based on LFS, 2018

In terms of employment status, old age working people largely engage as own account workers in the economy. Out of the total old age male workers, 61 per cent work as own account workers while this share for female old age workers is 43 per cent (see Figure 4). Around 32 per cent of total male and female workers engage as employees in the economy. relatively higher presence of own account workers indicates that employers' relative reluctance in offering paid employment to old age workers in the economy. As a result, those who wish to stay more years in the labour market tend to start their own economic activities either in the agriculture or services sector. Those who have some savings and/or land are in the position to start their own economic activities while the other tend to stay economically inactive in their post retirement period.

Figure 4: **Old Age Workers by Employment Status**



Source: Author's estimation based on LFS 2018

Determinants of Old Age Labour Force Participation

Table 4 reports the estimated coefficients of the logistic regression models that examine the determinants of old age labour force participation. Model 1 is consisted of individual's characteristics such as education, gender, marital status, ethnicity, and English language ability whereas household level characteristics such as number of working people, except the old age individuals, no of children below 6 years old, and residential status of the old age person are introduced additionally into Model 2. Model 3 is considered as the all-inclusive model where individual's health characteristics are considered additionally. In Model 1 & 2, the estimated coefficient of secondary education is positive and statistically significant, nevertheless, it is not statistically significant in the final model. In contrast, the estimated coefficients of GCE O/L passed (-0.567***), GCE A/L passed (-0.728***), and Degree and above (-0.790***) are negative and statistically significant at conventional level of significance in Model 3. The results imply that, compared to no schooling based group, old age people who have studied up to GCE O/L and above are more likely to stay away from the labour market. In other words highly educated old age people are less likely to continue in the labour market compared to their colleagues who have not schooled at all. Nevertheless, economic theory argues that highly educated individuals tend to participate in the labour market since their opportunity costs are greater compared to individuals with less education outcomes. Educated people may be less likely, compared to their less educated colleagues, to participate in the labour market due to a number of reasons. First, educated people may have engaged in lucrative employment opportunities which empower them through pension and/or savings in their old age. Thilakaratne et. al. (2019) found the receipt of pension as well as remittance is significantly lower the probability of labour force participation among old age people. It is more likely that children of educated old age workers to engage in economic activities earning

reasonably high income and remit part of such earnings to old age parents. Moreover, such parents are largely discouraged by their children to stay out of the labour market unless the parents get opportunities to work with social dignity. Second, it is possible that returns to education at old age fall sharply due meager demand for educated old age workers. The demand for educated old age workers are constrained due to existing rigid labour laws that practices both in the private and public sectors. Finally, as the Role Theory (Newman and Newman, 1995) suggests it is possible that educated old age people are more likely to switch their role from work to other social engagement than the less educated people. They may engage in various social, cultural, and religious activities that promote social harmony, unity, and peace. More importantly the society expects highly educated individuals to play various roles which promote social values in the society.

The estimated results show that, compared to Sinhala ethnicity, old age members in the other ethnic groups – Sri Lanka Tamil, Indian Tamil, and Muslims – are less likely to engage in the labour market. The estimated coefficients of dummy variables representing individual ethnic groups are negative and statistically significant at conventional level of significance. The estimated coefficients of Sri Lanka Tamil, Indian Tamil, and Muslim are -0.457***, -0.226*, and 0.504*** respectively. The differentials in participation could largely be due to social and cultural factors while limited opportunities in the estate sector workers may have discouraged old age Indian Tamil people in seeking job opportunities. For all age groups, labour force participation among people in Sri Lanka Tamil and Muslim remain lower compared to Sinhala ethnicity. Women in both Sri Lanka Tamil and Muslim ethnicities traditionally stay out the labour market.

Elderly males are more likely to participate in the labour market compared to female counterparts. Male labour force participation is almost twice that of the female in the labour force in 15-59 age group. More striking feature here is that female labour force participation is much lower at old age compared to the age group of 15-59. Theoretically, it is assumed that old age people with English language ability is more likely to participate in the labour market given relatively high language wage premium in the labour market. Nevertheless, contradicting the theoretical expectation, the estimated coefficient of English language ability dummy is negative (-0.335***). This means English fluent people are more likely to stay economically inactive in their old age. As discussed previously, rigid labour market institutions are largely responsible for this situation. In developed countries labour market institutions are well developed where old age workers could work on part-time basis both at public and private sector institutions. Nevertheless, there are a number of barriers in the labour market that prevent hiring old age workers with specialized skills.

It is interesting to note that residential status significantly affects the labour market participation decisions of old age workers. Old age individuals who live with their old children (co-residence status) are more likely to be economically inactive compared to those who do not live with old age children. The estimated coefficient of residential status is negative and statistically significant at conventional level of significance (-1.403***).

Table 4: Determinants of Old Age Labour Force Participation

Variable	(1)	(2)	(3)
Constant	-1.529***	-1.439***	-3.915***
	(0.127)	(0.129)	(0.348)
Primary	0.113	0.0724	-0.105
	(0.093)	(0.094)	(0.099)
Secondary	0.334***	0.287***	-0.0541
	(0.086)	(0.087)	(0.092)

GCE O/L passed	-0.034	-0.106	-0.576***
	(0.103)	(0.104)	(0.109)
GCE A/L passed	-0.088	-0.190	-0.728***
	(0.126)	(0.127)	(0.132)
Degree & above	-0.138	-0.235	-0.790***
	(0.179)	(0.180)	(0.187)
Married	0.061	0.137	0.019
	(0.106)	(0.106)	(0.112)
Separated./divorced/widow	-0.610***	-0.361***	-0.316***
	(0.113)	(0.114)	(0.119)
SL Tamil	-0.424***	-0.447***	-0.457***
	(0.059)	(0.060)	(0.063)
Indian Tamil	-0.113	-0.121	-0.226*
	(0.128)	(0.129)	(0.133)
Muslim	-0.415***	-0.416***	-0.504***
	(0.086)	(0.087)	(0.090)
Other	-1.353**	-1.358**	-1.665**
	(0.633)	(0.637)	(0.650)
Gender (male=1)	1.399***	1.382***	1.541***
	(0.044)	(0.045)	(0.047)
English (literacy=1)	-0.270***	-0.249***	-0.335***
	(0.075)	(0.076)	(0.078)
Co-residence (living with children=1)		-1.398***	-1.403***
		(0.109)	(0.112)
No of working people in the household		-0.035	-0.054**
		(0.024)	(0.025)
No of children below age 6 yrs		-0.0867**	-0.136***
		(0.041)	(0.043)
Disability/chronic illness (major)			1.175***
			(0.337)
Disability/chronic illness (minor)			2.611***
			(0.328)
Disability/chronic illness (no issue)			3.308***
			(0.327)
LR chi square value	1,921.74	2,161.78	3,125.58
Pseudo R^2	0.120	0.135	0.195
Observations	13,186	13,186	13,186

Note: Standard errors in parentheses. *** p<0.01, ** p<0.05, * p<0.1

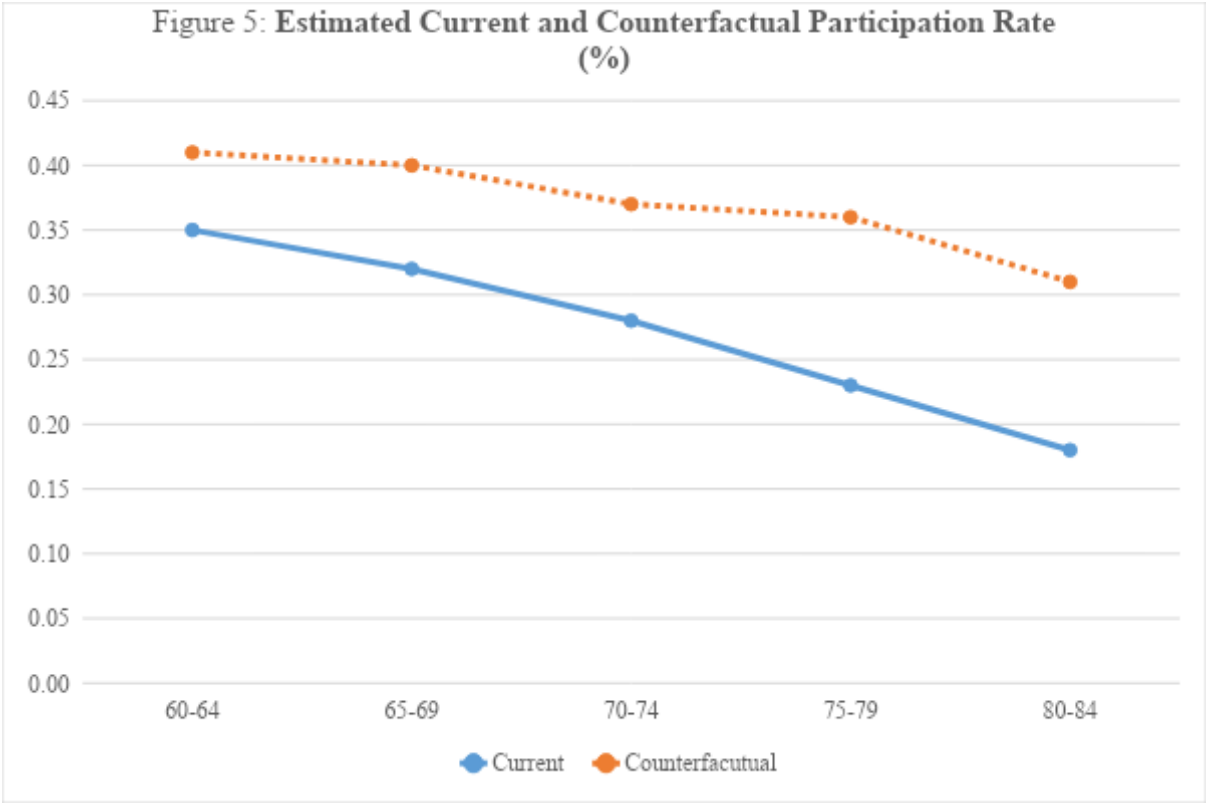
A number of factors may contribute to this finding. Elders could be busy in helping their old children to manage their house related activities such as accompanying grandchildren to school and tuition classes, being a guardian to house, attending to other housework such as cleaning, and looking after household-level activities. Old children may look after the financial needs of the elders more closely compared to living separately. More importantly, old children may openly be reluctant in allowing elders, living with them, engaging in employment party due to prevailing social norms against elders' labour force participation. Similarly, elders may derive some satisfaction in living with grandchildren and do not feel a need for societal engagement through the means of employment. On the other hand, elders who do not live with old children are more likely to join the labour force partly on the ground

of achieving financial security. Similarly, they may have more free time and feel the need for engaging with the society. These and other reasons may increase the probability of labour force participation among elders who do not live with old children. Elders are less likely to be economically inactive if more household members are working compared to the elders who live with fewer working household members. The estimated coefficient of no of working people at the household is negative and statistically significant at the conventional level of significance (-0.054***). In this regard, it is more likely elders' labour force participation is largely driven by economic factors rather than the social factors.

Traditionally, parents are tasked with looking after grandchildren, in particular, in their early childhood. It is customary that old age females tend to stay with their old children to assist them in child caring. In particular, if both members of the young couples work, their parents are fully occupied with child caring and attending to house related activities. The estimated coefficient of no of children below 6 years old at the household is negative (-0.136***) and statistically significant at 1 per cent level of significance.

As discussed in the methodology section, based on the six health dimensions, a categorical variable was constructed to represent the level of health difficulty experienced by individuals. The variable, disability/chronic illness, takes values 1 through 4 where 1 indicates severe health difficulty while 4 indicates no health issue. Four dummy variables were generated from the disability/chronic illness variable and 3 of them were introduced as independent variables. The *severe* health difficulty group is the reference group. The estimated coefficients of all three dummy variables are positive and statistically significant. The findings implies that healthy old age individuals are more likely to join the labour force compared to their counterparts who experience some health issues. Interestingly, the size of the estimated coefficients of *no issue* dummy (3.308***) and *minor difficulty* dummy (2.611***) variables are relatively larger than that of the *major difficulty* dummy. It implies that the probability of participation decreases with growing health difficulties. According to Institute of Policy Studies (2017), nine out of 10 elders are suffering from some kind of chronic diseases in Sri Lanka and none-communicable diseases are responsible for the largest proportion of the death of many elders. Hence, health status of old age people plays a pivotal role in determining the labour force participation. The marginal effect estimation reveals, other things remain unchanged, the probability in favour of the participation increases by 0.55 for an elder who does not have a health issue compared to an elder whose health difficulty remains severe.

Following the methodology adopted by Kalwij and Vermeulen (2005), counterfactual labour force participation was constructed assuming all old age people to be in good health. In other words, if all old age individuals report *no health issue,* what would be the labour force participation? Accordingly, it is found that overall old age labour force participation increases from the current rate of 0.297 to 0.396 (counterfactual scenario). In terms of gender disaggregation, male labour force participation increases by around 11 percentage points (from 47 per cent to 59 per cent). Nevertheless, old age female labour force participation increases marginally, from the current level of 16 per cent to 22 per cent. Figure 5 reports data on actual and counterfactual labour force participation by different age groups.



Source: Author's estimation based on Logistic Regression Estimated reported in Table 4.

It could be noticed that even under good health status, old age labour force participation decline over the age groups from 60-64 to 80-84. Nevertheless such decline is somewhat modest compared to the current declining pace. The results indicate that if healthy aging is promoted, a sizable number of old age workers could be retained in the labour force for additional years. As per 2018 LFS, nearly one million old age workers are economically active in the economy and this number could be increased to 1.35 million under the healthy aging scenario. Such increase would be beneficial to the economy given Sri Lanka is a fast aging society as well as a sizable number of youths migrating abroad for employment. According to Central Bank of Sri Lanka (2023), around 25,000 people have migrated abroad for employment per month during 2022-2023.

Table 5: Determinants of Old Age Labour Force Participation: Sensitivity Analysis

	Full sample	60-69 yrs	70-79 yrs
Constant	-8.945***	-3.227***	-4.024***
	(0.439)	(0.461)	(0.641)
Primary	-0.187*	-0.206	-0.206
	(0.103)	(0.128)	(0.199)
Secondary	-0.185*	-0.257**	-0.164
	(0.095)	(0.118)	(0.187)
GCE O/L passed	-0.735***	-0.799***	-0.727***

	(0.112)	(0.137)	(0.228)
GCE A/L passed	-0.886***	-1.123***	-0.611**
	(0.134)	(0.162)	(0.284)
Degree & above	-0.937***	-1.221***	-0.625*
	(0.188)	(0.234)	(0.369)
Married	0.019	0.014	-0.094
	(0.113)	(0.135)	(0.238)
Separated./divorced/widow	-0.251**	0.067	-0.316
	(0.121)	(0.146)	(0.247)
SL Tamil	-0.406***	-0.649***	-0.306**
	(0.063)	(0.076)	(0.129)
Indian Tamil	-0.233*	-0.493***	-0.089
	(0.134)	(0.160)	(0.254)
Muslim	-0.525***	-0.680***	-0.754***
	(0.091)	(0.104)	(0.224)
Other	-1.683***	-2.090***	-0.648
	(0.651)	(0.798)	(1.176)
Gender (male=1)	1.562***	1.853***	1.389***
	(0.047)	(0.057)	(0.108)
English (literacy=1)	-0.332***	-0.217**	-0.226
	(0.078)	(0.096)	(0.167)
Co-residence (living with children=1)	-1.372***	-1.155***	-1.145***
	(0.112)	(0.145)	(0.207)
No of working people in the household	-0.065**	-0.046	-0.115**
	(0.025)	(0.031)	(0.055)
No of children below age 6 yrs	-0.157***	-0.208***	-0.057
	(0.043)	(0.051)	(0.092)
Seeing	0.180***	-	-
	(0.050)	-	-
Hearing	0.240***	-	-
	(0.067)	-	-
Climbing	0.538***	-	-
	(0.053)	-	-
Remembering	0.243***	-	-
	(0.083)	-	-
Self-care	0.632***	-	-
	(0.073)	-	-
Communicating	0.280**	-	-
	(0.122)	-	-
Disability/chronic illness (major)	-	1.169***	1.143*
	-	(0.451)	(0.611)
Disability/chronic illness (minor)	-	2.409***	2.438***
	-	(0.440)	(0.594)
Disability/chronic illness (no issue)	-	2.919***	2.886***
	-	(0.465)	(0.593)
LR chi square value	3376.73	1,949.58	542.10
Pseudo R^2	0.210	0.185	0.150

Observations	13,186	7,818	3,962

Note: Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1

In such as context, it is important to encourage old age people to stay in the labour market given the overall labour force participation in economy has been low and somewhat stagnant due to lower females participation compared to most Asian neighbouring countries. During the last few decades, life expectancy has increased in Sri Lanka and, as a result, the relative share of old age population has reached to the levels which could only be seen in the developed world. It has become an urgent need to create decent opportunities for elders to continue their labour force participation in the economy and promote healthy aging practices so as to tap the potentials of the silver economy.

Table 5 reports the determinants of old age labour force participation under alternative specification. Instead of disability/chronic illness dummy variables, the full sample regression specification in Table 5 is estimated by introducing six health dimensions related categorical variables. Each of these health dimension takes value 1 through 4 where the value 1 indicates severe health difficulty and value 4 indicates no health issue. Accordingly, the estimated coefficients are positive and statistically significant at conventional level of significance implying health status is a key determinants of old age labour force participation. Regression specification in Table 4 was implemented for sub-samples, namely age group 60-69 and 70-79, and estimated results are reported in Table 5. Accordingly, the results reported in Table 4 are broadly held for the sub-samples in Table 5 indicating that the findings are not sensitive to specific age-groups or different regression specifications.

Table 6 reports the marginal effects of selected variables whose estimated coefficients are reported in Table 4 and 5. The marginal effect indicates the change in probability due to one unit change in the independent variable. Accordingly, change in probability in favour of labour force participation increases when the level of health difficulty move from *major difficulty* to *no health issue*. Interestingly, probability in favour of labour force participation increases by 0.55 when health difficulty get relaxed from *severe* to *no health issue* status. Among the other findings, the results show that living with children, compared to live separately, decreases the probability of labour force participation by around 0.27-0.32. Among the six dimensions, difficulties in self-care and walking/climbing reduce the probability of old age labour force participation significantly compared to the other difficulties. -

Table 6: **Marginal Effects of Selected Variables**

	Full sample	60-69 yrs	70-79 yrs	Full sample
No of children below 6 yrs	-0.024	-0.048	-0.032	-0.027
Co-residence	-0.181	-0.223	-0.196	-0.170
Disability/chronic illness (major)	0.249	0.284	0.278	-
Disability/chronic illness (minor)	0.520	0.539	0.536	-
Disability/chronic illness (no issue)	0.553	0.556	0.551	-
Seeing	-	-	-	0.031
Hearing	-	-	-	0.041
Walking/climbing	-	-	-	0.092
Remembering	-	-	-	0.041
Self-care	-	-	-	0.108
Communicating	-	-	-	0.048

CONCLUSION

This study aimed to investigate the determinants of labour force participation among elderly individuals in Sri Lanka, specifically focusing on the influence of health status. By employing data from the 2018 Labor Force Survey (LFS), the analysis utilized both descriptive and regression approaches to examine how different socioeconomic factors, household characteristics, and education levels shape the decision of older adults to remain economically active. The study illuminated how variations in these factors affect labour force participation through logistic regression, underscoring health's critical role in the economic activity of elderly individuals.

The findings of this study reveal that health is a crucial determinant of labour force participation among older adults. Elderly individuals with excellent or manageable health conditions are significantly more likely to remain active in the labour force compared to those facing severe health challenges. This highlights the importance of promoting healthy ageing, which can directly impact extending the working lives of older adults. The data suggest that if policies and programs were implemented to support healthier ageing, labour force participation among older people could increase by approximately 10%. This is particularly relevant in Sri Lanka's rapidly ageing population, where many older individuals could contribute to the economy if they remain in good health. The rationale for focusing on the 2018 LFS data, despite more recent surveys being available, is rooted in the stability of the socioeconomic context at that time. The years following 2018, particularly from 2019 to 2022, saw significant political and economic upheaval in Sri Lanka, including financial crises, political instability, and the impacts of the COVID-19 pandemic. These abnormal conditions likely skewed labour market dynamics, making the 2018 data a more reliable baseline for understanding the typical labour force participation patterns among older people. Using data from a relative stability period, the study provides a clearer picture of the usual determinants of elderly participation in the workforce, offering insights that can guide future policy decisions.

From a global perspective, population ageing presents both challenges and opportunities. As more countries experience the effects of an ageing population, the "silver economy" concept becomes increasingly relevant. The silver economy refers to the economic opportunities and benefits that arise from an older population, particularly when older individuals continue contributing to the labour market. For countries like Sri Lanka, which face the dual challenge of an ageing population and the migration of younger individuals seeking opportunities abroad, integrating older workers into the labour force can help mitigate some of the economic pressures created by these demographic shifts. Encouraging older individuals to remain active in the workforce reduces the fiscal burden on social security systems and provides a buffer against the depletion of the younger workforce due to emigration. To promote the participation of older individuals in the labour force, it is essential to create age-friendly policies that support flexibility, skill development, and lifelong learning. Programs designed to enhance the skills of older workers through targeted reskilling initiatives, coupled with efforts to eliminate biases against employing older individuals, are critical. Offering flexible working arrangements, such as part-time, remote work, or consulting roles, can make it easier for older individuals to balance work with their personal and health needs, thus extending their economic productivity. Furthermore, initiatives that emphasize health promotion and wellness are crucial. Ensuring that older adults maintain good health through preventive healthcare, access to affordable medical services, and wellness programs can help keep them physically and mentally fit for employment.

In addition to health and employment policies, infrastructure and social support systems that facilitate the participation of older adults in the labour force need to be addressed. Accessible public

transportation, supportive social services, and community-based programs can help older workers stay connected to the labour market and reduce the isolation often associated with ageing. These support systems can provide the necessary tools for older individuals to continue working through formal employment or self-employment, thus contributing to the economy. Ultimately, fostering a healthy ageing process and creating decent employment opportunities for elders is not only beneficial for individual well-being but also crucial for the economic stability of Sri Lanka. With a significant portion of the younger workforce leaving the country for better opportunities abroad, encouraging older individuals to stay in the workforce becomes essential for maintaining economic productivity. By retaining experienced workers who can contribute meaningfully for years to come, Sri Lanka can reduce the fiscal burden associated with an ageing population and continue to thrive economically, even in the face of demographic challenges. The silver economy presents a unique opportunity to harness the potential of older adults. With the right policies, Sri Lanka can create a more inclusive and sustainable labour market that benefits individuals of all ages.

REFERENCE

ADB (2019). *Growing Old Before Becoming Rich: Challenges of an Aging Population in Sri Lanka.* Asian Development Bank

Asian Development Bank (ADB). (2019). *Growing old before becoming rich: Challenges of an aging population in Sri Lanka*. Asian Development Bank.

Asian Development Bank. (2024). *Aging population in Sri Lanka: Growing old before becoming rich*. Asian Development Bank.

Becker, G.S. (1962). Investment in Human Capital: A Theoretical Analysis. *Journal of Political Economy*, vol 70(5-2), pp. 9-49

Carstensen, L. L. (1992). Social and emotional patterns in adulthood: Support for socioemotional selectivity theory. *Psychology and Aging, 7*(3), 331–338.

Central Bank of Sri Lanka. (2023). *Annual economic review 2023*. Central Bank of Sri Lanka. https://www.cbsl.gov.lk/en/publications/economic-and-financial-reports/annual-economic-review/annual-economic-review-2023

Coile, C., and J. Gruber, (2007). Future Social Security entitlements and the retirement decision. *The Review of Economics and Statistics, 89*(2), 234–246.

Cumming, E., and W.E. Henry, (1961). *Growing old: The process of disengagement.* New York: Basic Books.

Cumming, E., Dean L.R., N.R. Mccaffrey (1960). Disengagement-a tentative theory of aging. *Sociometry*, vol. 23(1), pp. 23–35

DCS (2012). *Census of Population and Housing 2012.* Department of Census and Statistics of Sri Lanka. Colombo

Dwyer, D.S., and O.S. Mitchell, (1999). Health Shocks as Determinants of Retirement Age Self-Rated Measures Endogenous?. *Journal of Health Economics*, vol. 18, pp. 173-193.

Edwards, J. R. (1996). An examination of competing versions of the person–environment fit approach to stress. *Academy of Management Journal, 39*(2), 292–339.

Elder, G. H., (1995). The life course paradigm: Social change and individual development. In P. Moen, G. H. Elder, Jr., & K. Luscher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 101-139). Washington, DC: American Psychological Association

Gunawardena, D., Rannan-Eliya, R. P., & Samaratunge, R. (2021). *A review of social protection system in Sri Lanka*. Retrieved from ResearchGate.

Hackman, J. R., and G.R. Oldham, (1976). Motivation through Design of Work: Test of a Theory. *Organizational Behavior and Human Performance*, vol. 16(2), pp. 250-279.

Heckman, J. J., (1974). Effects of Child-Care Programs on Women's Labor Supply. *Journal of Political Economy,* vol. 82(2), pp. 136-169

Institute of Policy Studies of Sri Lanka. (2017). *Sri Lanka: State of the economy 2017*. Institute of Policy Studies of Sri Lanka. https://www.ips.lk/publication-title-sri-lanka-state-economy-2017

Kalwij, A. and F. Vermeulen, (2007). Health and Labour Force Participation of Older People in Europe: What do objective health indicators add to the analysis?. *Health Economics*, vol.17(5), pp. 619-638

Koo, B., Yongsik, Y., Chua, B., and S. Lee (2019). Relationships among Emotional and Material Rewards, Job Satisfaction, Burnout, Affective Commitment, Job Performance, and Turnover Intention in the Hotel Industry. *Journal of Quality Assurenace in Hospitality & Tourism,* vo.21(1), pp 1-31

Leontiev, A. N., (1978). *Activity, consciousness, and personality.* Englewood Cliffs, NJ: Prentice-Hall.

Mincer, J. (1962). On-the-Job Training: Costs, Returns, and Some Implications. *Journal of Political Economy,* vol. LXX, No. 5, Part 2, pp. 50-79

Munnell, A. H., Hou, W., Sanzenbacher, G. T., and Y. Li (2016).Why are U.S. men retiring later? *Journal of Pension Economics & Finance*, vol.15(4), pp. 326–344.

Nesti, C., and A. Delle Fave, (2019). Workplace perception and job satisfaction of older workers. *Journal of Happiness Studies,* vol. *21*(3), pp. 943–963.

Newman, B. M., and P.R. Newman (1995). *Development through life: A psychosocial approach* (5th ed.). Pacific Grove, CA: Brooks/Cole Publishing Company.

Nilmini, P. G. N., and G.R.S.R.C. Samaraweera (2022). Beyond the working age: Labour supply of elderly men and women in Sri Lanka. *Journal of Social Sciences and Humanities Review*, vol. *7*(1), pp. 29-49.

Perera, E. L. S. J. (2017). *Ageing population in Sri Lanka: Emerging issues, needs and policy implications*. United Nations Population Fund (UNFPA), Sri Lanka.

Posthuma, R. A., Wagstaff, M.F., and M. A. Campion (2012). Age Stereotypes and Workplace Age Discrimination: A Framework for Future Research. in Walter C. Borman, and Jerry W. Hedge (eds), *The Oxford Handbook of Work and Aging*, Oxford Library of Psychology (2012; online edn, Oxford Academic

Senanayaka, W. G. T. S., and M.S. Kumara (2015). The employment status of the elderly in Sri Lanka: Emerging patterns and determinants. *Journal of Business Research and Insights*, vol. *1*(1), pp. 25-46.

Tajfel, H., and J.C. Turner (1979). An integrative theory of intergroup conflict. In W. G. Austin, & S. Worchel (Eds.), The social psychology of intergroup relations (pp. 33-37)

Thilakaratna, G. (2019), Working Beyond the Age of Retirement: Patterns and Determinants of Elderly Labour Force Participation in Sri Lanka. Institute of Policy Studies, Colombo

Tilakaratna, G., Sooriyamudali, C., and A. Perera, (2019). *Working beyond the age of retirement: Patterns and determinants of elderly labour force participation in Sri Lanka*. Institute of Policy Studies of Sri Lanka: Colombo

Vodopivec, M., and N. Arunatilake (2011). Population aging and labour market participation of old workers in Sri Lanka. *Journal of population ageing*, vol. *4*, pp. 141-163

Wang, M., Zhan, Y., Liu, S., and Shultz, K. S. (2024). Antecedents of bridge employment: A longitudinal investigation. *Journal of Applied Psychology, 109*(1), 45–60.

Wang, Z. Fu, J. and W. Bai (2024). Public Managemet Approaches to an Aging Workforce: Organizaional Strategies for Adaptability and Efficiency. *Frontiers in Psychology,* vol.15, pp. 34-62