A COMPARATIVE STUDY OF THE CHOICE OF SELF-EMPLOYMENT BETWEEN MEN AND WOMEN IN SRI LANKA

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Abstract

Different characteristics and different roles of both men and women affect the existing gender disparities in self-employment choice in Sri Lanka. This study mainly focuses on comparing the determinants of self-employment choice between men and women in Sri Lanka. The Sri Lanka Labour Force Survey conducted by the Department of Census and Statistics in 2018 was used as the main data source. Three binary logistic regression models were applied for analyzing. Based on the results, it was revealed that being a female has a significant and negative impact on self-employment choice in Sri Lanka. Sri Lankan Moors and the disabled have a higher tendency while tertiary educated people have a lower tendency towards self-employment for both men and women. Other demographic and health factors including ethnicity, age, marital status, disability, household size, socio-economic factors including level of education, vocational training, family income, digital literacy, geographical factors including residential sector and residential province also affect the self-employment choice for men and women. Finally, gender specific policies were suggested to promote self-employment in Sri Lanka by enhancing awareness, developing infrastructure facilities, introducing educational reforms and conducting training programmes at regional level.

Keywords: Choice of Self-employment, Gender Differences, Determinants of Self-employment, Self-employment Policies

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1. Introduction

Self-employment is identified as a form of labour market status with a wide range of various activities and it is also viewed as a form of informal sector employment in many developing countries. Individuals tend to be self-employed due to different reasons such as inability to find a suitable paid employment opportunity under the current labour market conditions, need of flexible working hours, the availability as an alternative to unemployment and the need of independence, status or for financial benefits (Dawson, Henley & Latreille, 2009). However, most people have less desire in choosing self-employment due to the low job security, low level of training, less benefits and pay (Achchuthan & Nimalathasan, 2012; Thrikawala, 2011). Self-employment is a worldwide phenomenon which positively impacts on the emergence of new and creative business start-ups on economic growth and economic development in the world (Achchuthan & Nimalathasan, 2012; Georgellis and Wall, 2005; Haussen & Schlegel, 2019; Obschonka, Schmitt-Rodermund & Terracciano, 2014). The International Labour Organization (ILO, 2018) emphasized that most of the own account workers are in poverty and have limited or no access to social security programmes and that there are significant gender disparities of the composition of own account workers, while men have experienced a slight decline over the past decade. The role of self-employment development is more important in developing countries like Sri Lanka than in developed countries, to create more self-employment opportunities as well as to reduce the unemployment situation. The Government is unable to provide employment opportunities to all the people. Therefore, they should be encouraged to start their own businesses to reduce unemployment (Achchuthan & Nimalathasan, 2012). Even though women have a higher likelihood to engage in self-employment as a substitute for a part time job due to having a larger part of household work than men, most of the women have a lower propensity to engage in self-employment due to more risks, large work-loads, less ability to invest in social capital and easier to get wage employment than men (Joona & Wadensjo, 2008).

According to the recent socio-economic data in 2018, literacy rate (92.2 percent), life expectancy at birth (80.12 years) for women are in a good condition in Sri Lanka as compared with South Asian countries (Central Bank of Sri Lanka [CBSL], 2018). However, Labour Force Participation (LFP) rate (male-73 percent; female-33.6 percent), employment rate (male-97 percent; female-92.9 percent) for women are relatively vulnerable for years, as shown by the Department of Census and Statistics (DCS) in 2018. To reduce this gap, women should be empowered through employment with extensive attention towards self-employment by way of facilitating flexi time. According to the DCS, there is a significant gender gap among own account work as well. Accordingly, self-employed males were 70.9 percent while that is 29.1 percent for females in 2017. By 2018, the male share increased to 73.9 percent and the female share declined to 26.1 percent in self-employment. It shows that the gender gap which was 41.8 percent in 2017, has increased up to 47.8 percent by 2018. Data convinced that there is a lower intention among women to be self-employed than men in Sri Lanka, although it provides flexi working schedules. Therefore, paying adequate attention to the gender issue in self-employment is very important to reduce the gender gap in LFP and the unemployment also.

Research objectives

This study focuses primarily on comparing determinants of choice of self-employment between men and women in Sri Lanka while identifying the impacts of various demographic and health, socio-economic and geographical factors that are associated with self-employment.

2. Literature Review

Participation in self-employment is described by various economic theories. Accordingly, Ayele (2014); Blumberg and Pfann (2016) elucidated several economic theories associated with the self-employment. Occupational choice theory developed by Banerjee and Newman (1993) explains why people choose self-employment among various professions that are available in the labour market and what type of characteristics that people who decide to be self-employed should have. Further, it explains that poor people engage more in wage employment while rich people engage more in self-employment because more loans could be obtained by rich people than the poor people for entering into self-employment. Theory of utility maximization explains that people who are willing to maximize the benefit or utility tend to be self-employed if the expected monetary benefit or utility of self-employment obtained through independence, income, risk bearing, perquisites related to self-employment and work effort is higher than the unemployment or hired employment (Douglas & Shepherd, 2002). Sociological disadvantage theory explains that people with low labour market opportunities such as women, disabled, youth, elderly, immigrants, individuals of different races, ethnic minorities and unemployed show greater tendency towards choosing self-employment. Cultural theory that clarifies self-employment growth among immigrants, ethnic minorities and persons of another race is a supplement for the disadvantage theory (Ayele, 2014). Discrimination theory also give the same idea as the Sociological disadvantage theory and cultural theory. It also argues that people are attracted towards self-employment if employers underestimate them due to race or economically incompatible characteristics. Skalamera-Alilovic, Blecich and Blazekovic (2017) also convinced the idea of this theory as people who have limited job opportunities and face discriminations in the labour market choose self-employment due to not having any other options to be employed.

However, there are very few theories that explain gender disparity in self-employment (Aronson, 1991). Work and family conflict theory explains that women have a greater preference on self-employment due to its flexible working arrangements for balancing work and family life (Buttler & Sierminska, 2020). According to this theory, marital status and children highly impact for women to be self-employed (Carr, 1996; Connelly, 1992). Fischer, Reuber & Dyke (1993) discussed two theories assigned with gender related differences. One is the Liberal Feminism theory and it explains that if women are treated similar to men, then the gender difference will reduce and women will be similar to men. Social Feminism is the other theory which explains that at the earliest moments of life, women and men have different levels of experiences. Hence, they have unequal effectiveness to pursue self-employment.

Empirical literature with existing practical evidences was laid out covering gender, ethnicity, age, marital status, disability, household size under demographic and health factors. Furthermore, level of education, vocational training, family income and digital literacy were considered under socio-economic factors. Finally in terms of geographical factors residential sector and residential province were considered and they are as follows.

Demographic and health factors on self-employment choice between men and women

Gender has been identified as a demographic variable towards self-employment by some researchers (For example: Nishantha, 2009; Uddin, Mohammad & Hammami, 2016) and it has been used as a moderating variable by other researchers (For example: Ranwala & Dissanayake, 2016; Verheul, Thurik, & Grilo, 2006). Wan (2017) pointed out that when considering differences in gender for self-employment activities, women's decision on self-employment depends more on their family while men's decision depends on their payment or income. When taking into consideration the gender intention on self-employment choice, Rosa, Cater and Hamilton (1996); Verheul and Thurik (2001) stated that women show less willingness to be self-employed than men due to their reluctance to run multiple businesses and start large business with more capital bearing high risks and their preference to work on part-time basis with lesser number of employees. Ethnicity is a main factor that affects self-employment and the processes of determining self-employment are the same across racial and ethnic groups (Anthias & Mehta, 2003; Georgellis & Wall, 2005; Simoes, Crespo & Moreira, 2016). Ethnic minorities may have various reasons to engage in self-employment, such as improving their living standards and avoiding unemployment and discrimination (Assuncao, 2013; Simoes et al., 2016). Cultural theory also describes the impact of ethnicity on self-employment and the differences between the self-employed due to cultural norms and values. The theory further argues that ethnic minorities have more cultural characteristics such as membership of minority community, risk taking, commitment to hard work, economical livelihood, social values, unity and loyalty for encouraging into self-employment (Ayele, 2014).

Most of the researchers revealed that an explanatory variable age shows an inverse U-shaped or curvilinear relationship with self-employment choice (Arum & Mueller, 2004; Kolvereid, 2016; Macieira, 2009) because older people have many key resources facilitating them to engage in self-employment, such as more human capital, financial capital, social capital and younger people also tend to be self-employed due to their physical and mental ability and their preference to tolerate risks (Ayele, 2014; Wan, 2017). Dolton and Makepeace (1990) stated that the probability of being self-employed increases with age and that self-employed females tend to be older than self-employed males. The marital status of women influences their late entry into self-employment activities than men because women engage with their family responsibilities for children, husbands and other family members (Farah, 2014). However, several arguments can be identified relating to this. First, if an individual is married, then the potential to be self-employed is higher with increasing wealth. Second, after the marriage, the spouse will support the self-

employment activities. Third, the spouse may be a critical source of emotional support (Simoes et al., 2016). McFarlane (1998) stated that self-employment is a greater opportunity especially for people who suffer from severe disabilities. Disabled men and women are more likely to choose self-employment than wage employment due to the discrimination in paid employment and segregation into different occupations (Dawson et al., 2009). Pagan (2009) stated that self-employment is a greater opportunity for disabled men and women to get vocational rehabilitation because it provides a higher flexibility in working patterns and accommodations such as type of work, working hours, working conditions or environment to easily balance their disability conditions and working lives. Macieira (2009) demonstrated that people with a larger household size have to bear a higher cost to maintain their family. However, the probability of failure is higher for self-employment (Anu, 2007; Carroll & Mosakowski, 1987). Hence, people with larger household size tend to be paid employees and they are less likely to decide on starting a new venture. Menon and Rodgers (2011) revealed that there is a less likelihood of women to be self-employed when they live in a family with a higher number of members. Based on the above literature, the study can assume that, *Hypothesis 01*: Demographic and health factors determine self-employment choice between men and women in Sri Lanka.

Socio-economic factors on self-employment choice between men and women

Ayele (2014); Do and Duchene (2007); Wan (2017) pointed out the impact of education on self-employment in two aspects. On the one hand, high level of education increases the management ability and it will increase the tendency for self-employment (Calvo & Wellisz, 1980). On the other hand, individuals with high levels of education expect higher wage incomes and they think that the self-employment opportunity cost is higher and as a result, it will reduce individuals engaging in self-employment. Farah (2014) argued that the level of education has a negative impact for women on self-employment which indicates the propensity of being self-employed decreases with increment of level of education. Arum and Mueller (2004) revealed that vocational training provides a way that can be transferred between self-employment or dependent employment for individuals and facilitates to move into preferable forms of self-employment activities. Meager, Martin, Carta and Davison (2011) stated that a significant proportion of newly self-employed are entitled to minimal or no relevant training. Hence, it impacts adversely on becoming self-employed. According to Dawson and Henley (2012), a greater proportion of men than women gain exposure to get vocational training related to self-employment at university, school or as a stand-alone activity.

Arum and Mueller (2004) stated that financial support received from the family as inheritance or spousal assistance is a more valuable determinant to pursue people to be self-employed. Farah (2014) emphasized that women who have financial support from family have a higher propensity to become self-employed and there is a positive association between family income and women's participation on self-employment. On the contrary, Dawson and Henley (2012) revealed that the desire of men having economically active spouses is higher for self-employment than women, because spousal income provides some security against income risks

associated with business start-ups. The Organization for Economic Cooperation and Development (OECD, 2019) stated that people who are self-employed are more willing to get benefits for creation and growth of businesses from digital technologies because it allows a wider access to external markets and lower business start-up and operating costs. However, women, youth, immigrants and seniors among digital self-employed in the European Union (EU) use less digital technologies due to several reasons such as lack of digital skills (data on computer usage), lack of access to finance and small and ineffective networks. Thus, the study can predict that, *Hypothesis 02*: Socio-economic factors determine self-employment choice between men and women in Sri Lanka.

Geographical factors on self-employment choice between men and women

Juracak and Tica (2016) stated that urban and rural background is a good determinant related to choosing self-employment. Men and women in rural locations have a larger preference on choosing self-employment because they have a stronger intention to start a new business and they have a well-developed social network than people in urban and semi-urban areas (Kolvereid, 2016). Sayyar, Latifi, Sarempoor and Pirmoradi (2012) stated that as a survival strategy, most of the families in rural areas engage in agriculture related self-employment. Do and Duchene (2007); Joona (2018); Macieira (2009); Menon and Rodgers (2011); Sena, Scott and Roper (2012) considered the region, location or province as the influential factors to enter into self-employment. Arunatilake and Jayawardena (2010) convinced in their study that being a person in all other provinces relative to the Western Province increases the likelihood to be self-employed in Sri Lanka. Considering the above literature, the study can postulate that, *Hypothesis 03*: Geographical factors determine self-employment choice between men and women in Sri Lanka.

Most of the researchers (For example: Achchuthan & Nimalathasan, 2012; Atnafu, 2016; Babatunde & Durowaiye, 2014; Dzomonda, Fatoki and Oni, 2015; Fatoki, 2014; Ferri, Ginesti, Spano & Zampella, 2018; Ranwala & Dissanayake, 2016) have studied the determinants of self-employment and women's participation in self-employment. However, only limited studies have made a comparison of self-employment between men and women in Sri Lanka. In order to compensate this lack of researches, this study was conducted to make a comparison of determinants of self-employment between men and women while recognizing the demographic and health, socio-economic and geographical factors on self-employment choice.

3. Methodology

The study attempts to identify the demographic and health, socio-economic and geographical factors in relation to self-employment and to compare the choice of self-employment between men and women in Sri Lanka by testing the hypothesized relationship given in the literature review. In order to achieve the objective of the study, an explanatory type research was conducted by the researcher. This study was based on the practical research problem of the existing significant gender gap in self-employment in Sri Lanka. To solve this research problem, it is needed to identify the factors that affect this gender issue. Hence, applied research was used to solve this practical issue by identifying the causes and formulating remedies. Further, the

deductive approach was used because this study attempts to explore the existing theories such as the occupational choice theory, discrimination theory, work and family conflict theory without building up new theories. This research study was conducted under the positivist assumption by assuming that the determinants that affect self-employment choice can be measured using quantitative techniques. The Sri Lanka Labour Force Survey (SLLFS) which was conducted by the DCS in Sri Lanka in 2018 was used as the main data source and secondary data was used for the analysis of this study. The SLLFS covered the whole country including all nine provinces in Sri Lanka since 2013 onward. 25,750 housing units were selected as the annual sample using the two-stage stratified sampling method for the survey in 2018. Thereby 8,015,166 employed population in Sri Lanka, including 5,300,310 males and 2,714,855 females were considered as the target population and 30,322 employed population that was estimated by the DCS in Sri Lanka for their annual LFS in 2018 including 20,160 males and 10,162 females were considered as the sampling frame for the study. Three models were prepared as total, male and female models selecting 30,301 employed workers, 20,149 male employed workers, 10,130 female employed workers as the samples to compare the self-employment choice between men and women in Sri Lanka.

The study used the binary logistic regression model for analyzing data because the selected dependent variables for total, male and female models are qualitative and dichotomous in nature. They are self-employment choice, self-employment choice for men and self-employment choice for women. Gender, ethnicity, age, marital status, disability, household size under the demographic and health factors, level of education, vocational training, family income, digital literacy under the socio-economic factors, residential sector and residential province under the geographical factors that were available in the SLLFS in 2018 were selected as the explanatory variables for all three models based on the literature review. Results of the study were presented using tables and text for the reader to understand clearly and easily. This study formulated the common equation of the binary logistic regression model for three logit models as follows:

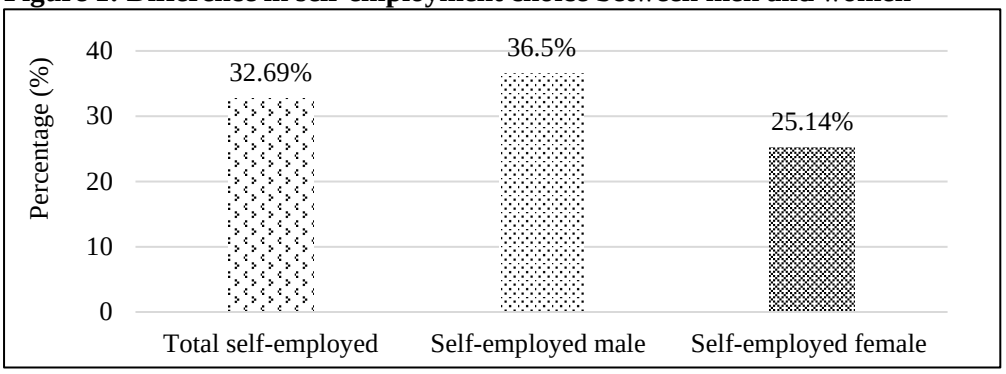
$$Logit(Y) = ln\left(\frac{P_i}{1-P_i}\right) = \alpha + \beta_i D_i + \gamma_i X_i + u_i \qquad \text{(Equation 1)}$$

In equation 1, Y indicates Self-employment choice for total employed, men and women separately. P_i denotes the probability of being self-employed and $1\text{-}P_i$ denotes the probability of not being self-employed. α signifies the constant. β_i signifies the coefficients of dummy variables and γ_i denotes the coefficients of continuous variables. u_i denotes the error term. Demographic and health, socio-economic and geographical variables are represented by Dummy variables (D_i) and continuous variables (X_i). Details of explanatory variables (both D and X variables) are given in Table 1 of descriptive statistics.

4. Results and Discussion

There is a significant gender difference in self-employment in Sri Lanka. Accordingly, 36.5 percent of employed men engaged in self-employment while 25.14 percent of employed women engaged in self-employment by 2018. Figure 1 shows the difference in self-employment choice between men and women.

Figure 1: Difference in self-employment choice between men and women



Source: Developed by the researcher using micro data, 2018

Mean or proportion and standard deviation were obtained as descriptive results for each selected dependent and explanatory variable to compare self-employment choice for men and women. Table 1 shows descriptive results for self-employment choice for three models as total, male and female models including number of observations (No. of Obs.), mean or proportion (Mean/Prop.) and standard deviation (Std. Dev.).

Binary logistic regression models which detected heteroscedastic were used for analyzing the data. Table 2 shows the obtained results of the logistic regression models for choice of self-employment for total, male and female models including logit coefficient (Logit Coe.), probability value (Prob. Value) and coefficient of marginal effect (Marg. Effect).

Table 1: Descriptive statistics for self-employment choice of total, male and female models

Name of the model	Total			Male			Female		
Variable	No. of Obs.	Mean/ Prop.	Std. Dev.	No. of Obs.	Mean/ Prop.	Std. Dev.	No. of Obs.	Mean/ Prop.	Std. Dev.
Dependent variable									
Self-employment choice(D1)	9,905	0.3269	0.4691	7,355	0.3650	0.4815	2,547	0.2514	0.4339
Explanatory variables									
Demographic and health factors									
Gender									
Male (D2)	20,149	0.6650	0.4720	-	-	-	-	-	-
Female (D3)	10,152	0.3350	0.4720	-	-	-	-	-	-
Ethnicity									
Sinhala (D4)	21,697	0.7160	0.4509	13,941	0.6919	0.4617	7,756	0.7656	0.4236
SL-Tamil (D5)	5,059	0.1669	0.3729	3,549	0.1761	0.3809	1,510	0.1491	0.3562
I-Tamil (D6)	975	0.0322	0.1765	569	0.0282	0.1657	406	0.0401	0.1962
SL-Moor (D7)	2,496	0.0824	0.2749	2,038	0.1011	0.3015	458	0.0452	0.2078
Other (D8)	74	0.0024	0.0494	52	0.0026	0.0507	-	-	-
Age (X1)	30,301	43.3871	13.5915	20,149	43.4029	13.9099	10,130	43.3649	12.9387
Marital status									
Married (D9)	23,146	0.7639	0.4247	15,885	0.7884	0.4085	7,247	0.7154	0.4512
Never married (D10)	5,299	0.1749	0.3799	3,760	0.1866	0.3896	1,535	0.1515	0.3586
Widowed (D11)	1,247	0.0412	0.1986	253	0.0126	0.1114	991	0.0978	0.2971
Divorced (D12)	134	0.0044	0.0664	58	0.0029	0.0536	76	0.0075	0.0863
Separated (D13)	475	0.0157	0.1242	193	0.0096	0.0974	281	0.0277	0.1642
Disabled (D15)	3,277	0.1081	0.3106	2,124	0.1054	0.3071	1,151	0.1136	0.3174
Household size (X2)	30,301	4.2109	1.5608	20,149	4.3039	1.5703	10,130	4.0259	1.5239
Socio-economic factors									
Level of education									
No schooling (D16)	624	0.0206	0.1420	315	0.0156	0.1241	309	0.0305	0.1719
Primary (D17)	4,066	0.1342	0.3409	2,800	0.1389	0.3459	1,263	0.1247	0.3304
Secondary (D18)	23,971	0.7911	0.4065	16,298	0.8089	0.3932	7,657	0.7559	0.4296

Tertiary (D19)	1,640	0.0541	0.2263	736	0.0365	0.1876	901	0.0889	0.2847
Have vocational training(D21)	2,909	0.0960	0.2946	1,675	0.0831	0.2761	1,228	0.1212	0.3264
Family income (X3)	30,301	58.5435	121.5454	20,149	49.1619	129.4438	10,130	24.5881	35.7532
Have digital literacy (D23)	19,412	0.6406	0.4798	13,029	0.6466	0.4780	6,364	0.6282	0.4833
Geographical factors									
Residential sector									
Urban (D24)	4,846	0.1599	0.3665	3,330	0.1653	0.3714	1,501	0.1482	0.3553
Rural (D25)	23,915	0.7892	0.4078	15,932	0.7907	0 .4068	7,976	0.7874	0.4092
Estate (D26)	1,540	0.0508	0.2196	887	0.0440	0.2051	653	0.0645	0.2456
Residential province									
Western Province (D27)	6,777	0.2237	0.4167	4,546	0.2256	0.4179	2,214	0.2186	0.4133
Central province (D28)	4,062	0.1341	0.3407	2,516	0.1249	0.3306	1,546	0.1526	0.3596
Southern Province (D29)	3,950	0.1304	0.3367	2,594	0.1287	0.3349	1,356	0.1339	0.3405
Northern Province (D30)	2,940	0.0970	0.2959	2,170	0.1077	0.3100	770	0.0760	0.2650
Eastern Province (D31)	2,319	0.0765	0.2659	1,788	0.0887	0.2844	527	0.0520	0.2221
North West Province (D32)	3,393	0.1119	0.3153	2,171	0.1077	0.3101	1,221	0.1205	0.3256
North Central Province (D33)	1,892	0.0624	0.2419	1,228	0.0609	0.2392	664	0.0655	0.2475
Uva Province (D34)	1,668	0.0550	0.2281	1,072	0.0532	0.2244	596	0.0588	0.2353
Sabaragamuwa Province (D35)	3,300	0.1089	0.3115	2,064	0.1024	0.3032	1,236	0.1220	0.3273
Total No. of observations			30,301			20,149			10,130

Source: Author's calculations using micro data, 2018

Note:

- Other category in ethnicity for female self-employment choice was dropped due to insufficient cases.
- The number of observations that become 1 in dummy variables have been included in No. of Obs.
- People with both major and minor functional difficulties were included as disabled.

Table 2: Logistic regression models for self-employment choice of total, male and female models

Model	Logit model 1			Logit model 2			Logit model 3		
Name of the model	Total			Male			Female		
Variable	Logit Coe.	Prob. Value	Marg. Effect	Logit Coe.	Prob. Value	Marg. Effect	Logit Coe.	Prob. Value	Marg. Effect
Dependent variable = Self-employment choice (D1)									
Explanatory variables									
Demographic and health factors									
Gender									
Male (D2)(Ref.)									
Female (D3)	-0.5711	0.000	-0.1101	-	-	-	-	-	-
Ethnicity									
Sinhala (D4)(Ref.)									
SL-Tamil (D5)	-0.1600	0.008	-0.0309	-0.2238	0.002	-0.0454	-0.0702	0.531	-0.0117
I-Tamil (D6)	-0.5257	0.000	-0.1013	-0.6448	0.000	-0.1309	-0.4085	0.109	-0.0680
SL-Moor (D7)	0.2242	0.000	0.0432	0.1271	0.037	0.0258	0.6770	0.000	0.1127
Other (D8)	-0.4119	0.159	-0.0794	-0.4455	0.180	-0.0905	-	-	-
Age (X1)	0.0326	0.000	0.0063	0.0358	0.000	0.0073	0.0237	0.000	0.0039
Marital status									
Married (D9)(Ref.)									
Never married (D10)	-0.4710	0.000	-0.0908	-0.4033	0.000	-0.0819	-0.5997	0.000	-0.0998
Widowed (D11)	0.3358	0.000	0.0647	-0.1742	0.192	-0.0354	0.6326	0.000	0.1053
Divorced (D12)	0.1832	0.345	0.0353	-0.4031	0.177	-0.0819	0.5589	0.022	0.0931
Separated (D13)	-0.1594	0.131	-0.0307	-0.4220	0.009	-0.0857	0.0961	0.487	0.0159
Disability									
Non-disabled (D14)(Ref.)									
Disabled (D15)	0.1857	0.000	0.0358	0.1938	0.000	0.0393	0.1821	0.016	0.0303
Household size (X2)	-0.0261	0.006	-0.0050	-0.0188	0.081	-0.0038	-0.0634	0.000	-0.0106

Socio-economic factors									
Level of education									
No schooling (D16)(Ref.)									
Primary (D17)	0.3078	0.001	0.0593	0.3492	0.005	0.0709	0.0409	0.799	0.0068
Secondary (D18)	0.4793	0.000	0.0924	0.3869	0.001	0.0786	0.5503	0.000	0.0916
Tertiary (D19)	-1.0597	0.000	-0.2042	-1.0415	0.000	-0.2115	-1.1788	0.000	-0.1963
Vocational training									
Not have training (D20)(Ref.)									
Have training (D21)	0.0195	0.699	0.0038	-0.1339	0.034	-0.0272	0.2528	0.002	0.0421
Family income (X3)	-0.0012	0.001	-0.0002	-0.0005	0.053	-0.0001	-0.0049	0.006	-0.0008
Digital literacy									
Not have digital literacy (D22)(Ref.)									
Have digital literacy (D23)	-0.1652	0.000	-0.0318	-0.1602	0.000	-0.0325	-0.2025	0.001	-0.0337
Geographical factors									
Residential sector									
Urban (D24)(Ref.)									
Rural (D25)	0.1236	0.003	0.0238	0.1298	0.008	0.0264	0.1097	0.181	0.0183
Estate (D26)	-1.0104	0.000	-0.1947	-0.7167	0.000	-0.1455	-1.9576	0.000	-0.3259
Residential province									
Western Province (D27)(Ref.)									
Central Province (D28)	0.3803	0.000	0.0733	0.5468	0.000	0.1110	0.0197	0.833	0.0033
Southern Province (D29)	0.2109	0.000	0.0407	0.1980	0.001	0.0402	0.2313	0.009	0.0385
Northern Province (D30)	0.6770	0.000	0.1305	0.8016	0.000	0.1628	0.3786	0.008	0.0630
Eastern Province (D31)	0.3113	0.000	0.0599	0.2479	0.001	0.0503	0.6107	0.000	0.1017
North West Province (D32)	0.3974	0.000	0.0766	0.4782	0.000	0.0971	0.1903	0.042	0.0317
North Central Province (D33)	0.7378	0.000	0.1422	0.8439	0.000	0.1714	0.4608	0.000	0.0767
Uva Province (D34)	0.8968	0.000	0.1729	1.2257	0.000	0.2489	0.1989	0.095	0.0331
Sabaragamuwa Province (D35)	0.2126	0.000	0.0409	0.2337	0.000	0.0474	0.1448	0.120	0.0241

Sample size	30,301	20,149	10,130
Log likelihood	-17141.354	-11905.992	-5075.4797
Likelihood Ratio chi2	4014.85	2633.89	1273.70
Probability > chi2	0.0000	0.0000	0.0000
Pseudo R2	0.1048	0.0996	0.1115

Source: Author's calculations using micro data, 2018

Notes:

- Reference category (Ref.) for Total: Being an employed person who is a male, Sinhala, no schooling, married, not having training, non-disabled, living in urban sector in the Western Province and not having digital literacy.
- Reference category for Male: Being a male employed person who is Sinhala, no schooling, married, not having training, non-disabled, living in urban sector in the Western Province and not having digital literacy.
- Reference category for Female: Being a female employed person who is Sinhala, no schooling, married, not having training, non-disabled, living in urban sector in the Western Province and not having digital literacy.
- Statistically significant at 10%
- Other category in ethnicity for female self-employment choice was dropped due to insufficient cases.

In demographic and health aspects, firstly this study convinced that gender significantly affects the self-employment choice. Women are less prone to be self-employed than men because females have more non-market household activities such as caring for children and parents, supporting the work of their husbands and balancing all domestic activities. Females have a lower financial ability, less social relationships and less willingness to take risks than males. Byrnes, Miller and Schafer (1999); Dawson and Henley (2012); Nwankwo, Kanu, Marire, Balogun and Uhiara (2012); Thrikawala (2011); Verheul et al. (2006); Watson and McNaughton (2007) also convinced this idea in their studies. Blumberg and Pfann (2016); Pietrobelli, Rabellotti and Aquilina (2004) also revealed that female participation in self-employment has a negative and significant effect than male participation. In the aspect of ethnicity, being Sri Lankan Tamils (SL-Tamils), Indian Tamils (I-Tamils) show negative relationship with self-employment choice of all employed persons, while Sri Lankan Moors (SL-Moors) show positive relationship with that for the same group reference to the base category. When comparing the impact of ethnicity on self-employment choice for men and women, being SL-Tamils, I-Tamils and SL-Moors significantly affect self-employment choice for men. However, only being SL-Moors significantly impacts on self-employment choice for women while being SL-Tamils and being I-Tamils are insignificant. SL-Tamil and I-Tamil men have less likelihood to be self-employed compared to Sinhalese because most of them work in estates and they do not have sufficient financial capital, human capital and social capital to enter into self-employment. Furthermore, their education level is low and they do not have sufficient knowledge to start self-employment activities. Macieira (2009) also revealed that ethnic minority members have a less probability of being self-employed. In contrast, SL-Moor men and women show greater willingness to be self-employed in Sri Lanka because they are intended culturally for business oriented economic activities for long years. Cultural barriers and low level of education also specially affect SL female Moors in reducing formal sector job opportunities. Siyama and Samaraweera (2021) also attested this idea through their study.

Age makes a significant impact on the choice of self-employment for both men and women. Elder men and women are more likely to be self-employed than younger men and women in Sri Lanka because work experience, ability to take risks, financial ability, social relationships increase with aging. Although the probability of choosing self-employment is higher among men and women with age, the impact of age for women is slightly less than for men. Family and non-market responsibilities of women are higher than that of men with age while economic responsibilities of men are generally increasing with age. Arunathilake and Jayawardena (2010); Blanchflower (2004); Dawson et al. (2009); Do and Duchene (2007); Georgellis and Wall (2005); Skalamera-Alilovic et al. (2017); Verheul et al. (2006) also convinced that the probability of being self-employed is higher for elder people than younger people. Further, results exposed that being never married and being a widow significantly impact on self-employment choice than the married group. When men and women were compared separately, it was found that being never married significantly influenced the self-employment choice for both men and women. Being a widow or a divorcee significantly influence on self-employment choice only for women, but not for men. Being separated significantly impact on self-employment

choice for men, but not for women. Never married men and women have less willingness to choose self-employment in relation to married people because they enjoy less financial and emotional support than married people. Arunathilake and Jayawardena (2010); Ayele (2014); Blumberg and Pfann (2016); Do and Duchene (2007); Zhang (2018) also convinced that never married people have a less propensity to be self-employed. Widowed, divorced and separated women are more likely to be self-employed because they have to care for their children, parents and meet all family needs alone and they are less likely to remarry in Sri Lanka. If they do not have any income sources, they try to engage in self-employment to earn for their family. However, when it comes to being men, either widowed or divorced or separated does not influence them more to be self-employed because they do not have greater family responsibilities like women, and hence most of the time they tend to remarry. Dawson et al. (2009); Georgellis and Wall (2005) convinced that married and formerly married (divorced, widowed and separated) individuals have a higher propensity of being self-employed than never married individuals. Jayaweera (1999) exposed that a large proportion of widows try to engage in some kind of employment because there is no one to care for them at home.

Results disclosed that disability (both major and minor functional difficulties) significantly impacts on self-employment choice for both men and women and disabled men and women are more likely to be self-employed. In the Sri Lankan context, disabled people have to face different types of discriminations in their jobs in the private and government sectors. Also, the Sri Lankan government provides only a limited number of opportunities for disabled people to work in the government sector. The private sector in Sri Lanka also provides fewer opportunities for disabled people because they mainly focus on profits. Furthermore, disabled people have a low level of education in Sri Lanka. So, they find it difficult to get a job in formal paid employment. Dawson et al. (2009); Pagan (2009); Zahi (2013) have also confirmed this view. Household size also makes a significant impact on self-employment choice for both men and women and both men and women are less likely to be self-employed when their household size increases. As the number of family members increases, expenses too will be higher. It cannot be confirmed that unsecured income from self-employment is sufficient to recover all the family expenses. Hence, they show a higher tendency to engage in paid employment to get a sufficient secured income without taking any risks. Macieira (2009); Wlliams and Lapeyre (2017) also testified to this result. The household size increases non-labour income of individuals, leading to a poor involvement in self-employment activities.

The second focus of the hypotheses in this study is for seeking the impact of socio-economic factors on self-employment. Out of them, the level of education makes a significant impact on self-employment choice for both men and women, except for women having primary education. Men and women with primary and secondary education show a greater willingness to be self-employed in Sri Lanka because they face difficulties in finding a better job with a sufficient salary in government or private companies. Pietrobelli et al. (2004) also exposed that there is a positive relationship between primary education and self-employment rate and it intends that basic skills are required to be self-employed. However, results revealed that tertiary educated men and women have a lesser likelihood to be self-employed

because people who have a degree or a diploma or other higher education qualifications higher than the Advanced Level (A/L) try to obtain a government job or a job in a well-established private company in Sri Lanka. The main reasons for that are not having entrepreneurship-based education in Sri Lanka and not having sufficient support from the Sri Lankan government for the survival of the businesses. Ayele (2014); Blumberg and Pfann (2016); Do and Duchene (2007); Skalamera-Alilovic et al. (2017);Verheul et al. (2006); Wan (2017) also convinced that self-employment does not grow among more educated people due to the expectation of higher wage income, higher opportunity cost of self-employment and better outside positions generated by higher level of education. Although vocational training is not a significant factor on self-employment choice of the common sample, it significantly impacts on self-employment choice for men and women separately. Women with vocational training show a greater willingness to be self-employed because most of them have a low level of knowledge on business opportunities than men, and their awareness increases with vocational training. Men with vocational training tend to be employed in a government or a private company to ensure the higher job security and income due to the reluctance to bear the risk to start a business. Ayele (2014) revealed that providing on-job-training is necessary to create a conducive working environment related to self-employment and it encourages people to be self-employed. Blumberg and Pfann (2016); Ferri et al. (2018) convinced that vocational training provides a higher probability to become self-employed.

The study disclosed that the family income significantly impacts on self-employment choice for both men and women. As family income increases, men and women are less likely to be self-employed because their living standards become stable. They do not want to be self-employed to earn more and they prefer to enjoy more leisure because they have sufficient money for living. People have to work harder if they engage in self-employment than in any other employment status. If people enjoy sufficient income, they do not pursue to work harder. Do and Duchene (2007) also proved the same result in their study. Digital literacy also makes a significant impact on self-employment choice for both men and women and men and women with digital literacy are less likely to be self-employed. Most of the private companies in Sri Lanka recruit a lot of people who have digital literacy and pay a higher salary to them because they try to increase their profits by increasing the efficiency through the use of new technology. Although people have digital literacy, they have to bear a higher cost when operating a business while using technologies. Hence, most of the people who have digital literacy tend to engage in paid employment than in self-employment. OECD (2019) stated that the tendency for people who have digital literacy to be self-employed is still low in most of the countries due to the lack of access to finance and small and ineffective networks.

Identification of the geographical factors including residential sectors and provinces affecting self-employment is the third focus of the study. It was exposed by this study as there is a significant impact of residential sector on self-employment choice for both men and women, except being in a rural sector for females. Both men and women in the estate sector show less willingness to be self-employed because they work more in association with tea estates and rubber estates. Their level of education is much lower and most of the people in the estate sector are SL-Tamils

and I-Tamils. Further, the deficiency of both physical and financial resources, poor market accessibilities and poor vocational training opportunities for self-employment in the estate sector have further intensified this vulnerability. When explaining how ethnicity influences the self-employment choice, the study confirmed that SL-Tamils and I-Tamils are less prone to be self-employed because they are mostly living within the estate premises. People in the rural sector have a greater likelihood of being self-employed because the number of opportunities for self-employment is higher in the agro-based rural sector than that of the people in the urban sector. The majority of the rurally employed represents the informal sector and enjoys flexible work schedules and strong social networking, leading to more tendency to start self-employment. Kolvereid (2016) also confirmed the idea of this result due to the stronger intention and well-developed social network of rural people to start a new business than people in urban and semi-urban areas. Juracak and Tica (2016) stated that urban and rural background is a good determinant related to choosing self-employment.

The study further revealed that men and women in all the provinces in Sri Lanka show greater willingness to be self-employed relative to the Western Province. In the Western Province there are many urban areas than rural areas and most of the private and government institutions are located in the Western Province. Hence, the majority of the people in the Western Province work as employees and employers. However, there are more rural areas in other provinces than in the Western Province in Sri Lanka. The Sri Lankan government has conducted most of the self-employment related programmes such as self-employment generation programme for migrant women, Diriya Manpetha programme and Nanwamu Gammana programme based on rural areas in other provinces to enhance the family income and living standards. Arunatilake and Jayawardena (2010) also confirmed this result. Macieira (2009); Menon and Rodgers (2011) pointed out that the region of residence is a significant and influential variable on self-employment choice.

5. Conclusion

This study used to identify the demographic and health, socio-economic and geographical determinants that affect self-employment and to compare those factors between men and women in Sri Lanka. The SLLFS conducted by the DCS in 2018 was used as the main data source for this study and employed the binary logistic regression models for analysis. Results of the study revealed that gender significantly affects the self-employment choice and being a female has a negative relationship with self-employment choice. Under the demographic and health factors, being SL-Moor, disabled and age positively impact on self-employment while being SL-Tamil, being I-Tamil, being never married and household size affect negatively for both men and women. Being widowed, divorced or separated impact positively on self-employment only for the women. In the socio-economic aspect, being a primary and secondary educated person positively impacts on self-employment, while being tertiary educated, having digital literacy and family income affect negatively for both men and women. Having vocational training impacts positively on self-employment only for women. Under the geographical factors, living in the rural sector and living in all other provinces with reference to the Western Province positively impact on self-employment while living in the estate sector affects negatively on self-

employment for both men and women. According to the results of the study, it was disclosed that female participation is lower in self-employment under the majority of demographic and health, socio-economic and geographical determinants and it concludes that there is a high gender difference in self-employment participation in Sri Lanka.

Finally, gender-specific policy recommendations are proposed to overcome the gender disparities on self-employment choice. Accordingly, it was recommended to provide interest free financial facilities through commercial, Samurdhi and other rural banks especially for women to encourage them towards self-employment. Awareness programmes should be promoted through Divisional Secretariat offices to enhance awareness, social relationships and attitudes of the SL-Moors towards the self-employment, especially the SL-Moor women by reducing ethnic related disparities in the labour force participation. Further, an entrepreneurship-based education system should be promoted by the Ministry of Education to enhance the participation of educated people in self-employment. New self-employment opportunities that can be generated using new technology also should be introduced and the necessary raw materials could be provided at the initial stage of the business to enhance the participation of men and women with digital literacy in self-employment. Lesser willingness of Tamil men and women towards self-employment can be eliminated by conducting awareness programmes to uplift the living standard of the estate community in Sri Lanka with the support of the estate sector administrations. Furthermore, greater willingness of widowed, divorced and separated women towards self-employment can be further encouraged by providing financial aid and counselling services to start and develop their self-employment at regional level. Further, it was recommended to encourage disabled men and women towards self-employment by providing self-employment opportunities with financial, consultation services and training related to skills enhancement and opening new paths to increase market accessibility while paying special attention towards disabled women.

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