FACTORS INFLUENCING LABOR FORCE PARTICIPATION AMONG PEOPLE WITH DISABILITIES IN MYANMAR

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Abstract

The involvement of people with disabilities in the economy is essential for promoting global economic growth. The purpose of this study is to examine the factors affecting the labor force participation of disabled individuals in Myanmar. The 2019 Inter-censal Survey (ICS) data are utilized. The study makes use of the descriptive statistics, Chi-square test, and probit regression model. In Myanmar, the employment rate for people with disabilities is around 24%. The probit regression model's findings indicate that the labor force participation of disabled people varies significantly depending on their age, sex, marital status, level of education, household size, annual household income, states and regions, as well as their difficulty with seeing, walking, remembering, taking care of themselves, and communicating. For disabled people who are married, better educated, and have larger household incomes, their probability of participation in labor force is higher. It was discovered that women with disabilities are less likely to work than men with disabilities. It is obvious that there are gender inequalities in Myanmar's labor force. However, disabled people who have bigger families and difficulty with seeing, walking, remembering, self-care, and communicating are less likely to participate in the labor force. Additionally, there are differences in the employment of disabled persons geographically. As a result, it would be beneficial to reduce discrimination among people with disabilities as they first enter labor market and to highlights the adaptations that allow them to seek jobs based on their disabilities. The government and policymakers should put plans into action to ensure the long-term prosperity of disabled people.

Key words: Labor Force Participation of Disabled People, Disability Factors, Gender Difference and Geographic Diversity

Introduction

There are many obstacles that people with disabilities must overcome in order to participate fully in society and the labor market. The extent and type of labor market engagement, in turn, have a variety of direct and indirect consequences for living standards and quality of life, making it an important topic for research and policy consideration. People with disabilities make up a diverse population because they can be either inherited from parents or acquired later in life. These disabilities can range in severity from mild to severe. Additionally, there are differences among disabled people in terms of age, ethnicity, sex, education, and place of residence. People with disabilities face significant challenges as a result of a variety of early-life hurdles, particularly when trying to find suitable employment. The absence of chances for education and training that are in line with the needs of the labor market, according to the World Health Organization, is one significant barrier. Unfortunately, compared to those without disabilities, people with disabilities have higher rates of unemployment and are more likely to work in low-paying positions. There are frequently insufficient training facilities for people who were impaired as children. Early disability training programmes frequently lack a vocational focus or teach skills that don't fulfil the needs of the labor market. Employing persons with disabilities is increasingly recognised as part of a bigger effort to diversify the workforce and to offer private enterprises genuine economic benefits. This includes improved problem-solving skills, higher innovation, stronger worker commitment, and a better reputation with clients, business partners, and society at large (Aires, 2018).

Across all four measured disability types, the labor force participation rate in Myanmar is lower for those with moderate or severe disabilities than for those with mild disabilities. People

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with moderate or severe disabilities, particularly those between the ages of 15 and 64, are less likely to work. The lowest participation rates were seen in those who had severe or moderate difficulties walking and remembering, at 23% and 26%, respectively. Due to disease, accident, or disability, about 8% of Myanmar's population was regarded as being unemployed in 2015 (MIMU, 2021).

Myanmar has ratified the United Nations Convention on the Rights of Persons with Disabilities, which recognizes the right of people with disabilities to employment and participation in society. Myanmar can fulfill its legal commitments and safeguard the human rights of people with disabilities by looking into the things that prevent them from participating in the labor force. Employment is crucial for achieving financial independence as well as for social inclusion, self-worth, and mental health. Myanmar can improve its citizens' social well-being, lessen stigma and prejudice towards people with disabilities, and increase their labor force participation. Economic growth and productivity can both increase with a larger labor force. By promoting the inclusion of disabled people in the labor market, Myanmar can access a talent and skill base that is underutilized yet has the potential to advance the nation. As a result, the study find out the demographic, socioeconomic, and disability characteristics of disabled people in Myanmar as well as their involvement in the labor force. In addition, this study investigates the demographic, socioeconomic, and disability factors that are associated with disabled people's labour force participation in Myanmar.

Literature Reviews

Since employment of people with disabilities affects their quality of life and financial well-being, labor force participation of people with disabilities has long been a crucial research topic. Using data from earlier research carried out in diverse contexts, the literature review analyses the factors that influence the labor force participation of people with disabilities.

Johannssmeier (2007) discussed a qualitative study that focused on the difficulties that South African people with disabilities confront in the areas of poverty, work, and education. This study explored how the disability grant (DG) affected people with disabilities and their households, emphasizing the need for greater research on the social and economic implications of this programme. It was discovered that the disability grant is mainly used for essential expenses like food and tuition, and that it is frequently used in households with little to no additional income, leaving them exposed to financial shocks and debt. Disability must be included in development plans that attempt to combat poverty and exclusion since high unemployment and poverty increase the dependency on the disability grant by people with disabilities and their households. Overall, it contributed significantly to our understanding of the difficulties of people with disabilities confront in South Africa and the necessity of a more inclusive and integrated approach to development.

Nolan and Gannon (2004) examined on the influence of disability on labor force participation in Ireland based on data from the Quarterly National Household Survey in Ireland. It was crucial to look into and address how much and how people with disabilities participate in the job market because this has a direct and indirect impact on their level of living and general quality of life. By utilizing a probit model, the study revealed that individuals who reported a severely limiting condition had a significantly lower likelihood of participating in the labor force compared to others, even after controlling for factors such as age, education, and marital status

Arlette (2012) used data from the Third Cameroonian Household Survey (ECAM3) to analyze the factors that contributed to the variations in labor force participation between people with and without disabilities using multinomial logistic regression model. Regardless of the gender or institutional sector taken into consideration, the results of this showed a significant employment disparity between those with disabilities and without disabilities. The breakdown of this disparity leads one to believe that discrimination may be the cause, rather than disparities in

human capital, demographics, or other traits that might be detected between disabled and non-disabled people.

Mala and Garcia (2019) focused on the effects of job quotas for the disabled in Brazil based on the Demographic Census in years 2000 and in 2010. According to the probit model, education and work experience were key factors in determining access to well-paying jobs and must be encouraged through skill development initiatives for those with disabilities. However, reducing pay disparities between disability groups will not be possible unless people with disabilities' educational, employment, and occupational attainment levels have been improved. According to this study, barriers to employment for persons with disabilities should be removed in the areas of education, health, transportation, and other public and private services.

Halimatussadiah et al. (2014) used the Population Census Data (2010) and Susenas Data (2012) to examine a number of topics regarding the prevalence and measurement of disabilities in Indonesia. The study made the recommendation that when measuring disability, it should take into account both physical and health-related impairment as well as the social component that further limits people with disabilities. The study highlighted higher disability prevalence rates in Sulawesi and Nusa Tenggara areas. The inability of people with disabilities to join in the labor market was largely prevented by their inadequate education and lack of access to public amenities like schools. Although there were laws in place to safeguard people with disabilities in the formal sector, their enforcement was poor. The report recommended enhancing abilities of people with disabilities to be effective and competitive in the labor market and encouraging their social and economic inclusion to solve these concerns.

Mavromaras (2007) used two important data sources—the ABS Survey of Disability, Ageing, and Careers and the Household, Income, and Labor Dynamics in Australia Survey to study the socioeconomic characteristics and labor market conditions of people with disabilities in Australia. The study discovered that people with disabilities earn less and participate in the work market at lower rates than people without disabilities. Additionally, the labor market did not value their less developed human capital as much. People with and without disabilities had significantly different rates of labor force participation. The likelihood of employment was lower for persons with disabilities, while better education and job experience were associated with higher rates of labor force involvement.

Hogan et al. (2012) analyzed the barriers to workforce participation for individuals with disabilities by utilizing data from the Australian Bureau of Statistics (ABS) 2003 Survey of Disability, Ageing and Careers. Results of logistic regression, it was discovered that several factors such as age, gender, educational level, and country of birth had an impact on the labor force participation of people with disabilities. Males and those from an English-speaking country were more likely to be in the labor force compared to females and those from a non-English speaking country. Additionally, individuals with a higher level of education were more likely to participate in the labor force compared to those who had not completed grade 12. As discussed above, various researches investigated that demographic, socioeconomic and disability factors is related to labor force participation of disabled people. This study explores that the determinants of labor force participation of disabled people in Myanmar. The conceptual framework of the study explains the relationships among labor force participation of people with disabilities and demographic, socioeconomic and disability factors.
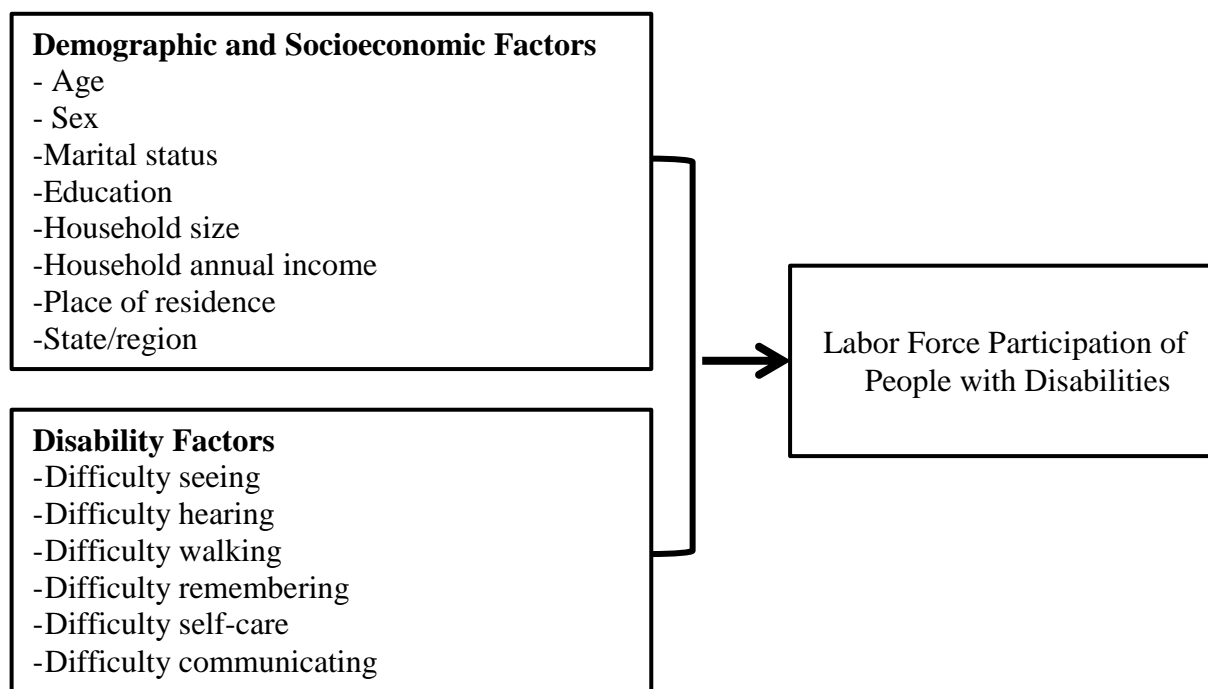
Demographic and Socioeconomic Factors
- Age
- Sex
-Marital status
-Education
-Household size
-Household annual income
-Place of residence
-State/region

Disability Factors
-Difficulty seeing
-Difficulty hearing
-Difficulty walking
-Difficulty remembering
-Difficulty self-care
-Difficulty communicating

Labor Force Participation of People with Disabilities

Figure 1: Conceptual framework

Data and Methods

Data

This study was used dataset from the 2019 Inter-censal survey (ICS), Department of Population, Ministry of Labor, Immigration and Population. This study focuses on people with disabilities aged 15 to 64 years. While 548,553 people were obtained from ICS in 2019, this study focused on 44749 disabled individuals. This study used a sample size of 44749 disabled persons.

Key Variables and Measurements

The identification and measurement of dependent and independent variables for fitting model is shown in Appendix Table 1. The dependent variable is labor force participation among disabled people and independent variables are demographic, socioeconomic and disability factors. The demographic and socioeconomic characteristics are age, gender, marital status and education level, states/regions, household income and household size and place of residence and disability characteristics are difficulty seeing, difficulty hearing, difficulty walking, difficulty remembering, difficulty self-care and difficulty communicating.

Statistical Analysis

This study makes use of descriptive statistics, Pearson's Chi-square test, and the probit regression model. The relationship between demographic, socioeconomic, and disability factors and labor force participation among disabled persons is examined using the Chi-square test. When a response variable, likes the labor force participation of disabled individuals (employed and unemployed disabled people), is binary, a probit regression model was applied to examine the demographic, socioeconomic, and disability factors associated with the participation of disabled people in the labor force.

Chi-squared Test

Pearson's Chi-squared test (χ^2) is a statistical test applied to test a null hypothesis stating that the frequency distribution of certain events observed in a sample is consistent with a particular theoretical distribution. The assumptions for Chi-square independence are: (i) the data

are obtained from a random sample and (ii) the expected value in each cell must be 5 or more. The Chi-square test used to determine whether the association between two qualitative variables is statistically significant. The chi-square statistic is computed with the following formula:

$$\chi^2 = \sum_{i=1}^{n} \frac{(f_i - f_e)^2}{f_e}$$

Where, f_i is the observed frequency in the cell

f_e is the expected frequency in each cell

Probit Regression Model

Probit models are a form of a statistical model that is used to predict the probability of the occurrence of an event. Probit models are based on the probit function. In probit model, the cumulative standard normal distribution function is used to model the relationship between the predictors and the probability of the event occurring. The output of the probit model also ranges from 0 to 1, like that of the logit model. The probit model can be represented as follow.

Pr(Y = 1|X) = Φ(Z)

Where, $Z = b_0 + b_1X_1 + b_2X_2 + \ldots + b_nX_n$

Y is the dependent variable and represents the probability that the event will occur (Y = 1) given the variables X.

Z is the linear combination of independent variables (X) with coefficients (b_0, b_1, b_2,..., b_n).

In the case of the probit model, cumulative distribution function of standard normal distribution (Φ) is used. The parameters (b_0, b_1, b_2,..., b_n) are estimated using maximum likelihood estimation technique.

If Z is a standard normal random variable, then its probability density function is:

$$\Phi(z) = \frac{1}{\sqrt{2\pi}} e^{-0.5z^2} \tag{1}$$

The probit function is: $\Phi(z) = P[Z \le z] = \int_{-\infty}^{z} \frac{1}{\sqrt{2\pi}} e^{-0.5z^2} dz \tag{2}$

The function Φ(z) is the cumulative distribution function (CDF) to compute normal probabilities.

Findings

Descriptive Analysis

The demographic and socioeconomic factors (age, gender, marital status and education level, states/regions, household income and household size and place of residence) and disability factors (difficulty seeing, difficulty hearing, difficulty walking, difficulty remembering, difficulty self-care and difficulty communication of disabled people) have been shown in Appendix Table 2. It is found that 23.69% of disabled people were employed whereas 76.31% of disabled people were unemployed.

Regarding the demographic and socioeconomic characteristics, 53.37% of disabled people belonged to age group 50 to 64 years, and followed by 23.57% of disabled people belonged to age group 40 to 49 years, and nearly 12% of disabled people belonged to age group 30 to 39 years and 15 to 29 years. The disabled people (56.33%) were female whereas 43.67% were male. In relation to the marital status, 81.39% of disabled people were married whereas 18.61% were unmarried. Concerning the education level, most of the disabled people (48.58%) have achieved primary school and below, and followed by 18.08% have achieved high school, 17.53% have achieved secondary school and 15.81% have no education.

Dealing with the household size, the most of disabled people (72.94%) lived in household size with 1-5 members. Regarding the household annual income, 64.3% of disabled people had household annual income with 10-50 lakhs, 18% of disabled people had household annual

income with below 10 lakhs, and 17.69% of disabled people had household annual income with above 50 lakhs. According to states and regions, 15.29% of disabled people lived in Ayeyarwady Region, 9.93% lived in Mandalay Region, 10.73% lived in Yangon Region, 10.2% lived in Magway Region, 9.57% lived in Sagaing Region, 8.82% lived in Shan State, 7.91% lived in Bago Region, 5.55% lived in Kayin State, 4.15% lived in Mon State, 3.95% lived in Kachin State, 3.94% lived in Chin State, 3.7% lived in Tanintharyi Region, 2.41% lived in Rakhine State, 2.46% lived in Nay Pyi Taw and 1.39% lived in Kayah State. Most of disabled people (72.12%) lived in rural areas but 27.88% lived in urban areas.

Regarding the disability factors, 57.66% of disabled people had difficulty seeing, 13.96% had difficulty hearing, 36.81% had difficulty walking, 32.72% had difficulty remembering, 7.04% had difficulty caring for themselves, and 8.94% had difficulty communicating.

Bivariate Analysis

The bivariate analysis is performed using Chi-square test and the results are shown in Appendix Table (3). According to the results of Chi-square test, age, sex, marital status and education level of disable people, household size, household annual income, place of residence, states and regions, disable people had difficulty seeing, difficulty hearing, difficulty walking, difficulty remembering, difficulty self-care, and difficulty communicating are significantly related to labour force participation of disabled people at 1% significance level.

Multivariate Analysis

To analyze the determinants of labor force participation among disabled people, probit regression model is carried out. Appendix Table (4) shows that the model fitting information for labor force participation of disabled people. Regarding the model fitting information for labor force participation of disabled people, the Chi-square value is 2436.88, which is statistically significant at 1% level. This implies that one or more of the independent variables in the model is important for predicting the probability of labor force participation of disabled people in Myanmar. The Pseudo R Square shows that about 4.97% of the variation in the labor force participation of disabled people is explained by this probit model.

According to the results of probit model, age, sex, marital status and education level of disabled people, household size, household annual income, states and regions, disable people had difficulty seeing, difficulty walking, difficulty remembering, difficulty self-care, and difficulty communicating influence on labor force participation of disable people.

According to the findings, compared to disabled people's age group of 15-29 years, their age groups of 30-39 years and 40-49 years have 5.42% and 3.72% more chance of participating in the labor force, respectively. Compared to disabled people's age group of 15-29 years, their age groups of 50-64 years have 4.16% less chance of participating in the labor force. Compared to male disabled individuals, female disabled individuals have a 10.71% lower chance of participating in the labor force. Compared to single disabled people, married disabled people have a 2.82% higher chance of participating in the labor force.

When compared to disabled people who don't have an education, they who have completed primary school or less, middle school, and high school or above have about 1.49%, 1.06%, and 3.43% more chance of participating in the labor force, respectively. In comparison to disabled people with household sizes of 1-5 members, their household sizes of 6 members and above have approximately 3.06% less probability of participating in the labor force. In addition, disabled people have about 2.08% and 5.36% higher chance of participating in the labor force when their household annual income were between 10 and 50 lakhs and above 50 lakhs, respectively, compared with when their household annual income were below ten lakhs.

Moreover, disabled people who lived in Kayah, Mandalay and Nay Pyi Taw are about 4.56%, 3.07% and 6.14% more probability of participating in labour force compared to their residing in Ayeyarwady. Disabled people who lived in Kachin, Kayin, Chin, Sagaing, Bago,

Magway and Shan are about 12.24%, 5.17%, 8.4%, 9.31%, 3.86%, 2.96%, and 1.68% less chance of participating in labor force compared to their residing in Ayeyarwady.

In terms of disability factors, disabled people who experience difficulty seeing have a 1.06% lower chance of participating in the labor force than people without such difficulty. Disabled individuals who experience difficulty walking have a 6.26% lower chance of participating in the labor force than people without such difficulty. Disabled individuals who experience difficulty remembering have a 2.43% lower chance of participating in the labor force than people without such difficulty. Disabled people who experience difficulty caring themselves have a 9.43% lower probability of participating in the labor force than people without such difficulty. Disabled people who experience difficulty communicating have a 5.33% lower probability of participating in the labor force than people without such difficulty.

Discussions

The results of this research point out a significant disparity in workforce participation between people with disabilities and those without disabilities. Specifically, people with difficulty seeing are found to participate less in the labor force compared to those without difficulty. People without difficulty in walking, remembering, self-care, or communication are more likely to be employed. These findings align with previous study by Arlette (2012) who highlighted government and local planner carried out the greater efforts to remove barriers and create inclusive work environments by which everyone has equal access to employment opportunities.

The results of this study indicate that females with disabilities face greater challenges participating in the labor market than male disabilities. Indeed, female disabled persons are less likely to participate in labor force than male. This finding aligns with Hogan et al. (2012).

The study reveals that disabled individuals with primary, middle, and higher levels of education are more inclined to participate in the labor force. The finding that individuals without a good education can still participate in the labor force despite having disabilities is noteworthy. However, it is also significant that disabled individuals with higher education levels are highly participated in the workplace, indicating that education can significantly enhance employment opportunities for disabled individuals. This result is consistent with Halimatussadiah et al. (2014), Hogan et al. (2012) and Mala and Garcia (2019). They highlighted the significance of promoting education and employment opportunities for people with disabilities.

Disabled people with low annual income levels are less likely to participate in the labor force. This finding is analogous to the result of Mavromaras (2007). He pointed out the importance of addressing socioeconomic barriers that limit employment opportunities for disadvantaged groups.

Conclusion and Recommendations

According to this study, around 24% of disabled people are employed, compared to 76% who are not. It is found that nearly 58% of disabled persons have problems seeing, 14% have problems hearing, 37% have problems walking, 33% have problems remembering, 7% have problems taking care of themselves, and 9% have problems communicating.

The findings from the probit regression model indicate that almost all the selected variables in the study influence on labor force participation. The older disabled people, female disabled people, and having larger household size have less chance of participating in the labor force. Moreover, disabled people who experienced difficulty seeing, walking, remembering, self-care, and communication have less chance of participating in the labor force. In contract, disabled people who have married and received higher education have more chances of participating in the labor force. Moreover, disabled people with higher household income level have more chance of participating in the labor force.

Raising awareness about gender stereotypes and encouraging women with disabilities to pursue careers in non-traditional fields may contribute to achieve equality in job opportunities for disabled men and women. This can help to break down employment barriers and enhance their participation in the workforce. Furthermore, offering support services such as vocational training, counselling, and job placement services can help women with disabilities in overcoming work barriers and achieving economic independence.

To improve disabled people's employability and involvement in the labor force, the government should provide additional opportunities and accommodations for education and skill training. Employers ought to establish inclusive work environments where disabled employees can get reasonable accommodations and support. Policies such as affirmative action programmes, which aim to increase the hiring and retention of disabled people, can also be beneficial. Employers should actively seek to remove barriers to employment for persons with disabilities, such as assistive technologies, flexible work arrangements, and reasonable adaptations to the workplace environment. Finally, there is a need to improve disability awareness and understanding among employers, coworkers, and the general public. This can contribute to a healthier as well as welcoming workplace environment.

Acknowledgement

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Appendix

Appendix Table (1) Description and Classification for Dependent and Independent Variables

Dependent Variable	Independent Variables	

Y= Labor force participation of disabled people
= 1 if employed
= 0 if unemployed
	Demographic and socioeconomic characteristics
	X_1= Gender
	   = 1 if male
	   = 2 if female
	X_2= Age
	   = 1 if 15-29 years
	   = 2 if 30-39 years
	   = 3 if 40-49 years
	   = 4 if 50-64 years
	X_3= Marital status
	   = 1 if single
	   = 2 if married
	X_4= Education
	   = 1 if no education
	   = 2 if primary school and below
	   = 3 if middle school
	   = 4 if high school and above
	X_5 = Household size
	   = 1 if 1-5
	   = 2 if 6 and above
	X_6 = household income
	   = 1 if below 10 lakhs
	   = 2 if 10- 50 lakhs
	   = 3 if above 50 lakhs
	X_7 =Place of residence
	   = 1 if urban
	   = 2 if rural
		X_8 =States and Regions
		   = 1 if Ayeyarwady
		   = 2 if Kachin
		   = 3 if Kayah
		   = 4 if Kayin
		   = 5 if Chin
		   = 6 if Sagaing
		   = 7 if Tanintharyi
		   = 8 if Bago
		   = 9 if Magway
		   = 10 if Mandalay
		   = 11 if Mon
		   = 12 if Rakhine
		   = 13 if Yangon
		   = 14 if Shan
		   = 15 if Nay Pyi Taw
		Disability Factors
		X_9= Difficulty seeing
		   = 1 if no
		   = 2 if yes
		X_{10}= Difficulty hearing
		   = 1 if no
		   = 2 if yes
		X_{11}= Difficulty walking
		   = 1 if no
		   = 2 if yes
		X_{12}= Difficulty remembering
		   = 1 if no
		   = 2 if yes
		X_{13}= Difficulty self-care
		   = 1 if no
		   = 2 if yes
		X_{14}= Difficulty communicating
		   = 1 if no
		   = 2 if yes

Appendix Table (2) Percent Distribution of Demographic, Socioeconomic and Disability Characteristics and Labor Force Participation of Disabled People in Myanmar

Independent variables	Classification	Number	Percent	Independent variables	Classification	Number	Percent
Labor force participation	Unemployed	34150	76.31	States/Regions	Ayeyarwaddy	6843	15.29
	Employed	10599	23.69		Kachin	1767	3.95
Age	15–29	5196	11.61		Kayah	624	1.39
	30–39	5123	11.45		Kayin	2484	5.55
	40–49	10546	23.57		Chin	1761	3.94
	50–64	23884	53.37		Sagaing	4284	9.57
Sex	Male	19544	43.67		Taninthayi	1657	3.70
	Female	25205	56.33		Bago	3540	7.91
Marital status	Single	8330	18.61		Magway	4565	10.20
	Married	36419	81.39		Mandalay	4443	9.93
Education	No education	7077	15.81		Mon	1855	4.15
	Primary school and below	21737	48.58		Rakhine	1078	2.41
	Middle school	7846	17.53		Yangon	4800	10.73
	High school and above	8089	18.08		Shan	3945	8.82
Household size	1–5	32655	72.94		Nay Pyi Taw	1103	2.46
	6 and above	12094	27.03	Difficulty seeing	No	18947	42.34
Household annual income	Below 10 lakh	8057	18.00		Yes	25802	57.66
	10-50 lakh	28774	64.30	Difficulty hearing	No	38503	86.04
	Above 50 lakh	7918	17.69		Yes	6246	13.96
Residence	Urban	12475	27.88	Difficulty walking	No	28275	63.19
	Rural	32274	72.12		Yes	16474	36.81
				Difficulty remembering	No	30105	67.28
					Yes	14644	32.72
				Difficulty self-care	No	41598	92.96
					Yes	3151	7.04
				Difficulty communicating	No	40748	91.06
					Yes	4001	8.94

Source: 2019 ICS, Department of Population, Ministry of Labor, Immigration and Population

Appendix Table (3) Results of the Relationship between Labor Force Participation and Demographic, Socioeconomic and Disability Characteristics in Myanmar

Independent variables	Classification	Chi-square	P-value	Independent variables	Classification	Chi-square	P-value
Age	15–29	446.98***	0.000	States/Regions	Ayeyarwaddy	513.19***	0.000
	30–39				Kachin		
	40–49				Kayah		
	50–64				Kayin		
Sex	Male	719.98***	0.000		Chin		
	Female				Sagaing		
Marital status	Single	20.11***	0.000		Taninthayi		
	Married				Bago		
Education	No education	176.09***	0.000		Magway		
	Primary school and below				Mandalay		
	Middle school				Mon		
	High school and above				Rakhine		
Household size	1–5	32.74***	0.000		Yangon		
	6 and above				Shan		
Household annual income	Below 10 lakh	127.99***	0.000		Nay Pyi Taw		
	10-50 lakh			Difficulty seeing	No	28.13***	0.000
	Above 50 lakh				Yes		
Residence	Urban	27.44***	0.000	Difficulty hearing	No	20.29***	0.000
	Rural				Yes		
				Difficulty walking	No	337.55***	0.000
					Yes		
				Difficulty remembering	No	70.17***	0.000
					Yes		
				Difficulty self-care	No	227.85***	0.000
					Yes		
				Difficulty communicating	No	143.73***	0.000
					Yes		

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

Source: Source: 2019 ICS, Department of Population, Ministry of Labor, Immigration and Population

Appendix Table (4) Parameter Estimates of Probit Regression Model for Labor Force Participation in Myanmar

Independent variables	Categorization	Coef.	Marginal effect	P-value	Independent variables	Categorization	Coef.	Marginal effect	P-value
Constant		-0.43		0.000	States / Regions	Ayeyarwaddy (ref)			
Age	15–29 (ref)					Kachin	-0.47***	-0.1224	0.000
	30–39	0.17***	0.0542	0.000		Kayah	0.14**	0.0456	0.012
	40–49	0.12***	0.0372	0.000		Kayin	-0.18***	-0.0517	0.000
	50–64	-0.15***	-0.0416	0.000		Chin	-0.3***	-0.0840	0.000
Sex	Male (ref)					Sagaing	-0.34***	-0.0931	0.000
	Female	-0.36***	-0.1071	0.000		Taninthayi	-0.02	-0.0047	0.690
Marital status	Single (ref)					Bago	-0.13***	-0.0386	0.000
	Married	0.1***	0.0282	0.000		Magway	-0.1***	-0.0296	0.000
Education level	No education (ref)					Mandalay	0.1***	0.0306	0.000
	Primary school and below	0.05**	0.0149	0.015		Mon	0.01	0.0037	0.745
	Middle school	0.04	0.0106	0.144		Rakhine	-0.07	-0.0219	0.119
	High school and above	0.12***	0.0343	0.000		Yangon	-0.03	-0.0103	0.235
Household size	1–5 (ref)					Shan	-0.06*	-0.0168	0.059
	6 and above	-0.11***	-0.0306	0.000		Nay Pyi Taw	0.19***	0.0614	0.000
Household annual income	Below 10 lakh (ref)				Difficulty seeing	No (ref)			
	10-50 lakh	0.07***	0.0208	0.000		Yes	-0.04**	-0.0106	0.040
	Above 50 lakh	0.18***	0.0536	0.000	Difficulty hearing	No (ref)			
Place of residence	Urban (ref)					Yes	0.02	0.0050	0.438
	Rural	-0.04**	-0.0113	0.024	Difficulty walking	No (ref)			
						Yes	-0.21***	-0.0626	0.000
					Difficulty remembering	No (ref)			
						Yes	-0.08***	-0.0243	0.000
					Difficulty self-care	No (ref)			
						Yes	-0.32***	-0.0943	0.000
					Difficulty communicating	No (ref)			
						Yes	-0.18***	-0.0533	0.000

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

Source: Source: 2019 ICS, Department of Population, Ministry of Labor, Immigration and Population