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Determinants of Unemployment: Characteristics and Policy Responses in Bhutan

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Abstract

This study tries to explore the determinants of unemployment by using secondary cross sectional data from the labor force survey of Bhutan, 2015. A comparative analysis is provided to give some differences in the determinants of youth and adult unemployment. The estimation is done for all, youth and adult samples. The comparative analysis from the three samples indicates that all the determinants have a stronger effect on the "all" samples and the strongest effect on the youth sample giving realistic results and a strong correlation in context to the labor market in Bhutan. From the result it is not surprising to find that over education as a drawback for the labor market. Although a lot of policy responses are mediated by the government to reduce the high prevalence of unemployment amongst the youth, yet our research suggests special and specific interventions are requires.

Keywords: Bhutan, Education, Unemployment

1. Introduction

Bhutan opened its doors to modernization and the outside world in the 1960s. Television and internet were introduced only in late 1990s. Bhutan has a unique development philosophy, the Gross National Happiness[1] (GNH) that upholds priority of measuring happiness over Gross Domestic Product (GDP). According to the National labor force survey, 2015 (LFS), unemployment in Bhutan specifically among youth and women was high at 10.7 and 3.1 percent respectively. Unemployment as defined by International Labor Organization (ILO): *"Those above a specific age who during a reference period were: Not in paid employment or self-employment (not even for an hour) or are currently available for paid employment or self-employment during the reference period, or are seeking work by taking specific steps in a specified recent period to seek paid employment or self-employment"* (ILO). A similar definition was provided by the annual Labor Force Survey of Bhutan. Given the small population and less diversification of economic activities, gainful unemployment has been a challenge for the government despite many measures being initiated such as adopting employment particularly youth employment as one of the Millennium Development Goal (MDG) Acceleration Framework.

A major unemployment problem in Bhutan is specifically reflected in the youth unemployment rather than the overall unemployment. According to the National Labor Force Survey (LFS) Report, 2015, Bhutan had youth unemployment of 10.7 percent as compared to 2.5 percent overall unemployment. The assessment carried out by the UN country team highlighted that sustainable livelihood and unemployment are the key challenges for development. Although the unemployment rate in Bhutan is not that alarming at 2.5 percent according to LFS 2015, however youth unemployment at 10.7 percent (LFS, 2015) is a matter of concern and Bhutan cannot afford to neglect it, given its small population, economic situation, lack of unemployment protection bill, and mostly 2.5 percent consist of youth who are educated. Therefore, no matter how small the figure is, such negligence would cause bigger consequences in the future as experienced by some of the developing countries. Moreover, there is no empirical study conducted on determinants of

[1] GNH is a guiding principal for economic development of a country. It was first pronounced by His Majesty the 4th king of Bhutan

unemployment. Therefore, this study would be a stepping stone to start a new era in the labor market to give valid policy recommendations and suggestions.

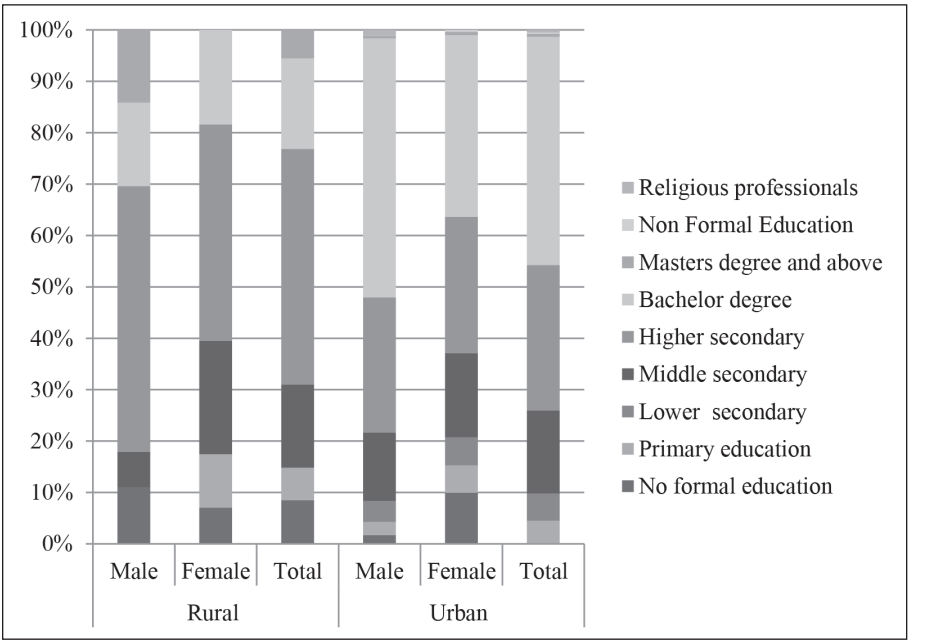
Table 1. The pattern and distribution of labor key indicators in Bhutan

Indicators	2010	2011	2012	2013	2014	2015
Population	696,500	713,200	734,850	745,939	755,710	764,667
labor force	331,900	334,200	336,391	345,786	348,742	352,953
Persons employed	320,900	323,700	329,487	335,870	339,569	344,293
Unemployment rate	3.3	3.1	2.1	2.9	2.6	2.5
Labor force participation rate	68.6	67.4	64.4	65.3	62.6	63.1
Rural unemployment	2.6	2.1	1.5	1.5	1.2	1.0
Urban unemployment	5.1	5.9	3.5	6.3	6.7	6.3
Male unemployment	2.7	1.8	1.9	2.2	1.9	1.8
Female unemployment	4	4.4	2.2	3.7	3.5	3.1
Youth unemployment	9.2	9.2	7.3	9.6	9.4	10.7
Youth male unemployment (%)	7.1	6.8	7.3	9.2	8.6	8.2
Youth female unemployment (%)	11	10.9	7.2	9.9	10.0	12.7

Source: National Labor Force Survey 2015.

The purpose of this study is to provide a better understanding of the determinants of unemployment and its characteristics by using the data from the national labor force survey, 2015. The research also aims to provide some policy recommendations to the Government for solving unemployment in general and youth unemployment in particular in Bhutan. The study aimed to focus on the following questions: 1. What is the determinants of unemployment in Bhutan? 2. Which individual and household characteristics can significantly explain the unemployment? 3. Which individual and household characteristics explain the unemployment between youth and older cohorts?

Figure 1. Number of unemployed persons by education, area of residence and sex 2015



Source: Authors' computation.

Based on figure 1, the educational aspect of unemployment suggests that the relevance of education in combating unemployment in Bhutan has not been a reality which is evident from the figure with the highest unemployment of 45.84 percent for higher secondary in rural area followed by Bachelor degree with 41.42 percent. The lowest unemployment rate with 0.00 percent for non formal education, religious professional and lower secondary in rural area and 0.21 and 0.47 percent for non formal education and religious professionals.

2. Literature review

Today, unemployment is one of the serious issues that are faced by both developing and developed economies. Several studies were conducted to tackle the issues, particularly to get the determinants of unemployment. Baah-Boateng (2013 and 2015) studied the determinants of unemployment

by combining the demand and supply factors in a cross-sectional analysis, amplified by a comprehensive overview of the demand and supply causes of unemployment over time both at the national and sectoral level, and found that the descriptive and empirical analysis strongly influence the demand factors on unemployment in Ghana.

An employee would accept the job if the wage is acceptable to the workers' minimum set wage. This type of wage which is set at the minimum is called as the reservation wage. It is assumed that given the same kind of working environment and other factors, the job would be rejected based on the reservation wage. There are many factors which could change the limit of the reservation wage such as duration of the unemployment, health status and change in demographic characteristics. The study conducted by Baah-Boaetang (2013) confirms that reservation wage shows significant marginal effect of one's becoming unemployed if the reservation wage is set higher. He also further recommended that if the reservation wage is kept at one's ability to perform the job, some kind of unemployment could be solved. Brown and Taylor (2011) found out that, the drive for job search is much significant for those individuals whose reservation wages are greater than expected.

Most recently in many of the developing economies**,** education attributed to the rise of labor supply and led to the shift of labor market (Burger and Fintell, 2009). Therefore, in most of the scenarios of unemployment, one of the determining factors for unemployment was seen as a mismatch between the job giver and job seeker. According to Daly et al. (2012), a mismatch is often regarded as a main potential cause of a long-run increase in the natural rate of unemployment since training or relocating workers and jobs take a substantial amount of time. In many studies, it was found that education was the main culprit which did not equip the graduates well with the world of work in the labor market. For this reason, Rabten (2014) argued that higher educational attainment, particularly in the developing countries, have down turned in the employment. He also added that education and training system has inadequately prepared the youth for the world of work related to skills, experience, and attitude and first-hand information. Similar cases were also reported by Anh et al (2005), and Velletta and Kuang (2011). So it can be concluded that, natural structural unemployment manifests the deficit of

education in itself. Such structural unemployment is common in developing economies.

Basically, the demand for job seeking in the government sector is much higher than being in the private jobs due to many reasons such as retirement benefits, job security and flexibility. Such settings are mostly found in countries where there is no proper protection for the employee with weak laws and regulations. Baah-Boateng (2013) and Rabten (2014) found out that those seeking government job in all three samples indicated the higher probability of being unemployed.

According to Parker (2010), structural unemployment is a phenomenon, where the skills and other characteristics of the unemployed do not match the requirements of the available jobs. Such structural unemployment occurs due to changes in technology and shift in the structure of the economy which often cause changes in the skill composition of the job pool. If the labor force does not keep up with these changes, it will result in structural unemployment. Singh (2003) mentioned that given the higher education, an individual with skills are more likely to be employed than without any skills.

Age is considered as an important determinant of unemployment as cited in many studies. The study conducted by A.S (2011), Baah-Boateng (2013) and Anh et al. (2005) stated that unemployment in most of the developing countries is associated with youth unemployment. Empirical analysis also confirms higher vulnerability of youth unemployment and pointed out as one of the serious issues which needed attention in all the three studies. The study conducted in the case of Vietnam suggests that young single youths are more likely to look for jobs than older cohorts. The statement made by Sackey and Osei (2006) gave a low level of education, experience, and lack of skills as reasons for youth unemployment. Macharia (2014) estimated that young labor force participants are highly probable to be unemployed than adults in Kenya. Burger and Fintel (2009) decomposed the panel data set for South Africa and showed evidence of younger generations suffering from unemployment compared to the older ones.

Location is one of the determinants of unemployment and many studies suggest that unemployment is an urban phenomenon, as most of the people

migrate from rural to urban in search of better opportunities, especially for jobs. A cross-sectional analysis of Anh et al (2005) and Baah-Boateng (2013) gives us the idea that an urban area has more unemployed people than a rural area. Also, a similar study showed that for the average individual in the labor force, residing in an urban area, relative to rural localities, the probability of being unemployed is increased by 6.5 percentage points (Sackey & Osei, 2006).

Rabten (2014) found out that in the regular paid work, the number of males hired were three times higher than the number of females hired) as per the 2012 data in Bhutan. It is also mentioned that female labor force participation is comparatively low with only 7.3 percent in comparison to male, which was 15.3 percent in between 2003 and 2012.Baah-Boateng (2013) also found that female were more prone to unemployment compared to male through his estimation of 1991/92 data for Ghana. A similar result was followed by Macharia (2014) that female had 4.67 percent higher chance than male to be unemployed in Kenya. Meow (1983) mentioned in his study that female unemployment is highly prevalent in the ESCAP region. Marital status plays an important role in determining the probability of unemployment. Many empirical studies revealed that compared to single, the probability of unemployment for married is very low (Macaharia, 2014, Kingdon and Knight, 2004, Sackey and Osei, 2006).

Household characteristics such as household assets and household sizes are important determinants of unemployment. Household tenure was used as the proxy for household asset conducted by Macharia (2014) for Kenya and found out that housing tenure is statistically significant for both urban and rural sample with negative effect on unemployment. Similar result is also reported for Vietnam by Anh et al. (2005). They used economic status as the proxy for household asset and reported that well off youth are less likely to be employed. Kingdon and Knight (2002) conducted a study on job search and its relation with household income. They found that households with higher income had higher and more likely opportunities searching for a job than those individuals who came from poorer household because of the fact that job search incurs cost.

3. Theoretical framework and Empirical Methodology

Parker (2010) stated that, Search models investigate the propensity of employers and job searchers to attain matches and how that propensity varies over time. It also points out that since information about job opportunities and workers' characteristics is imperfect, workers who want employment must search for job offers, for this reason, much time and effort are wasted for matches to be made between unemployed workers and potential employers. This condition is also referred to as structural unemployment (Ehrenberg and Smith, 2006) which is the most prominent features of unemployment in developing countries like Bhutan. Parker (2010) mentioned that job search takes place until the time when workers and employers can be matched because the nature of the job is such that the workers differ in attributes to perform jobs such as abilities, education, and experience, environmental condition such as location, opportunities for enhancement and household characteristics like age, gender, marital status, family background. Due to the workers and jobs being heterogeneous in nature, it becomes the most daunting task for a particular worker to find a suitable job and remains unemployed. The duration of this search process for a typical unemployed worker is a major factor in determining the unemployment rate.

Search theory can explain the behavior of the unemployed searchers like individual characteristics such as age, gender, education attainment, health; economic status and family background which are likely to influence human capital accumulation and reservation wage (Anh et al., 2005). Consequently, differences in individual characteristics are likely to influence unemployment probability among different age group, regional differences, and gender.

The implication of the model is that unlike younger workers, the probability of the older looking for a job is very low as the duration for working age is very less. It is likely that marginal cost of searching a job would be greater than marginal benefit from the job. This implication can be linked to many studies conducted in developing countries such as Bhutan, Vietnam, Nigeria, Ghana, Pakistan and Namibia where the unemployment rate for youth showed higher than the older cohorts. The model also implies that in the absence of wage inconsistency, search behavior can be rational

because they do not bother about the reservation wage if the vacancies are limited. Therefore, it is the search intensity that determines unemployment, not the search cost.

This paper seeks to examine the factors determining unemployment in Bhutan using probit regression techniques to identify the characteristics. The study follows the model specification from Osberg et al. (1986) which incorporated both from the demand and supply side of unemployment. Similar methods were employed by Baah-Boateng (2013 and 2015) to study the determinants of unemployment in Kenya using the cross sectional household data. Members of the labor force will be estimated for those employed and unemployed. (age 15 years and above). Theoretically, unemployment or employment is the result of interaction from both the demand and supply side of the labor. Therefore the model of estimation can be specified as:

$$U_i = \alpha + S'_i \beta + D'_i \delta + Z'_i \phi + \varepsilon \quad (1)$$

where U_i represents unemployment as a dependent variable; S_i is a vector of explanatory variables of supply factors; D_i denotes a vector of explanatory variables underlining demand factors; and other control variables that affect the individual's labor market status as employed or unemployed is represented by Z_i. β, δ and ϕ are vectors of parameters of explanatory variables, α is the intercept terms, and ε is the standard vector representing the stochastic error term.

U_i is measured in two forms as a dependent variable. The value 1 is assigned if the individual is unemployed and 0 otherwise. Unemployed in this context is referred to a person who has attained the age of 15 and during the last 7 days prior to the survey was unemployed, but was available for work and made an effort to seek work. Explanatory variables from the supply side are reservation wage and education and from the demand side, employment type, and skills are allocated. Other explanatory variables include youth, gender, marital status, location, migration, household size and household asset based on the binary measure of the dependent variable, a probit regression estimation technique as mentioned earlier would be employed to investigate how each of the explanatory variables influences the probability of an individual becoming unemployed as:

$$Pr\,(U_i=1|X_i) = Pr\,(U_i=1|S'_i,D'_i,Z'_i) \quad (2)$$

The dependent variable is represented by U_i and a different set of explanatory variables is represented by X_i that captures supply factors, S_i and *Di* represents demand factors; and $\boldsymbol{Z_i}$ for other control variables, on the probability of the individual becoming unemployed. Under the assumption that the model is linear in the set of parameters, the estimated model of determinants of unemployment can be estimated by the following function:

$$Pr\,(U_i=1|X_i) = G(\alpha+S'_i\,\beta+D'_i\,\delta+Z'_i\,\phi) = \Phi\,(\alpha+S'_i\,\beta+D'_i\,\delta+Z'_i\,\phi+\varepsilon_i) \quad (3)$$

where G is a function taking on values strictly between 0 and 1, Φ is the normal cumulative distribution function that restricts unemployment probability to lie between 0 and 1 and ε_i denotes the disturbance term with mean zero and variances σ_ε^2 The disturbance term captures measurement errors and all unobserved factors. Similar estimation can be done by using logit regression.

Particularly, each indicator will be regressed on unemployment with other variables. The equation will be estimated as follows:

$$\begin{aligned}\text{Unemployment}^*_i = {} & \alpha+\beta_1 ResWage_i+\beta_{2i}Edu_i+\delta_{1i}Emptype_{ji}+\\ & \delta_{2ji}skills+\phi_1 Gender_i+\phi_2 Marstatus_i+\phi_3 location_i+\phi_4 Youth_i+\\ & \phi_5 migrate+\phi_6 HHsize+\phi_7 HHasset+\varepsilon_i \end{aligned} \quad (4)$$

where unemployment* is the latent variable.

4. Data and Empirical results

In this study, the 13th nationwide National Labor Force Survey Report 2015 conducted in December 2015 data collected by the labor market information and Research division (LMIRD) of the department of Employment, Ministry of Labor and Human Resources in Bhutan is used. The data is collected annually to provide reliable and timely labor market information situation in the country. Each respondent was personally interviewed. The actual respondents where 22,821 individuals and 5,822 households.

From table 2, log of reservation wage is significant at 5 percent with negative sign. Although most of the empirical findings mentioned that the log of reservation wage has positive effect on unemployment but in the theory of job search model, it is stated that if the vacancies are limited with high competition, the job seekers would not bother about their reservation wage as long as they get job. So this is the typical example in regard to Bhutan where individuals' do not bother about their reservation wage as long as they get a job. So having reservation wage is less likely to make them unemployed by 0.2 percentage points. Having reservation wage at older age is more likely to decrease unemployment as reservation wage decrease with age as mentioned by Soderblom et al. (2014).

The result from the education indicates that, an individual having higher education in comparison to those without education are more likely to remain unemployed. All the signs of coefficient for education are positive 5 percent significant for lower secondary education and 1 percent significant level for middle, higher and degree and masters. Having a lower secondary raises the likelihood of being unemployed by 1 percentage point and for middle secondary by 1.7, higher secondary by 2.7 and degree and masters by 5.5 percentage points. So an additional year of education increases the probability of being unemployed as seen from the estimation in table 2 which is quite interesting.

The unemployment scenario depicts the nature of over education where the job seekers are the ones with higher educational attainment and are not able to find suitable jobs for themselves. Similar findings were reported by Baah-Boateng (2013 and 2015) and Sackey and Osei (2006) for Ghana, Anh et al. (2005) for Vietnam and Livanos (2010) for Greece. From the multivariate result conducted by Velletta and Kuang (2011), they found that higher education has lower downturn in employment.

Employment type and skills (training used as proxy for skills) are used to get the determinants from the demand side. Both the variables show statistically significant at 1 percent level. Individuals with skills are less likely to be unemployed by 0.5 percentage point in comparison to individuals without skills. It can be said that it underlines the importance of skills as a job provider. Similar findings were also reported by Singh (2003).

Table 2. Marginal effects for all samples, youth and adult samples from Probit Model

Unemployed	All sample	Youth sample	Adult sample
	-0.002**	0.040***	-0.001***
Log of reservation wage	(0.001)	(0.016)	(0.001)
	0.006*		0.002
Primary$^{\psi}$	(0.006)		(0.003)
	0.010**		0.004
Lower Secondary$^{\psi}$	(0.008)		(0.005)
	0.017***	0.271***	0.004*
Middle Secondary$^{\psi}$	(0.007)	(0.095)	(0.003)
	0.027***	0.271***	0.003
Higher Secondary$^{\psi}$	(0.009)	0.077	0.003
	0.055***	0.506***	0.014***
Degree and above$^{\psi}$	(0.015)	(0.131)	(0.006)
	0.017***	0.250***	0.006***
Public$^{\psi}$	(0.003)	(0.042)	(0.002)
	-0.005***	-0.048***	-0.002***
Skills$^{\psi}$	(0.001)	(0.015)	(0.001)
	0.026***		
Youth$^{\psi}$	(0.006)		
		-0.040	-0.002***
Age		(0.065)	(0.000)
		0.000	0.000***
Age squared		(0.002)	(0.000)
	-0.003***	-0.002	-0.001
Male$^{\psi}$	(0.001)	(0.015)	(0.001)
	-0.034***	-0.073***	-0.012***
Married$^{\psi}$	(0.008)	(0.020)	(0.005)
	-0.005***		-0.003***
Divorced$^{\psi}$	(0.001)		(0.001)
Urban$^{\psi}$	0.002*	0.026	0.002*
	(0.002)	(0.022)	(0.001)

Table 2. Marginal effects for all samples, youth and adult samples from Probit Model (cont.)

Unemployed	All sample	Youth sample	Adult sample
Migrated$^{\Psi}$	0.003***	0.022	0.002***
	(0.001)	(0.016)	(0.001)
Household size	0.001***	0.017***	0.001***
	(0.000)	(0.004)	(0.000)
Log of asset index	-0.002***	-0.036***	-0.001
	(0.001)	(0.013)	(0.001)
Constant	-1.844	-1.090	3.237***
LR Chi2 (16)	503.1	173.160	278.460
Prob > chi2	0.000	0.000	0.000
Pseudo R^2	0.401	0.477	0.331
Observations	7871	693	7178

Notes: Robust standard errors in parentheses. $^{\Psi}$ is dummy variable.

*** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level. Source: Authors' computation.

Those individuals who prefer public enterprise are 1.7 percentage points more likely to be unemployed compared to those who prefer private enterprise. Therefore the effect of seeking job in government increases the probability of being unemployed than seeking private job. The same results were reported by Baah-Boateng (2013 and 2015). Limited job openings from the demand side especially in private sector and lack of benefits and job security could be some of the reasons why people prefer government job. Due to limited job vacancies in the public sector, it is likely that individual would remain unemployed if they wait for public sectors as evident from the result. The estimated result from the demand side shows stronger effect on unemployment.

From table 2, it is clear that young labor force participants are more likely to be unemployed than the older cohorts, with the empirical result confirming statistically significant at 1 percent. As a youth, it is more likely to

be unemployed by 2.6 percentage points compared to older ones as evident from the marginal effect of the probit result. Many studies also confirmed that the likelihood of young people securing employment is a challenge. It also stated that due to lack of experience, exposure to working environment and other required skills, young people are more vulnerable to unemployment. The findings from this study is in line with the global trend and also some empirical studies conducted by Sackey and Osei (2006), Baah-Boateng (2013 and 2015), Msigwa and Kipesha (2013) and Rodokanakis (2012). The paper used aged 15-24 as youth dummy in line with the ILO definition. The study reveals that as a youth it would be difficult to find a suitable job but the probability of getting a good job increases with age and other factors.

All dummies for marital status show statistically significance with correct predicated signs. The probability of remaining unemployed is higher if an individual is single compared to married and divorced. The result indicates that if an individual is married, it decreases likelihood of becoming unemployed by 3.4 percentage points and in case of divorced the effect is smaller compared to married with 0.55 percentage points less likely to be unemployed. The reason could be because married and divorced have more commitments and obligations for the family to earn a living than single.

Gender dummy from the result indicates that as male, it is less likely to be unemployed by 0.3 percentage points than being a female, with significant level at 1 percent and correct predicted sign. From the result it can be said that some kind of job discrimination does exist. This result is consistent with Vuluk et al. (2013), Msigwa and Kipesha (2013), Baah-Boateng (2013 and 2015) and Isengard (2003). Some studies mentioned that women are more prone to unemployment because of gender related occupational choice by women and some jobs being offered only for male due to the nature of the job. Even in Bhutan the scenario is no different from rest of the world with the new policy implemented by the government to extend the maternity leave up to six months, now many private enterprises prefer to employ men to avoid long paid leave for women. If there isn't any strong job protection for women controlled by the government, such practices would discriminate more women from getting job in future.

Location dummy indicates that if an individual lives in an urban, the probability of becoming unemployed is higher than being in rural with positive sign for urban. But it is not statistically significant at any level of significance. An individual is more likely to remain unemployed by 0.3 percentage points if one tends to migrate from one place to another than those individual who do not migrate at all. People mostly migrate to different regions for various reasons, around 32 percent of the surveyors mentioned job related reasons for migration. The situation is true because in Bhutan many migrate to urban areas especially in the capital in search of job. The fact that there is very limited job in the capital would lead to unemployment.

Household size from the regression indicates that it positively affects the probability of unemployment at 1 percent significant level. An increase in the household size increases the likelihood of unemployment by 0.1 percentage points. From the result it can be assumed that bigger household is associated with heavier household duties. Some practical example could be because of the fact that someone needs to take care of the household duties. In some society women are discouraged from working once they are married which could add to unemployment if the member of family increases. The result is consistent with Kingdon and Knight (2004), Wamalwa (2009) and Macharia (2015).

The household asset is computed as asset index by using principal component analysis. The result from the household asset shows significance at 1 percent on unemployment with negative relationship. 1 unit increase in asset would decrease the likelihood of unemployment by 0.2 percentage point. Practically it is true that a well to do family will have all members involved in some kind of economic activities. The result is comparable with Macharia (2015). The author found that household tenure used as a proxy for household asset decreases the probability of unemployment by 5.1 percent in both urban and rural area. From the study of Baah-Boetang (2013), it showed that poor people are more likely to be unemployed than non poor. He supported his finding by stating that poor people has less ability to search for a job due to financial constraint as search incurs cost. The result can be validated from the study conducted by Kingdon and Knight (2002). It is mentioned that the household asset has greater incentive for securing job and less likely to be

unemployed compared to household with less asset with higher probability of remaining unemployed due to cost involve in searching for a job.

The sample for youth unemployment is estimated separately from the adult sample to see if there are any differences in the characteristics that would contribute in unemployment by using probit model. From the supply side the variable estimated were log of reservation wage and education. Log of reservation wage on youth unemployment has positive relationship with 1 percent statistically significant. As a youth, 1 percent increase in reservation wage, is more likely to be unemployed by 4 percentage points whereas the result for adult shows negative relationship with unemployment with significant level only at 5 percent. As an adult, with reservation wage it is less likely to be unemployed by only 0.1 percentage points. From the result it can be stated that youth with high reservation wage are more likely to be unemployed and as an adult having reservation wage will not lead to unemployment. The reason is straightforward due to the fact that an adult will have more experience in the job market so having reservation wage would not lead them to unemployment. The freshly job seeking youth without any experience holding high reservation wage will get discouraged from getting a gainful employment. Since reservation wage declines with age (Soderbom et al., 2014), the unemployment would also decrease with age.

Only adults holding middle and bachelors' degree and masters are more likely to be unemployed by 0.4 and 1.4 percentage points respectively with statistically significant at10 and 1 percent. On the other hand youth with all levels of education except for lower and primary education are more likely to be unemployed. Youth with middle and higher secondary are more likely to be unemployed by 27.1 percentage points respectively. For degree and above, it is more likely to unemployed by 50.6 percentage points. The impact of education on unemployment is greater on youth than adult. In comparison to adult, youth are more vulnerable if they have education for seeking jobs.

From the demand side types of enterprise and skills are allocated and both are statistically significant at 1 percent. For youth seeking jobs in public enterprises are more likely to be unemployed by 25 percentage and adults preferring to join in public enterprise, the likelihood of unemployment will be increased by 0.6 percentage points. As a job seeker if individual prefer to join

in public enterprise it is more likely to be unemployed than seeking in private enterprise. It is true, because in Bhutan most of the job seeker's preference job is public due to job security and many other benefits provided. Private jobs are seen as a last resort for many job seekers. So for this reason, many individuals could be waiting to join in government job, hence they become unemployed.

Youth having skills are less likely to be unemployed by 4.8 percentage points. The result for adult shows that with skills the likelihood of unemployment decreases by 0.2 percentage points. Even in the real job market, skillful individual are far better off in terms of getting job. Even in case of Bhutan, having more skills is better than having completed a plain degree in seeking job.

For the adult, one year increases in age decreases the likelihood of unemployment by 0.2 percentage points. And for the age squared after reaching to certain age there is increase in the likelihood of unemployment. Age has negative relation with unemployment because an adult is less likely to face unemployment problem. It signifies that rate of unemployment lowers with age, drops to the lowest and rises afterwards. The positive relation of age squared with unemployment indicates that, as one age the opportunities for job fades for the older ones.

Marital status for both the sample is significant at 1 percent. A married youth is less likely to be unemployed by 7.3 percentage point and as a married adult by 1.2 percentage points. Since married person has more family responsibility than singles, it would force them to look for a job to support the family. Normally in Bhutan, as a single you can depend on parents, relatives and friends until you get a suitable job. As a divorced adult the likelihood of unemployment decreases by 0.3 percentage points.

Migration for adult unemployed is significant at 1 percent with the increase in likelihood of unemployment by 0.2 percentage points. If they migrate from one place to another. From the household characteristics, both household size and household asset are statistically significant at 1 percent for youth unemployment. An increase in the member of household is more likely to be unemployed by 1.7 percentage point for youth and 0.1 percentage points for adult unemployed. For the youth, 1 unit increase in the asset of household will decrease the likelihood of unemployment by 3.6 percentage point.

In Bhutan youth coming from a wealthy and well to do family has more advantages in securing better job opportunities compared to those youth who come from a poor family back ground.

5. Conclusion

The estimation was also carried out for general, youth and adult unemployment samples. The result estimated shows that variables both from demand and supply have stronger effect on unemployment. Reservation wage although is negative for both general and adult unemployment; however it shows positive for youth unemployment. Education, particularly higher level of education shows significant impact on unemployment for all three samples. Compared to all other variables, education has the biggest marginal effect with highest marginal effect for degree and masters. From the supply side both skills and public enterprise show considerable determinants for all three samples. It can be concluded that all the variables from both demand and supply sides are important determinants of unemployment for all samples.

The control variables for general unemployment such as youth, gender, marital status, migration, household size and household asset have bigger effect on the probability of unemployment. For the youth sample, marital status, household size and household asset can explain greater impact on unemployment. Variables such as age, age squared, marital status, migration and household size have bigger effect on adult unemployment. From the result, the determinants which can explain the adult and youth unemployment differently are age, age squared, migration and household asset. The analysis indicates that both the variables from demand and supply sides are key determinants for all samples. For the control variables it shows mixed impact for different samples.

The estimated result shows that higher level of education could trigger greater unemployment with the biggest marginal effect on individuals with degrees and above. It indicates that there is a mismatch between the qualification acquired by the individuals and the type of qualifications required by the firms on demand. If this trend continues, it would lead to wastage of resources spent on building manpower in the country. The government and the stake holders should take the corrective or preventive measures in

providing the curriculum and trainings which would align with the demand of firms and the job markets of the nation. Policy intervention is needed to take place in the present system of education which is more exam oriented to shift to problem solving and practical teaching methods. On the demand side, to enhance the employment opportunities the government should encourage more innovations and creativity in creation of jobs especially in the private sectors by providing start-up capitals, conducting courses on entrepreneurship development and exemption of taxes for the initial periods.

The need of skills in employment is evident from the result analysis, which shows having skills in individuals are less likely to remain unemployed. On the other hand as evident from the descriptive analysis, only a handful of individuals received skills, in the form of training. If the government focuses more on providing practical skills which can equip the job seekers for the world of works it can easily solve one of the major problems of unemployment issues. Since Bhutan is an agrarian society where more than 50 percent of the population is engaged in agriculture sector, providing agriculture and livestock based skills with modern amenities would attract educated youth to take up those activities and at the same time curb rural urban migration. The empirical result shows that individuals preferring to join in public sectors are more likely to be unemployed. And the fact that individuals preferring to join in the public sectors clearly shows the weaknesses of the private sectors not being trustworthy of the employees. In order to attract more unemployed individuals to join in private sectors, government should emplace strong job protection bills and pension schemes to ensure job security in the private organizations.

From the result, being youth would make individuals more likely to be unemployed. Policy interventions such as effective messages about the relevancy of subject-study in the education system to fulfill the job markets should be provided. Career counseling and job orientation should be given to all the eligible job seekers, their peers and families. The government also should find the ways and means to change the attitude of the society towards low paid jobs.

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