Determinants of Unemployment Duration among Youth in Mauritius

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Abstract

This study was conducted with the objective of creating a deeper understanding on duration of youth unemployment in Mauritius by taking a sample of 500 unemployed youths from all the nine districts of the Island. The multinomial logistic is used to determine factors affecting the spell of youth unemployment. It was found that variables such as gender, single youth, education, location and prior experience have significant impact on the spell of unemployed youths. Female youths are more prone to stay a longer period of time away from the labour market. Single young individuals appear to be in short term unemployment compared to married young individuals. In addition, in both medium and long term, those with secondary, tertiary, vocational and professional qualification do not stay out of the labour market for long. Overall this project has proved very informative and interesting.

Keywords: Youth, Unemployment, Duration Model, Multinomial Logistic, Mauritius

1. Introduction

Today’s world population counts an estimated 1.2 billion people in the age group of 15 to 24 years. About 90% of these young people live in developing countries, out of which 60% are in Asia and 17% are in Africa. According to the International Labour Organisation (ILO) in 2012, youth labour force grew from 577 million to 602 million over the last decade and is expected to reach 657 million by 2015. Today’s youths are the ‘best-educated’ generation, yet they make up nearly half the world’s jobless population. Young people represent the promise of changing societies for the better. In 2012, nearly 75 million youngsters were found to be jobless worldwide whilst 4 million represents the current figure for unemployment in excess to the figure of 2007. In addition, more than 6 million people have given up the attempt of looking for a job (ILO, 2012). Whilst in developed countries the youth’s difficulties to get a job are related to lack of minimum professional skills required in the context of sophisticated production environments, on the other hand in developing countries, unemployment rate is generally found to increase concurrently with education levels.

Unemployment among youths has implications for social exclusion and division within the society (ILO, 2006). Prolonged unemployment may have negative consequences for the later stages of working life in terms of lower wages and longer spells of unemployment (Tiongson & Fares, 2007; Arulampalam, 2001; Ellwood, 1982; O’Higgins, 2001). This implies that youth unemployment has an impact on a person’s lifetime economic well being, social and political participation and the economic inequality in the society. In Sub- Saharan Africa, 3 out of 5 of the unemployed are youths and on average 72% of youths live with less than $2 a day (ILO, 2006). Youth unemployment is also a well known problem that is part and parcel of the overall of unemployment that afflicts Mauritius. According to Statistics Mauritius, approximately 17,600 of young individuals under the age of 25 years are unemployed, comprising of 8,000 male and 9,600 female in 2013. Although the youth unemployment rate has fallen in 2012, it is almost three times as high as the national unemployment rate, thus indicating the difficulty of new entrants to secure a job. Moreover, the length between the process of job search and getting a job among youth also affect the individual. Long durations of unemployment exacerbate the problem of finding a new job. For those experiencing long and frequent periods of unemployment, their chances of obtaining secure and stable employment (much less careers) are substantially diminished. They become disillusioned with their job prospects and thus
either make less effort in their search for jobs or employers judge their time unemployed as indicative of poor skills and abilities. Thus, this paper focuses on the duration of youth unemployment.

Hence, this paper attempts to examine the determinants influencing the duration of youth unemployment in Mauritius. A survey using a random sampling technique was undertaken in Mauritius among young people under 25 years of age. To examine the spell of youth unemployment, we adopt a multinomial logistic estimation.

The paper is structured as follows. Section 2 reviews the literature on youth unemployment. Section 3 analyses the data on youth unemployment in Mauritius. Section 4 sets out the methodology used, while section 5 presents the findings, and section 6 concludes the paper.

2. Literature review

The term “youth” is best defined as a ‘period of transition from the dependence of childhood to adulthood’s independence and awareness of our interdependence as members of a community’ (Social and Human Sciences, UNESCO). In the same line, Curtain (2001) considers youth as an economic and social theory referring to a different phase in the lifecycle between childhood and adulthood. The United Nations and the ILO conventionally consider persons between the ages of 15 and 24 years as youths. Legally, the minimum age of a youth varies for different purposes, namely voting rights, marriage, criminal responsibility, consent to medical treatment, access to alcoholic beverages and cigarettes, and military service, to mention just a few. In Mauritius, a youth is defined as one aged between 15 and 29 years as per the National Youth Policy (2009).

Unemployment can be best described as the difference between supply and demand of labour. The unemployed people are those who are available and actively looking for a job but have not worked during the reference period (O’Higgins, 1997). As per the ILO Convention No. 138 in 1973, the minimum age for employment is 15 years. Hence, in 1980’s ILO and United Nations describe youth unemployment as the share of the labour force between 15 and 24 ages inclusive without work but available and in search of employment. In Mauritius, youth unemployment, is defined as the number of youths of working age between 16 to 24 years who are available and looking for a job, but unable to find one during a reference period. Thus, this paper focuses on young individuals within the age bracket of 16 till 24.

Gustman and Steinmeier (1988) and Ryan (2001) explain youth unemployment by the imbalance in the demand and supply of youth labour force and the functioning of markets and government institutions. Moreover, youth unemployment brings along some costs for the individual, the society, and the economy. Fougère, Denis, Francis and Julien (2009) show evidence that increases in the rate of youth unemployment leads to an increase in the rate of crime, burglaries, thefts, and drug offences in France. In addition, Bell and Blanchflower (2010) highlight that unemployment increases the probability of participation in crime. Thus, the longer the unemployment spells among young individuals, the greater the risks of social evils and lower future wages. Thus, the duration of youth unemployment is one of the most important factors of unemployment experience among young people.

The empirical analysis of duration variables has become widespread since the early 1980s due to the availability of longitudinal data covering more than one spell per respondent and theoretical duration, namely analysis of dynamic behavior of individuals, such as movements between labour market states, return migration, marriage durations, and strike durations, among others, have become more popular. The Hazards function is a convenient way of defining duration dependence. This hazard function is commonly used for analysing duration data as it handles censored durations, where variables fluctuate and allow examination of duration dependence (Ham and Rea, 1987). Prentice and Gloeckler (1978), Kiefer (1988) and Sueyoshi (1995) developed the theoretical part of the hazard function and the
associated likelihood function with grouped duration data. The key variable in the duration of unemployment model is stochastic and is usually denoted by “T”. The cumulative distribution function of T is given by:

\[ F(t) = \Pr(T=t) \]

where t denotes realisation of T, and \( S(t) = 1 - F(t) \) is the survivor function of T.

Other models of duration of unemployment are the Proportional Hazard Model (PHM), log-normal interval hazards model and log-logistic interval hazards model. Sueyoshi (1995) build up the PHM. The result of this model is an established proportional hazard specification which is separable in time and the vector of covariates. The derivatives of the log hazards with respect to the covariates are independent of time. Furthermore, the likelihood function for the log-logistic model is the same as that of a standard binary-logistics regression model (Jenkins, 1995), while the logistic cumulative and standard normal distributions are used in non-proportional hazard specification.

3. Youth unemployment in Mauritius

Since Mauritius achieved independence in 1968, the country has moved from a low-income agricultural based economy with a single crop - sugar - to a middle-income country with a diversified economy, boasting of growing services, notably financial, hospitality, and Information Communications and Technology (ICT). The economic performance over the last two decades has been remarkable. There was an emergence of new sectors, namely the tourism and financial services sector, and higher skilled labour were required. The demand for high-skilled labour was further accentuated in the wake of the new millennium, as Government focused on high value-added services namely the ICT. However, these emerging sectors had the potential to provide employment to some of the skilled human capital. As a matter of fact, it was unfortunately observed that workers being made redundant by the so-called traditional sectors were not technically prepared to regain employment in the new sectors due to lack of the required technical skills. Despite strong economic growth, Mauritius has been experiencing the U-curve unemployment phenomenon over the last decade. It was noted that unemployment is higher among individuals below the age of 25 years. Beyond 25 years, the number of unemployed decreases as age increases. The number of youth unemployment among gender has been fluctuating over the years as shown in figure 1.

![Graph showing number of youth unemployment from 2004 to 2013](image)

From figure 1, it can be noted that unemployment rate among female has always been the highest. Although the youth unemployment rate has decreased in 2013, it is almost three times as high as the national unemployment rate of 8% in 2013 as per Statistics Mauritius. Thus, youth unemployment remains a challenge in Mauritius.
4. Methodology

This study attempts to examine the determinants influencing the duration of youth unemployment. To answer this question, a questionnaire was designed to collect data among unemployed youth in Mauritius. The questionnaire was divided into two sections. The first section focuses on the general profile of the respondent including his/her gender, age group, marital status, region where he/she lives, education level, field of study, and prior experience. In the second section, respondents were asked about their present unemployment situation. This survey uses the random sampling technique. A sample of 500 unemployed youth was randomly chosen to fill the questionnaires.

Due to the unavailability of longitudinal data, we use the Multinomial Logistics Model (MNL). This model has been the most commonly used model for analysis of discrete choice data (Greene, 2003). MNL is the case where the dependent variable has several outcomes. If there are \( M \) choices, MNL will provide \( M-1 \) sets of coefficients, setting the coefficients of the group with the highest numeric score used as the reference group to zero. There are two major categories of analysis: ordered and unordered outcomes. In an ordered model, the dependent variable has an ordered structure (e.g. happiness on a scale 1=miserable … 5=ecstatic) whereas in an unordered model, the dependent variable does not have any natural ordering (e.g. choice of occupation). Thus, an ordered MNL will be used to determine factors affecting the duration of youth unemployment using the Stata 12 software. The following represent the regression.

\[
\text{Duration of Youth Unemployment}_i = \beta_0 + \beta_1 \text{AGE} + \beta_2 \text{AGE}^2 + \beta_3 \text{MARITAL STATUS} + \beta_4 \text{GENDER} + \beta_5 \text{REGION} + \beta_6 \text{EDUCATION} + \beta_7 \text{PRIOR EXPERIENCE} + u_i
\]

Where Duration of Youth Unemployment is the dependent variable, with 3 possible outcomes, \((\beta_0)\) is the intercept term; \((\beta_1, \beta_2, ... \beta_7)\) are the estimated coefficients. AGE is the age of the youth. MARITAL STATUS is 1 if the youth is single and 0 otherwise. GENDER is 1 for male youth and 0 for female youth. REGION denotes where the youth is presently living, dummy being 1 if he lives in urban region and 0 if he lives in rural region. EDUCATION considers the education level of the respondent in terms of primary, secondary, tertiary, professional courses and vocational and PRIOR EXPERIENCE 1 if the youth had prior business experience and 0 otherwise and \( u_i \) is the stochastic error term.

5. Findings

From this survey, of the 54.80% respondents are male and 45.20% are female. In terms of marital status, 73.40% are single and 25.40% are married. Very few youths tend to marry at an early age in Mauritius. Looking at the distribution of educational attainment of the unemployed youth, 47.20% of young individual have attained secondary education, 37.20% has tertiary education and 11.20% has vocational education, 2.60% of youth have professional qualification while 1.80% has only primary education. We further note that the majority of unemployed female has studied humanities while the majority of unemployed male has studied vocational studies.

According to our statistics, many young people fail to register at the employment office. Out of the total number of youth interviewed, only 42.80% were registered with the government service, out of which 31.20% have been registered for less than 24 months. In Mauritius, young individuals tend to be unemployed for less than 12 months. From our statistics, 18.60% of female and 22.20% of male were actively seeking job during the past 4 weeks. 26.60% of female and 32.60% of male are discouraged youths as most of them got frustrated in the job hunting process, followed by mismatch of skills. A significant percentage of youth said that there is no opportunity in Mauritius.
Hence, table 1 below reports the coefficient, robust standard errors and p-values of the independent variables of the MNL.

Table 1: Results of Multinomial Logistic Regression

<table>
<thead>
<tr>
<th>Variables</th>
<th>Between 12-36 months (Medium term)</th>
<th>More than 36 months (Long Term)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>Robust Standard Error</td>
</tr>
<tr>
<td>Age</td>
<td>2.478 (0.046)**</td>
<td>1.242</td>
</tr>
<tr>
<td>Age²</td>
<td>-0.059 (0.048)**</td>
<td>0.030</td>
</tr>
<tr>
<td>Gender</td>
<td>-0.101 (0.688)</td>
<td>0.251</td>
</tr>
<tr>
<td>Marital Status</td>
<td>-0.969(0.001)***</td>
<td>0.285</td>
</tr>
<tr>
<td>Secondary</td>
<td>-1.638(0.048)**</td>
<td>0.828</td>
</tr>
<tr>
<td>Tertiary</td>
<td>-1.959(0.026)**</td>
<td>0.881</td>
</tr>
<tr>
<td>Vocational</td>
<td>-1.466(0.091)*</td>
<td>0.867</td>
</tr>
<tr>
<td>Professional Courses</td>
<td>-35.260(0.000)***</td>
<td>0.923</td>
</tr>
<tr>
<td>Location</td>
<td>-0.040(0.881)</td>
<td>0.269</td>
</tr>
<tr>
<td>Prior experience</td>
<td>-0.595(0.009)***</td>
<td>0.226</td>
</tr>
<tr>
<td>Constant</td>
<td>-23.99(0.058)*</td>
<td>12.672</td>
</tr>
<tr>
<td>Likelihood ratio(LR)chi-square</td>
<td>13834.61(0.000)***</td>
<td>0.1522</td>
</tr>
</tbody>
</table>

(Note: values in parentheses are the p-values where ***p<0.01, ** p<0.05, * p<0.1)
Reference category: Less than 12 months (Short Term)
Source: Author’s computation

In this model, stata, by default, sets ‘Less than 12 months’ as the referent group. The LR Chi-Square of 13834.61 tests for both equations (medium term relative to short term and long term relative to short term). The p-value from the LR test is 0.000; this confirms the fact that at least one of the regression coefficients in the model is not equal to zero.

Comparing Between 12-36 months to Less than 12 months (Medium Term to Short Term)

Column labelled ‘Between 12-36 months’ provides MNL estimate for one unit increase in the independent variables for medium term relative to short term. Our result suggests that the coefficient for age is positively significant while coefficients for age², gender, marital status, secondary, tertiary, vocational, professional courses, location and prior experience are negatively significant.

When age increases by 1 year, young individuals are more likely to be unemployed between 12 to 36 months compared to less than 12 months, whereas when age² increases, youths are less likely to be unemployed between 12 to 36 months compared to less than 12 months. The MNL estimate for male relative to females is 0.101 units lower for being unemployed in medium term compared to short term given that all other independent variables are held constant in the model. This means males are less likely to be unemployed for a longer time period compared to females, confirming the findings of Durrant (2000) and Sathar (2005). From the estimate for marital status, it can be noted that single young individuals are less likely to be unemployed within the medium term compared to short term. It
can be further noted that all estimates of education are negative, which conclude that youths are less likely to be unemployed in the medium term as compared to short term. In addition, youths from urban regions are less likely to be unemployed between 12 to 36 months compared to less than 12 months, but youths having prior experience are more likely to be employed in medium term compared to shorter term.

### Comparing More than 36 months to less than 12 months (Long Term to Short Term)

Column labelled ‘More than 36 months’ provides MNL estimate for one unit increase in the independent variables for ‘More than 36 months to less than 12 months’. The coefficients for age and marital status are positively significant while coefficients for age², gender, secondary, tertiary, vocational and professional are negatively significant. Surprisingly, the MNL estimate for males relative to females is 2.822 units lower for being unemployed during long term relative to short term, given that all other independent variables are held constant in the model. Thus, males, single individuals and with all level of education and single individuals are less likely to be unemployed for long time periods compared to short term.

### 6. Conclusion

This study was conducted with the objective of creating a deeper understanding of the duration of youth unemployment in Mauritius by taking a sample of 500 unemployed youth from all the nine districts of the Island. The multinomial logistic is used to determine factors affecting the spell of youth unemployment. It was found that variables such as gender, marital status, education, location and prior experience have significant impact on spell on unemployed youth.

Males are more likely to get employed within a shorter time period, while female youth are more prone to stay a longer period of time away from the labour market. Single young individuals appear to be unemployed in short term compared to married young individuals. In addition, youths with secondary, tertiary, vocational and professional qualification do not stay out of the labour market for long time periods.

Thus, the authorities should revisit our education and training systems for quality improvement to bridge the skills gap. The educational programs should be geared towards future employment rather than academics. Employment opportunities should be provided in type of the industry which has future prospects, namely ICT, seafood, financial services, knowledge industry, medical services, environment industry, export services, and duty free shopping. This will provide incentives for investors to expand their level of activity that, in turn, will boost the level of aggregate demand, thus reducing youth unemployment. Hence, to reduce the large influx of unemployed youth, a new policy can be adopted by both private and public institutions by employing 5 youths each year.

### 7. References


