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Macroeconomic Determinants of Youth Unemployment and Inactivity Rates in Bangladesh

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Abstract
This paper identifies the macroeconomic determinants of youth unemployment and inactivity rates in Bangladesh by using Labour Force Survey Data (LFS) 2013. It finds that although aggregate labour market condition does have significance implication for the job market status, the demographic characteristics have a greater influence. It also found that tertiary education has positive significant impact on the rate of not employment, and visualize the existing mismatch between labour demand and the quality of labour supply.

1. Introduction

Bangladesh is an exception where youth female and male are account for 38.5 per cent of the total labour force, but their participation in employment in about 50 percent (BBS, 2013). In the recent statistics showed that 41 per cent of young people do not work, do not study and do not train. The situation is even worse for young women. This paper aims to fill this research gap. From macroeconomic perspective this paper identifies the determinants of youth labour market in Bangladesh, and also how extend they influence.

To identify the drivers of employment, this paper adopted the methodology used Korenman and Neumark (1997) reduced form equation; the rate of youth not employment depends on aggregate demand factors and on relative age cohort size; and we modified the model to incorporate some Bangladesh relevant variables.

The macroeconomic analyses findings illustrated that the demographic characteristics-the youth age cohort size have greater influence rather aggregate labour market conditions in the status of youth in the labour market. As the economic development i.e. higher GDP growth increases the employment opportunities for the youth. Surprisingly, tertiary education positively influences more unemployment, which indicates job market mismatch with current education system and job market demand. That mismatch can be reducing through training in the short run and also long term change in education curriculum with incorporating job market needs.

The paper is structured as follows. Section 2 provides a review of the literature on the determinants of youth labour market status. Section 3 describes the labour market and social context within young population and discusses the evolution of the labour market during the last decade. This section sets the scene by discussing the deep challenges youth face in Bangladesh when entering the labour market. Section 4 examines empirically the different individual factors affecting youth employment with a view to discussing the ones that are important for the youth labour market challenges. Finally, section 5 concludes and provides some policy recommendations.

2. Literature Review

The macroeconomic perspective argued that youth labour market characteristics i.e. aggregate demand, the size of the youth labour force and wages, are determined youth unemployment. (O'Higgins, 2001).Aggregare demand fluctuation affects unidirectionally demand for labour and youth workforce as well. Adult unemployment and employment rates are used as proxy of aggregate demand factors (Escudero and Mourelo, 2013; Choudhry*et al*., 2012). Youth unemployment are more sensitive compared to adult unemployment to changes in aggregare demand (Bell and Blanchflower, 2011a). This sensitivity increase during the period of recession (Shimer, 2012; Pissarides, 1986). Youth unemployment has been broadly researched in the economic literature (Blanchflower and Freeman, 1999 and 2007; O'Higgins, 2001; Anyanwu, 2013; Brixiová and Kangoye, 2013; Escudero and Mourelo, 2013) and the prevalent approaches are divided into two broad categories depending on whether they are scrutinize from a macroeconomic or microeconomic point of view.

The size of the youth cohort also important contributor to youth status in employment: as more youth entering the labour market more jobs are required (Bertola, *et al*. 2007; Perugini and Signorelli, 2010). There is no agreement as to the importance of youth cohort size in determining youth unemployment. Some studies find aggregate demand factors to be more important than demographic ones ('Higgins, 2003, 2012); others verify that in the presence of the former size of the youth cohort has no significant impact (Korenman and Neumark, 1997). Escudero and Mourelo (2013) identified the macro and microeconomic determinants of youth unemployment and inactivity rates in Kenya. They found that although the size of the youth cohort does have significant implications for the status of youth in the labour market, aggregate labour market conditions have a greater influence. In addition to relative age cohort size and aggregate demand, institutional features of labour market, level of employment protection and wages also important macroeconomic determinants of youth unemployment.

In Bangladesh, there is a significant amount of research that has been carried out on the field of unemployment to analyze its trends and consequences. However, little attention has been paid so far to the factors that drive youth unemployment and inactivity and as such, the relative low youth employment rate remains largely unexplained. This paper aims to contribute to this void by investigating the macroeconomic drivers of youth unemployment and inactivity in Bangladesh.

3. Trends and Composition of Youth Labour Force in Bangladesh

A significant proportion of the population in Bangladesh is in youth group aged 15-29 years. In 2013, there were more than 43.4 million people between the ages of 15 and 29 in Bangladesh, comprising 48.5 percent of the working age-population group (Table 3.1). Bangladesh has reached the peak of the demographic dividend as population growth rate has significantly slowed down since 1990s. The growth rate of youth population and labour force is substantially large at present, which provides comparative advantage to continue human capital development for a part while rest can add to the current labour force. Later, this process might be difficult as the growth of youth population become slow down.The level of education has a strong effect on to structures the work status and economic condition.

The rate of unemployment among youth labour force in Bangladesh appears incredibly low compared to even many high income countries. This low unemployment has been largely due to the definition used by labour force surveys: "whether one was without work for last one week and whether one was willing to work or was looking for work". Identifying the unemployed with this question is hardly fit-one may employed only few hours work, another person is trying to do self-employed but not looking for job.

4. Macroeconomic determinants of youth unemployment of Bangladesh

This section identifies the determinants of youth unemployment and inactivity rates, which can be analyzed at different levels. From a macroeconomic perspective questions relate to the characteristics of youth labour markets, the extent to which they influence variations in and the sensitivity of youth unemployment, and what is their relative weight. With this in mind, this section examines the different macroeconomic and individual elements affecting youth employment.

The aggregate demand and the size of the labour force are predominately macro determinant of youth unemployment and inactivity rates (Escudero and Mourelo, 2013). We estimate the influence of aggregate demand and cohort size on the rate of youth that have fallen outside employment[1]. To assess the macro determinants of youth labour market in Bangladesh last 17 years data has been used, collected from Bangladesh Bureau of Statistics (BBS). This evaluation measures the size of the elasticity of youth not in employment with respect to changes in their cohort size, aggregate demand, and relative significance of each of these factors for Bangladesh. The investigation carried out time-series econometric model based on annual data for Bangladesh during the period 1996–2013.

Following Korenman and Neumark (1997)[2], an equation has been estimated to evaluate the consequences of labour demand and supply variables on the rate of youth not in employment. In its reduced form, the rate of youth not in employment depends on aggregate demand factors and on the relative cohort size (which captures the demographic factor). The same equation also used by Escudero and Mourelo (2013) to assess the macro determinates of youth unemployment and inactivity rate in Bangladesh. The equation is formulated as follows:

$$YNE_t = \beta_0 + \beta_1 RCS_t + \beta_2 AD_t + et \qquad (1)$$

where, YNE corresponds to the rate of youth not in employment and RCS to the relative cohort size. AD corresponds to aggregate demand factors that are captured by the adult unemployment and employment rates in the first specification of the model and by the annual growth rate of real GDP in the second specification.

It is one kind of convention to use adult labour market outcome as proxies to control the aggregate demand component (e.g. Korenman and Neumark, 1997; O'Higgins, 2003). Youth labour market are more sensitive to business cycles, for this reasons, adult rates cannot eliminate all influence at aggregate level (Clark and Summers, 1982). Additionally, in developing countries the association between employment and output is weaker (Escudero and Mourelo, 2013).

As such, a second specification was estimated using the annual growth rate of real GDP, which is a more exogenous measure of the business cycle. A number of GDP lags were also included in the estimation to capture potential labour market rigidities that are expected to characterize the Bangladesh labour market.

The equations were estimated using ordinary least squares (OLS) and the results of the exercise are presented in Table 4.1. The first column reports OLS estimates controlling for possible heteroskedasticity using

[1] The unemployed young people and the young people who have fallen into inactivity defined as "youth not in employment".
[2]Korenman, S. and Neumark, D. (1997). 'Cohort Crowding and Youth Labour Markets: A Cross-National Analysis'. NBER Working Paper 6031. Cambridge, MA: National Bureau of Economic Research.

the robust option available. The second column reports OLS estimates adjusted for correlation of the error terms using the Newey-West procedure, produces consistent estimates when there is autocorrelation in addition to possible heteroskedasticity.

A number of remarkable results arise from the analysis. First of all, the equation shows that arise in the youth population relative to the adult (relative youth cohort) is associated with a decrease in the rate of youth not in employment. Indeed, the elasticity of youth not in employment with respect to the size of the cohort is about 1.32, which means that an increase in the relative size of the youth population by 10 per cent would reduce the number of youth in either unemployment or inactivity by around 13.2 per cent. These results are differing with those predicted by the cohort-crowding hypothesis (Easterlin, 1961, and Escudero and Mourelo, 2013), although the estimated coefficient in this analysis is large in comparison with international standards – analyses carried out for the EU 15 and the OECD have found elasticities of the order of 0.5 (Korenman and Neumark, 1997) and 0.6 (O'Higgins, 2003), respectively. However, as already pointed out, the growth rate of young people in total working-age has incresed during the last 10 years in Bangladesh, increasing the pressure of this factor on employment growth. Considering this, it seems other factors to have a lower relative importance than the cohort size in determining the share of youth not in employment. The first estimation of the model shows that both variables capturing the influence of aggregate demand factors (the adult unemployment and employment rates) has a significant impact on the rate of youth not in employment. The results show that a 1 per cent increase in the adult unemployment rate would produce a 0.68 per cent decrease in the rate of youth not in employment and a 1 per cent increase in the adult employment rate would produce a decrease in the rate of youth not in employment of the order of 0.07 per cent.

The effect of real output growth is highly significant at time t, and its effects are felt by the labour market some years down the road. This finding suggests the existence of labour market rigidities and mismatch in the country, which seem to be responsible for the slow adjustment of employment to output variations. As we discussed in section 3, unemployment are higher among educated youth which also supported here.

There are about 2 million new entrants to the labor market every year, and government has plan to achive 1.0-1.5 percentage point higher GDP growth rate through increasing labour productivity. Another thing, ready made garments have target to achive $50 billion export earning by 2020. To achive this objectives it is imperative to identify the individual characteristics of Bangladeshi youth that would increase their odds of finding a job. The following sub-section will examine this in detail.

5. Policy Discussion and Conclusion

The analysis of youth labour market raises some issues that demand policy consideration. The macro analysis suggest labour market mismatch with labour demand and quality of supply, that mismatch can be filled through training. There are about 2 million new entrants to the labor market every year, but only 4% have some type of technical or vocational training. The current skills training systems are inefficient and deliver poor quality of services, which falls short of what is needed by industry.

However female with kids have more probability to being inactive, which may describe the lack of childcare facilities both at home and in communities. To increase the labour force participation and make it sustainable, government needs to invest on childcare facilities or encourage private sector to do so.

There has been little understanding to explain the dilemma of youth inactivity and unemployment. This paper examines the macroeconomic determinants affecting the job market status of youth.

The macroeconomic analyses findings illustrated that the demographic characteristics-the youth age cohort size have greater influence rather aggregate labour market conditions in the status of youth in the labour market. As the economic development i.e. higher GDP growth increases the employment opportunities for the youth. Surprisingly, tertiary education positively influences more unemployment, which indicates job market mismatch with current education system and job market demand. That mismatch can be reducing through training in the short run and also long term change in education curriculum with incorporating job market needs.

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Table

Table 3.1: Growth of youth population and youth labour force, 2000-2013

Indicator	LFS 2000	LFS 2006	LFS 2010	LFS 2013
Youth population (million)	30.6	34.3	39.3	43.4
Average growth of youth population (%) per year	-	1.92	3.46	3.51
Youth labour force (million)	14.5	17.8	20.9	23.4
Average growth of YLF (%) per year	-	3.48	4.09	3.98
Youth's share in total labour force (%)	47.4	51.7	53.2	48.5

Source: Authors calculation based on BBS (various years): Labour Force Survey

Table 3.2: Unemployment rate among educated youth

Education	Male	Female	Total
None	6.6	13.6	9.6
Primary	3.9	5.3	4.4
Secondary	7.3	7.9	7.5
Higher secondary	11.2	17.1	13.6
Tertiary	13.1	23.5	16.4
Others	0.2	0.0	0.0
Total	7.0	9.7	8.1

Source: Labour Force Survey, 2013.

Table 3.3: Received training by labour market status, 2013

Category	**No received**	**Received training**	**Total**
Inactive	98.54	1.46	100
Unemployed	94.17	5.83	100
Self-employed	93.43	6.57	100
Employee	74.27	25.73	100
Other employed	96.25	3.75	100
Total	93.43	6.57	100
Sample	101,837	7,164	109,001

Source: Labour Force Survey, 2013.

Table 4.1: Regression results of macroeconomic determinants of youth unemployment

	Rate of youth not in employment	
Estimation 1	OLS regression with robust standard error	OLS regression with Newey-West standard error
Relative cohort size	-1.323*** (0.155)	-1.323*** (0.155)
Adult unemployment rate	-0.686*** (0.132)	-0.686*** (0.132)
Adult employment rate	-0.079*** (0.956)	-0.079*** (0.011)
Constant	11.79*** (0.956)	11.79*** (0.956)
Estimation 2		
Relative cohort size	-2.27*** (0.137)	-2.27*** (0.137)
Real GDP, annual growth rate	-0.280*** (0.059)	-0.280*** (0.059)
Lag 1	-0.166*** (0.033)	-0.166*** (0.033)
Lag 2	-0.221** (0.056)	-0.221** (0.056)
Lag 3	0.023 (0.033)	0.023 (0.033)
High school enrollment	-0.187 (0.150)	-0.187 (0.150)
Tertiary school enrollment	0.131*** (0.028)	0.131*** (0.028)
Constant	14.00 (0.858)	14.00 (0.858)

Notes: All variables are controlled for non-stationarity. Standard errors are in parentheses. Significance levels: *Significant at 10 per cent; **significant at 5 per cent; ***significant at 1 per cent.

In the first estimation, all the variables are included in natural logarithms. R-squared: 90.1 per cent. In the second estimation, R-squared: 95 per cent.

The two estimations were controlled for multicollinearity, following the estat VIF command and collin test.

Results from both tests show VIF values considerably lower than the rule of thumb of 10, implying that no further investigation is needed regarding this problem. Importantly, in the first estimation, the variable *adult employment rate* with a VIF value of 1.44 is at the limit of the strict rule of thumb of 2.5 that some researchers use.