Unemployment Problem in Bangladesh and Its Impact on Economic Growth

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Abstract

This paper analyzes the relationship between unemployment and its impact on economic growth in Bangladesh. We have tested the relation between unemployment and economic growth using a panel data covering four South-Asian counties including Bangladesh for over 20 years. The result has been found that the economic growth has significant effect on unemployment and there is a negative relationship between economic growth and unemployment. The model is adopted for testing relationship is the Fixed and Random Effect Model, Hausman test, using Breusch-Pagan LM test of independence (testing for Cross-Sectional Dependence), Pesaran Test and Wald test (Modified Wald Test). We have tried to compare four South-Asian countries’ like India, Pakistan, Nepal and Bhutan situation of unemployment with Bangladesh for the time period 1990-2010. We have suggested some recommendations to reduce the impact of this problem.

Key Words: Unemployment, Economic Growth, Panel Data, South-Asian countries

Introduction

Unemployment problem has become a great concern all over the world. According to International Labor Organization (ILO) report (2012), 6 percentage were without a job of the world’s workforce. But now this problem is as acute as in Bangladesh. Thousands of people in our country are without any job. According to Bangladesh Bureau of Statistics (BBS), 4.18 percentage of the country’s workforce is currently unemployed. It also does a survey that as many as 2.6 million people are still jobless despite new job creation. In 2016 unemployment rate in Bangladesh stood same at 4.10 percentage from at 4.10 percentage in 2015. On the other hand, according to Bangladesh Bureau of Statistics, Bangladesh economic growth has touched 7.24 percentage this fiscal year, beating all the previous records in the history of the country’s
economy. Meanwhile, per capita income rises to $1,602 which was $1,466 in the last fiscal year. Fiscal year 2015-2016, the economic growth was 7.02 percentage, while the target for this fiscal was 7.2 percentage. In 2017, Bangladesh’s growth will be 6.8 percentage (according to World Bank). Bangladesh Finance Minister AMA Muhith has proposed a project for GDP growth of 7.4 percentage for the fiscal 2017-2018 in the budget.

According to World Bank report, the unemployment rate of India is 3.46 percentage and economic growth is 6.8 percentage in 2016. The unemployment rate of Pakistan is 5.90 percentage and economic growth is 5.28 percentage in 2016. The unemployment rate of Nepal is 3.20 percentage and Bhutan is 2.50 percentage in 2016. The economic growth of Nepal is 7.50 percentage and Bhutan is 6.50 percentage in 2016.

Although our economic growth has increased gradually as expected, compare to this unemployment problem has remained unchanged. Primary education rate of Bangladesh has risen from 28.5 percentage in 1981 to 73.5 percentage in 2011 growing at an average annual rate of 19.39 percentage. Every year in our country a large number of students pass higher secondary level but due to lack capacity of public university, poverty and increasing educational expenses, they cannot access to higher education because of most of them are poor. So, most of the students drop out that’s why higher education rate in our country is not as expected. In this paper, we have tried to find out how macroeconomic indicators (Unemployment, Economic growth) influence our economy and recommend by which policies and steps should be taken by our government to solve this problem.

**Literature Review**

Since we want to analyze the relationship between unemployment and economic growth, there are many relevant studies and articles that are conducted by the quality researchers. Now we are going to discuss some of them. **Khaliq, Soufan, Shihab (2006)** conducted a paper on Unemployment and Economic Growth on Arab Countries and found a negative significant result. **Quintana, Royuela (2012)** studied on Unemployment and Long Run Economic Growth: The role of income inequality and urbanization. By this paper, their result suggested that the rate of high unemployment do not exhibit in the way of statistics meaningful to interpret long-run growth, with extends inequality they have a negative impact. **Neto, Silva (2013)** applied
quantitative method on their study which name was Growth and Unemployment: A Bibliometric Analysis on Mechanisms and method, they found that there are relation between growth and unemployment. Wajid, Kalim (2013) studied on The Impact of Inflation and Economic growth on Unemployment: Time series Evidence from Pakistan. Their study found that in the long term inflation spreads unemployment significantly; economic growth has an extensive adversarial influence on unemployment in the long run and in the short run correspondingly. Jibir, Bappayaya, Babayo (2015) conducted a study on Re-examination of the impact of Unemployment on Economic Growth of Nigeria. The result of their study through using OLS was showed that an undesirable connection between unemployment and economic growth which remains in spot with Okun’s law. Makun, P.Azun (2015) studied on Economic Growth and Unemployment in FIJI: A Cointegration Analysis. Their result found that the indication of long-run association between unemployment and economic growth.

On January 24, 2017 daily sun published an article which was written by A.n.m Nurul Haque with a title Prevalence Unemployment in Bangladesh. In this article, there were mention two disappointing matters that nearly 25 percentage of the youth population in the country are inactive and the prevalence of unemployment is greater among the higher educated section of the youths than the less educated youths. On April 11, 2017 daily star published an article with highlights title that Economic growth doesn’t ensure youth employment. On April 21, 2017 Financial Time Indian newspaper published an article that Youth Unemployment bucks India’s rapid growth. On April 30, 2017 Dawn Pakistan’s newspaper published an article which also focused on Unemployment issue title was Increasing Unemployment. On May 19, 2017 THE HINDU newspaper published an article with title Where the jobs are: on the unemployment rate. On October 24, 2017 Nepal’s newspaper published an article to focus on unemployment with title Numbers don’t lie. Dr. Gurung said, “By the way, the question of dal bhat in Nepal, as in Bangladesh, implies the question of survival.”

Krugman (1994), conducted a research on Past and Perspective Causes of High Unemployment. In this paper, he mentioned great post-Bretton-Woods recessions and G-7 nations’ situation of unemployment rate specially United States, Western Europe, Japan and West Germany. This paper also addressed unemployment issues in the Organization for Economic Cooperation Development countries and discussed on crucial distinction between cyclical and structural
movements in unemployment and high unemployment in the industrial nations that time. 

Kingdon, Knight (2005), studied on Unemployment in South Africa, 1995-2003: Causes, Problems and Policies. In this study, they mentioned that progresses in the labor market grip the vital to South African wealth and permanency from growing unemployment and underemployment the threat to social and political. Their main concern in this study were with unemployment and the informal employment that repeatedly costumes unemployment. Collins (2009), conducted a study on Factors related to the unemployment rate: A Statistical Analysis. He tried to find out The United states economics conditions and mentioned that increasing unemployment rates are key reasons leading to this feeling of emergence. Uddin and Uddin, Osemengbe O. (2013), studied on Causes, Effect and Solutions to Youth Unemployment Problems in Nigeria. They mentioned that by which rate unwaged graduates wander the path after the National Youth Services and mentions that the govt. should spend comprehensively on education to allow the youth convert self-sufficiency instead of job seekers through skills progress and training. Chowdhury, Hossain (2013) conducted a study on Determinants of Unemployment in Bangladesh: A Case Study. They mentioned that human capital that is unemployment plays a very vital part in growth of the economics. In this paper, they examine macroeconomic factors of unemployment rate in Bangladesh. Briar, Fiedler, Sheean, Kamps (1980) studied on The Impact of Unemployment on Young, Middle-Aged and Aged Workers. This paper offered that the removal and decline of problems credited to unemployment by young and aged workers is studied as well. Ahn, Garcia and Jimeno (2004), conducted a study on The Impact of Unemployment on Individual Well-being in the EU and they mentioned that unemployment duration has small, negative impact on individual well-being. Aurangzeb, Asif (January 2013), presented a research paper on Factors Effecting Unemployment: A Cross Country Analysis. They examine macroeconomics factors of the unemployment for India, China and Pakistan for the period 1980 to 2009. The consequences of regression exposed that there are significant effect of all the variables for all three countries. Mavromaras, Sloane, Wei (June 2013) studied on The Scarring Effects of Unemployment, Low Pay and Skills Under-utilisation in Australia Compared. In this study, they used the first ten waves of the HILDA survey data to examine the inter-related dynamics of unemployment, low pay and skill underutilization in Australia. Hagedorn, Manovskii, Mitman (January 2015) worked on a paper The Impact of Unemployment Benefit Extensions on Employment: The 2014 Employment Miracle? They
measured an aggregate effect of unemployment advantage duration on employment and the labor force. Marsden (May, 1995) conducted on a paper The Impact of Industrial Relations Practices on Employment and Unemployment. He concluded that the rules and institution of collectives bargaining have adverse effect on employment and unemployment. Kim (April, 2011) studied on a paper The Effect of Trade on Unemployment: Evidence from 20 OECD countries. He found that a rise in trade has no significant influence on unemployment rates. Gaston, Rajaguru (2010) worked on a paper How an Export Boom affects unemployment. They found that upper export prices, money accrual in tradable belongings, productions reduce the equilibrium unemployment rates. M.Ilo (2015) presented a paper on Capital Market and Unemployment in Nigeria. The result was that market capitalization had no impact on unemployment rates.

Methodology

The annual data for unemployment as percentage of total labor force (modeled ILO estimate), economic growth as GDP growth (annual percentage), inflation as GDP deflator (annual percentage), industry as value added (annual percentage growth), terms of trade adjustment (constant LCU), industry as value added (percentage of GDP), exports of goods and services (annual percentage of growth) and market capitalization of listed domestic companies (percentage of GDP) is taken from World Development Indicators, World Bank (2017) for the period ranges from 1990-2010 for countries such as Bangladesh, India, Pakistan, Nepal and Bhutan.

The model of this study contains seven variables within which the impact of economic growth, inflation, industry, terms of trade adjustment, industry value added (percentage of GDP), exports of goods and services and market capitalization is tested on unemployment for a case of Bangladesh. Initially, the problem is tested by Fixed and Random Effect Model. Then it is tested by Hausman Test, using Breusch-Pagan LM test of independence (testing for Cross-Sectional Dependence) Pesaran Test, Wald test (Modified Wald Test). This study model is:
Unemployment_{it} = B_0 + B_1economic growth_{it} + B_2 inflation_{it} + B_3 industry_{it} + B_4 terms of trade adjustment_{it} + B_5 industry_{it} (% of GDP) + B_6 exports of goods and services_{it} + B_7 market capitalization_{it} + u_{it}

B_0 = refers to the unknown intercept for each entity

i = refers to entity (Bangladesh, India, Pakistan, Nepal, Bhutan), t = time (1990-2010)

u_{it} = refers to the error term

**Results Analysis**

**Fixed Effect Model:** It is also called covariance model and within estimator. It is time invariant and captures within effect. By this, we test the impact of variables that vary over time and explore the relationship between independent variables and dependent variable within an entity.

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Growth</td>
<td>0.024</td>
<td>(0.46)</td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.019</td>
<td>(0.83)</td>
</tr>
<tr>
<td>Industry</td>
<td>-0.021</td>
<td>(0.90)</td>
</tr>
<tr>
<td>Terms of Trade</td>
<td>7.69e-13</td>
<td>(1.79)</td>
</tr>
<tr>
<td>Industry Value Added of GDP</td>
<td>0.046</td>
<td>(1.38)</td>
</tr>
<tr>
<td>Exports of Goods and Services (annual growth)</td>
<td>0.013</td>
<td>(2.01)*</td>
</tr>
<tr>
<td>Market Capitalization</td>
<td>0.007</td>
<td>(1.57)</td>
</tr>
<tr>
<td>_cons</td>
<td>2.442</td>
<td>(2.72)**</td>
</tr>
<tr>
<td>R^2</td>
<td>0.13</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>105</td>
<td></td>
</tr>
</tbody>
</table>

* p<0.05; ** p<0.01

**Table 1. Fixed Effect Model**

Unemployment_{it} = 2.442 + 0.024economic growth_{it} – 0.019inflation_{it} – 0.021industry_{it} +
7.69e-13 terms of trade_{it} + 0.046 industry value added of GDP_{it} + 0.013 exports of goods and services_{it} + 0.007 market capitalization_{it} – 0.2639

From Table 1. We can explain that 0.024 means that holding all other variables constant if economic growth increases by a unit then unemployment increases by 0.024 units representing a positive relationship between the two. 0.019 means that holding all other variables constant if inflation goes up by a unit then unemployment goes down by 0.019 units representing a negative relationship between the two. 0.021 means that holding all other variables constant if industry increases by a unit then unemployment decreases by 0.021 units representing negative relationship between the two. If terms of trade increases by one unit, then unemployment also increases by 7.69e-13 units, holding all other variables constant. 0.046 means that holding all other variables constant if industry value added of GDP increases by a unit then unemployment increases by 0.046 units representing a positive relationship between the two. 0.013 means that holding all other variables constant if exports of goods and services increase by a unit then unemployment increases by 0.013 units representing a positive relationship between the two. 0.007 means that holding all other variables constant if market capitalization increases by a unit then unemployment increases by 0.007 units representing a positive relationship between the two.

**Random Effect Model:** It is also called random intercept and partial pooling model. It captures between variations. It is assumed that the intercept is purely random and it is uncorrelated with the regressors. In this model, regressors are not correlated with the unobserved factor (could be time varying or time invariant).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Standard Error</th>
</tr>
</thead>
<tbody>
<tr>
<td>Economic Growth</td>
<td>-0.082</td>
<td>(1.07)</td>
</tr>
<tr>
<td>Inflation</td>
<td>0.032</td>
<td>(1.04)</td>
</tr>
<tr>
<td>Industry</td>
<td>0.015</td>
<td>(0.44)</td>
</tr>
<tr>
<td>Terms of Trade</td>
<td>2.32e-12</td>
<td>(3.93)**</td>
</tr>
<tr>
<td>Industry Value Added of GDP</td>
<td>-0.026</td>
<td>(1.13)</td>
</tr>
<tr>
<td>Exports of Goods and Services</td>
<td>0.016</td>
<td>(1.78)</td>
</tr>
<tr>
<td>Market Capitalization</td>
<td>0.025</td>
<td>(4.16)**</td>
</tr>
<tr>
<td>_cons</td>
<td>3.944</td>
<td>(6.13)**</td>
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Table 2. Random Effect Model

Unemployment_{it} = 3.944 - 0.082 economic growth_{it} + 0.032 inflation_{it} + 0.015 industry_{it} +
2.32e-12terms of trade_{it} - 0.026industry value added of GDP_{it} + 0.016exports of goods and services_{it} + 0.025market capitalization_{it}

From Table 2. We can explain that 0.082 means that holding all other variables constant if economic growth increases by a unit then unemployment decreases by 0.082 units representing a negative relationship between the two. 0.032 means that holding all other variables constant if inflation goes up by a unit then unemployment goes up by 0.019 units representing a positive relationship between the two. 0.015 means that holding all other variables constant if industry increases by a unit then unemployment increases by 0.015 units representing positive relationship between the two. If terms of trade increases by one unit, then unemployment also increases by 2.32e-12 units, holding all other variables constant. 0.026 means that holding all other variables constant if industry value added of GDP increases by a unit then unemployment decreases by 0.026 units representing a negative relationship between the two. 0.016 means that holding all other variables constant if exports of goods and services increase by a unit then unemployment increases by 0.016 units representing a positive relationship between the two. 0.025 means that holding all other variables constant if market capitalization increases by a unit then unemployment increases by 0.025 units representing a positive relationship between the two.

**Hausman Test:** This test helps to compare between fixed effect model and random effect model. It helps to decide that which model is appropriate for the study’s model. It basically tests whether the unique errors are correlated with the regression.

<table>
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<tr>
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<td>Market Capitalization</td>
<td>0.025 (4.16)**</td>
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</tr>
<tr>
<td>N</td>
<td>105</td>
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* p<0.05; ** p<0.01

Table 3. Hausman Test

H_{0}: Random Effect
The result is Prob>Chi2= 0.0005 this is <0.05 (i.e. significant), we can reject the null hypothesis. So, this study’s model will be followed Fixed Effect Model.

**Pesaran Test:** By this, we can test whether the residuals are correlated across entities in the study’s model.

H₀: Residuals are not correlated

Hₐ: Residuals are correlated

The result is Pr = 0.7462, we cannot reject the null hypothesis. So, we can conclude that there is no cross-sectional dependence.

**Breusch-Pagan LM Test:** By this, we can test for heteroscedasticity in a linear regression model. It helps to identify whether the variance of the errors from a regression is dependent on the values of the independent variables. In that case, there is presence of heteroscedasticity.

H₀: Residuals are not correlated across entities

Hₐ: Residuals are correlated across entities

The result is Pr= 0.1660, we cannot reject the null hypothesis. So, we can conclude that there is no cross-sectional dependence.

**Wald Test (Modified Wald Test):** It has chi square distribution. By this, we can test for heteroscedasticity for Fixed Effect Model.

H₀: Homoscedasticity

Hₐ: Heteroscedasticity

The result is Prob>Chi2 = 0.0000, we cannot reject the null hypothesis. So, we can conclude that there is presence of heteroscedasticity.
Recommendations

The literatures have confirmed that there are significant relationship between independent variables and dependent variable but our results of this study have ensured that economic growth and other variables have insignificant relationship with unemployment but terms of trade and market capitalization have significant relationship with unemployment. This study proposes some recommendations to solve this problem are given below:

- This study has traced that economic growth has a negative impact on unemployment which we get from our results. But it’s not appropriate in case of Bangladesh. Because, although our economic growth has increased gradually but it hasn’t impact on unemployment rate. So, our govt. should take a policy by which the impact of economic growth will affect unemployment rate.
- By the results, inflation has a positive relation with unemployment; therefore, both fiscal and monetary experts must plan policies in such a system that inflation would drop. The reduction in the inflation will ultimately decline unemployment rate.
- We have also found that there is a negative relationship between unemployment and industry. So, our govt. should invest more and encourage private investors to invest for new job for unemployment people.
- We have got that market capitalization is significantly increasing but failing to reduce unemployment as expected. So, our govt. should take an effective policy by which the impact of market capitalization will affect unemployment rate and decline it.

Conclusion

This study is an attempt to analyze the relationship between unemployment problem and its impact on economic growth in Bangladesh. We have used quantitative method to do this study.
Our study data is Panel Data. Here, we have tried to compare unemployment situation of Bangladesh with four South-Asian countries such as India, Pakistan, Nepal, and Bhutan for the period of 1990 to 2010. In this paper, we have also tried to show relationship between unemployment and economic growth, as well as inflation, industry, terms of trade, industry (% of GDP), exports of goods and services and market capitalization in Bangladesh economy. We can conclude from our study’s results that there is a negative relationship between unemployment and economic growth. So, there is favorable effect of increasing economic growth on unemployment. But in the case of Bangladesh, we can see that unemployment is remaining the same regardless of increasing economic growth.

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