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IMPACT OF GDP, INFLATION, POPULATION GROWTH AND FDI ON UNEMPLOYMENT: A STUDY ON BANGLADESH ECONOMY

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ABSTRACT: *Unemployment is a major problem in almost all of the countries of south Asia. Unemployment has become the consistent crucial problem in Bangladesh. Economic conditions, demographic structure, women contribution, movement of rural to urban are the major causes of unemployment in Bangladesh. Economic growth and unemployment have a negative relation in Bangladesh. This study is performed to see the impact of some crucial macroeconomic factors on the increasing growth rate of unemployment in Bangladesh. For conducting the study, data set of GDPs, inflation, population growth, FDI during the period of 1995-2019 of Bangladesh has been used. To find out the impact of inflation, economic growth, population growth and FDI on unemployment rate this study used the Augmented Dickey Fuller test for Unit Root to check whether variables are stationary or non-stationary. Gross Domestic Product (GDP) and Inflation, FDI are stationary on level and intercept and unemployment is stationary on first difference. From the augmented dicky fuller test, co linearity and co integration test, least square method it is observed that there is long run relationship exists among the factors and unemployment in Bangladesh. Economic factors like GDP and, FDI have significant influence on unemployment problem in Bangladesh. Theoretically there has a positive relation between unemployment and economic growth. Granger causality test confirms the unidirectional influences come from the unemployment rate to the economic factors as well. This study will help policy makers to modify policy to reduce the unemployment rate in Bangladesh.*

KEYWORDS: Unemployment, GDP, Inflation, Population Growth, FDI, Bangladesh

INTRODUCTION

When a man remains without Job that situation is called Unemployment. Unemployment rate is calculated by total number of people of a Country by the number of unemployed people of that Country. If a country has high rate of unemployment people, it is very difficult to manage. When demand and supply of employment changes, the unemployment rate also changes. In a country the supply of labor force influence significantly on unemployment rate. The main cause of unemployment is the imbalance between demand and supply of manpower. Overproduction is another cause of unemployment. Product price reduces due to overproduction that reduces necessitates of labor force, which enhances unemployment. Low

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demand in market also reduces price. These shift employment to unemployment. Migration from rural to urban leads an increase in unemployment. Social status, population growth, defective education system and geographical immobility are accelerating unemployment rate. Other crucial factors are lack of experience, lack of vocational training and disability. Less demand comes from the slow rate of development, poor economic structure, lack of investment from government and public sector. Immobility of geographical materials is another cause of unemployment. Labor force is not equal in all area of county.

Main earning source of Bangladeshi people is employment. Poverty and unemployment are closely related. Poverty reduces the sector of employment. Employment ensures earning capacity and also ensures a good livelihood. Investment creates employment. Development and economic growth come from investment. Creating new employment sector is urgent for sustainable development that helps to reduce poverty alleviation. The meet up of basic necessities depends on employment.

The expense of employed people has multiplier effects on country economy. The main problem of Bangladesh is unemployment and poverty. If enough job opportunities are not created in Bangladesh, this complex problem will not be reduced. The young and educated people of our country mostly suffers unemployment problem. In this globalization and free market, exchange rate has played a vital role in Bangladeshi economy which has a clear effect on the number of jobs in our country. When Currency is devalued, expenditure for imports is reduced. Export tends to increase. For this reason, foreign currency inflow is increased, economic growth tends to increase and unemployment declines. Unemployment has become a typical issue all over the word including Bangladesh. “6% were jobless of total workforce of worlds”-According to ILO report (2014). But this Scenario is severe in Bangladesh. Millions of people in Bangladesh are jobless. “4.18% of the Country’s labor force is unemployed”-BBS. A survey of Bangladesh Bureau of statistics states that 3.4 million are still jobless people though the new job is created.

REVIEW OF LITERATURE

Classical economist’s defined unemployment is excess of supply of workforce than the demand of workforce. When number of people of job seeker becomes higher than the job vacancy, unemployment occurs at that moment. When real wages of market become lower than the expectation, unemployment creates in that situation. Unemployment is defined by ILO that a situation of joblessness when people are actively sought for job within the preceding five weeks. Unemployment is calculated by total labor force by dividing number of unemployed people. Kim and Lin (2012) stated that inflation is the condition when price of general commodity rises from a long number of years. Inflation is calculated by identifying the rate of price increase from a certain period of year. “Inflation is basically denoted as an economical phenomenon “Chicago university neoclassical followers. Kupfer (2018) believed that, “Inflation is called by only the situation where certain amount of output needs higher money to get that”. Quantity of money needs higher than the quantity of output. “A regular rise of general price level is called inflation”

Tas and Demir (2013) found that “When the per capital income of an economy rises for a period of time and is calculated by the rising in the number of goods and services generated

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within a country, unemployment decrease. A good growing country produces more goods and services than the previous year. The rate of growth in production is the main determinant to justify the country condition. Developed countries should have a standard and increasing growth rate. Famous economist Avriel, Hilscher and Raviv, (2012) examined that when propensity increases and capital in an innovation also increases is called economic growth. In times of growth technical progress also support the positive side of economy. Growth is also known as the share of country's increased profit among the people of the country. There is a positive relationship exit between the good profit and an economic growth in the long run.

As our target is to analyze the relationship between economic growth and unemployment, there are many important studies and articles that are written by famous and quality researchers. Tillmann, (2013) focused on the role of urbanization and income inequality. Their result states that the rate of high unemployment is not express in the way of meaningful statistics to interpret growth; with inequality they have an inverse impact. Risa, (2001) applied quantitative strategy on their study that found a negative relationship between unemployment and growth. An analysis on method and mechanisms, they found that significant relationship between unemployment and growth. Kashpher, kushbu (2011) have done a research on the impact of economic growth and inflation on unemployment: evidence from Pakistan. Their research found that inflation enhances unemployment significantly; Economic growth has a significant inverse influence on unemployment both in short and long run correspondingly. Meltzer (2006) narrated that according to OLS there is a significant connection between economic growth and unemployment which attached with the study on unemployment and economic growth in FIJI: ACo integration Analysis. Their result showed that the indication economic growth and unemployment has a long run association. Arras (2016) mentioned two serious matters that nearly 25% of young people in Bangladesh are inactive and the unemployment is larger among the higher degree holder than the lower degree holder. A report was published on daily star on April 11, 2017 with the title economic development doesn't confirm youth employment. Indian financial time newspaper published an article on April 21, 2017 that unemployment has negative impact on economic growth. Canarella and Miller (2014), studied in South Africa unemployment, 1995-2003: Cause policies and problems. They showed that the improvement in the worker market grip to South Africa permanency and wealth from growing underemployment and unemployment is the threat to political and social sectors. Main issues of this study were informal employment and unemployment that repeatedly occurs. Drobyshevsky and Kazakova, (2015) studied on factors which is related to the unemployment rate: An analysis of Statistics. Collins (2016) focused on the economic conditions and stated that increasing unemployment rates are main reasons. Leading to this decreasing of emergence studied in case of Nigeria and provided solutions to youth unemployment problems. They stated that government should spend comprehensively on education to increase young people efficiency for employment. Rochmah and Faizi, (2014) performed a study on unemployment determinants in Bangladesh. They mentioned, human Capital which is unemployment play a vital part in the economic growth. They also examined macroeconomic factors of unemployment rate in Bangladesh. Miura (2019) studied the impact of joblessness on aged, middle aged and young workers. This studied found that the decline and removal of problems created unemployment by aged workers and young. They made a paper on impact of individual and unemployment well-being in the EU and they mentioned duration of unemployment has negative, small impact on individual well-being.

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METHODOLOGY

We have estimated simple single equation linear regression model (SELRM) for analysis of determinants of unemployment in Bangladesh economy. Simple specification of SELRM is given bellow:

The study model is:

$$Y = \alpha + \beta \text{GDP} + \beta \text{INR} + \beta \text{P} + \beta \text{FDI} + \mho$$

Here,

Y= Unemployment Rate of Bangladesh

α = refers to the unknown intercept for each entity

GDP=Gross Domestic Product of Bangladesh

INR=Inflation rate of Bangladesh

PG=Population growth of Bangladesh

FDI= Foreign Direct Investment

$\mho$ = refers to the error term

Unemployment

When a man is seeking job but is unable to get any job called unemployment. In other words, the available work forces that are not getting any opportunity to fulfill their desire are called unemployment. Generally, unemployment rate is calculated from the total workforce divided by number of unemployed men. Unemployment serves as a major indicator of economic condition. Actively job searching people who are unable to get is the main source of unemployment. A healthy economy has lowest unemployment rate. Unemployment comes when people are interested to do work but are unable to get required jobs, this happens due to low economic output. A distress economy gives high rate of unemployment. There has a different type of unemployment, like cyclical, functional.

Gross Domestic Product

This is the ultimate production of a country. The economic performance of a country is measured by the gross domestic product of a country. GDP of Bangladesh is the total monetary value of Bangladesh.

This is a comprehensive performance of a country. GDP is calculated with the monetary value of finished goods and services that is made within a country. The calculation of GDP has three ways incomes, expenditure and production of a specific time period.

Inflation

Inflation is the positive changes of price from one year to another. Inflation is a common phenomenon of a country. But higher inflation rate causes the problem of the economy. In other words, inflation is also the devaluation of the currency. Excessive inflation reduces

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the demand for the product that reduces the ultimate production of the country. When the production of the country decreases the demand for workforce will also decrease.

RESULT ANALYSIS AND DISCUSSION

Determination of Research Variables

To conduct the research our required variables will be following:

Table 1: Variables of the Research

Name of the variables	Type of the variable
Unemployment Rate	Dependent Variable
GDP Growth	Independent Variable
Inflation Rate	Independent Variable
Population Growth Rate	Independent Variable
FDI	Independent Variable

$$\text{UnemploymentU} = \text{f(Gross domestic product }_{+}, \text{Inflation}_{+} \text{Population growth, Foreign Direct investment)}$$

Model specification:

$$Y = \alpha + \beta_1(GDP) + \beta_2(INF) + \beta_3(PG) + \beta_4(FDI)$$

Y is denoted for total unemployment of Bangladesh. Here, we are expecting GDP is negatively related with unemployment. Inflation has positive with unemployment. Population growth means the percent of population growing in a year. We are expecting population growth has positive relation with unemployment and the foreign direct investment has a negative relation with unemployment.

Descriptive Statistics

Table 2: Descriptive Statistics Results

	Unemployment Rate	**Population Growth**	**Inflation Rate**	**GDP Growth**	**FDI**
Mean	0.04	0.01	0.06	0.05	20.2
Median	0.04	0.01	0.06	0.06	20.1
Maximum	0.06	0.05	0.11	0.080	21.2
Minimum	0.02	-0.01	0.01	0.04	19.3
Std. Dev.	0.01	0.01	0.02	0.01	0.67
Skewness	-0.07	1.64	-0.001	0.29	0.28

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From the table we see that the mean value of unemployment is 0.036590, median is 0.037495, Maximum value is 0.055210, and Minimum value is 0.022790. Skewness is not zero. So, the data is not normal distribution. In case of population growth mean is 0.036590, median is 0.037495, Maximum value is 0.055210 and minimum value is 0.022790. Skewness is not Zero so the data of population growth is not normal distribution. Inflation rate mean is 0.060486, median 0.061500, maximum value of inflation is 0.115000 and minimum value 0.042000. Skewness is not zero, so the data is not normal distribution.

Regression Analysis on Raw Data

Table -3: Outcome of Multiple Regressions on Raw Data. Level of Significance denoted by * for 5% and ** for 10%.

Variables	Coefficients	T-value	P value
Population Growth	-0.12	-0.99	0.32**
Inflation Rate	-0.02	-0.37	0.70**
GDP Growth	0.12	0.55	0.58**
FDI	0.01	2.39	0.02*

From the table, it is found that coefficient of population growth, inflation; GDP growth is not satisfactory or significant. The coefficient of population growth is not expected. While population growth increases, unemployment must be increased but the outcome does not signify at 5% probability level. The coefficient of GDP and inflation relates the expected sign and besides foreign direct investment gives expected result which means increases in FDI will enhance the unemployment rate. The foreign direct investment is significant at 5% probability level. Besides, level of significance for FDI supports the long run influence in the unemployment rate of Bangladesh.

Diagnostic Test

Augmented Dickey Fuller Test of Unit Root

Table-4: Outcome of the Unit Root Test. P value less than 5% is denoted by * of level of significance.

Name of Variables	P Value	T -Value	Level of Test	Decision
Unemployment	0.51	-1.50	Level & Intercept	As P> 5%, Unit Root of data
Population Growth	0.00*	-5.08	Level & Intercept	As P< 5%, Unit Root of data does not exist
Inflation Rate	0.00*	-4.84	Level & Intercept	As P< 5%, Unit Root of data does not exist
GDP Growth	0.91	-0.32	Level & Intercept	As P> 5%, Unit Root of data
FDI	0.97	0.22	Level & Intercept	As P> 5%, Unit Root of data

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The diagnostic test of the variables for the paper implies that population growth and inflation rate is stationary over time. So, no drastic move in the variable can further disturb the movement of the variable. GDP growth rate, unemployment rate and foreign direct investment have unit root or non-stationary problem over the time. Due to this problem, standard error can cause the move of the variable. As probability value is more than 5% in the above table null hypothesis must be accepted and it indicates unit root exists in the model.

Stationary test of the Variables

To run the stationary test, we will use raw data again. The output and explanation of the test are following:

Table 5: Outcome of the Stationary Test. P value less than 5% is denoted by * of level of significance.

Name of Variables	T -Value	P Value	Level of Test	Decision
Unemployment	-6.83	0.000*	Level&1st Difference	P <5%, Data is Stationary
Population Growth	-5.08	0.001*	Level & Intercept	P <5%, Data is Stationary
Inflation Rate	-4.84	0.001*	Level & Intercept	P <5%, Data is Stationary
GDP Growth	-5.26	0.0003*	Level&1st Difference	P <5%, Data is Stationary
FDI	-5.391890	0.0002*	Level&1st Difference	P <5%, Data is Stationary

When, we have found that the model variables have unit root problem, stationary test have been done. Ion the above table, all the non-stationary variables have become stationary at level and first difference and probability value is less than 5% which implies to accept alternative hypothesis and make the data stationary.

Heteroskedasticity Test

Table 6: Breusch-Pagan-Godfrey test of Heteroskedasticity

Name of test	F-statistic	Probability
Breusch-Pagan-Godfrey	0.517403	0.7237
Obs*R-squared	2.311529	0.6787

In the study of relationship among the selected variables, the variables of the model might be stable over time. The above test of Heteroskedasticity indicates the variance of the data of the variables for unemployment rate and GDP, FDI, population growth and in inflation rate must be constant in the future period of movement. The probability value is more than 5% and null hypothesis must be accepted which means the variance of the data is constant over time and Heteroskedasticity problem is not present in the model.

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Serial Correlation Test

Table 7: Breusch-Pagan-Godfrey test of Serial Correlation

Name of test	F-statistic	Probability
Breusch-Godfrey Serial Correlation LM Test	5.237920	0.0143
Obs*R-squared	9.319005	0.0095

The value of the selected variables can be correlated in the different time pattern. Unemployment rate can be correlated with the values of itself in the future period. The probability value of the test is less than 5% that means LM test signifies to reject null hypothesis and accept alternative hypothesis and serial correlation problem exists among the defined variables of the model.

Least Square Analysis of the Study

Table-8: Results of Multiple Regressions on Stationary Data. Level of Significance is denoted by * for 5% and ** for 10%.

Variables	Coefficients	T-value	P value
Population Growth	0.05	0.52	0.60
Inflation Rate	0.02	0.59	0.55
D(GDP Growth)	-0.58	-2.61	0.01*
D(FDI)	-0.001	-0.42	0.67
Intercept	-0.0006	-0.18	0.85

The regression analysis on stationary property of the variables shows that only GDP growth rate is significant at 5% level of significance. The result shows that when unemployment rate increases in each percentage GDP growth is reduced by 0.58%. The impact of other variable named FDI gives expected sign that means increases in FDI of 1% will reduce the unemployment rate by 0.0% but this is not significant. Inflation rate does not give expected sign but the result is not significant at level of 5%. Meanwhile, constant level of unemployment rate is 0.0% which is not significant at 5% level of significance. The change in the unemployment rate because of changes in the FDI, GDP, population growth and inflation rate is explained by 24%.

Multicollinearity Test of the Model

For Multicollinearity test we can run correlation test. The result of correlation among the variables is following:

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Table 9: Correlation Matrix of the Variables

	Unemployment Rate	Population Growth	Inflation Rate	GDP Growth	FDI
Unemployment Rate	1				
Population Growth	-0.35	1			
Inflation Rate	0.08	-0.19	1		
GDP Growth	0.62	-0.26	0.11	1	
FDI	0.71	-0.32	0.16	0.79	1

The correlation between unemployment and population growth is negative (-0.35) which is unexpected with the model. Inflation is positively related with unemployment (0.08) which is not expected with the model. GDP growth has positive relation with unemployment that is not expected with the model. FDI has positive relation with unemployment. The correlation between population growth and inflation is negation that is -0.19. The correlation between GDP growth and inflation is positive that is 0.11. The correlation between GDP growth and foreign direct investment has positive relation that is expected. The correlation between FDI and population growth has negative relation. Again, the correlation between foreign direct investment and inflation has positive relation that is 0.16. The correlation between FDI growth GDP growths has positive relation. The correlation between GDP growth and inflation has positive relation that is 0.11. Again, the correlation between GDP growth and population has negative relation that is -0.26. There has a positive relation between foreign direct investment and inflation that is expected.

Regression after Deducting Foreign Direct Investment

Table 10: Results of the multiple Regressions after deducting FDI

Variables	Coefficients	T-value	P value
C	0.009	0.894	0.380
Inflation	-0.007	-0.141	0.888
GDP Growth	0.538	3.546	0.001
Population Growth	-0.182	-1.292	0.208

Higher standardized error in the model can affect the regression results. Co linearity problem affects by making larger standardized error. So, deducting the variable carrying higher probability value in regression outcome in the stationary regression result, it can be seen that only GDP growth rate is significant at 5% level of significance. Increase in GDP growth rate will increase the unemployment rate which is unlikely in the economic structure. Population growth rate is negatively related to the growth of unemployment which is unexpected but the result is insignificant. Only inflation becomes expected with terms to the unemployment rate coefficient comparison but it is also insignificant at 5% level of significance.

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Granger Causality Test

Table 11: Result of Granger Causality Test. Level f significance is shown by * for 5% and ** for 10%.

Variable	F-Statistic	Probability
GDP_GROWTH does not Granger Cause UNEMPLOYMENT_RATE	4.66	0.02*
UNEMPLOYMENT_RATE does not Granger Cause GDP_GROWTH	4.27	0.02*
FDI does not Granger Cause UNEMPLOYMENT_RATE	2.72	0.08**
FDI does not Granger Cause GDP_GROWTH	3.93	0.03*
GDP_GROWTH does not Granger Cause FDI	4.85	0.01*

The variables of the model can move in any of the direction. Granger causality test shows that some of the independent variables can affect themselves and dependent variable that is unemployment rate can affect the population growth, inflation rate, GDP growth and FDI. In the test of granger causality of unidirectional move, it is found that the probability value is less than 5% for the GDP growth impact on the unemployment rate in the future. Unemployment rate also causes the GDP growth in the long run and it is significant at 5% level of probability. FDI has impact on the movement of the unemployment rate, the dependent variable, and it is significant at 5% level of significance. Besides, FDI does granger cause or unidirectional impact on the GDP growth in the long run which is significant at 5% level and alternative hypothesis is accepted. Finally, GDP growth rate can affect the FDI in the long run and probability value is less than 5% for this result.

Co integration Test

Table 12: Co integration Results with Level of significance is shown by * for 5% and ** for 10%.

Hypothesized No. of CE(s)	Max Eigen Stat Value	0.05 Critical Value	Probability
None *	39.39	69.82	0.02
At most 1	18.23	47.86	0.39
At most 2	12.05	29.79	0.58
At most 3	5.59	15.49	0.73
At most 4	0.11	3.841	0.74

The variables of Unemployment Rate, GDP growth Rate, Inflation Rate, Population g Growth Rate, FDI are not stationary at level and these become stationary at first difference. The values of the variables are co integrated in the over the long run. At most four co integrations exist in the model among the variables which is shown by the probability value and the Max Eigen statistic. The probability value is higher than 5% and null hypothesis

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cannot be rejected and in indicates that con integrations exist in the model and the number of co integrations is four. Long run association among unemployment and other variables shows that unemployment is a determiner variable of the policy of the economy.

Generalized Least Square Analysis

Table 13: Generalised Least Square Regression Results. Level f significance is shown by * for 5% and ** for 10%.

Variable	Coefficient	STD. Error	Probability
Population	-0.12	0.13	0.31
Inflation Rate	-0.01	0.05	0.70
GDP growth	0.12	0.22	0.57
Foreign Direct investment	0.007	0.00	0.01*
C	-0.12	0.06	0.02*

In the above table, results of the generalized least square analysis show that Foreign Direct Investment is significant at 5% level of significance. Irrespective of the changes in the independent variable, unemployment rate will reduce by the 12% over time. The coefficient of the population growth provides unexpected sign which means population growth is negatively related to growth of unemployment. It may happen when population or human resources are used in the efficient way. In Bangladesh, population growth is stable over time and the growth of economy is increasing over time that reduces the unemployment rate of the country. Inflation rate of Bangladesh is stable or slightly changes in the last decade. Investment and industrialization have reduced the unemployment rate. GDP growth increases but unemployment has been increasing which is unexpected. This type of problem arises when, a large number of the educated and efficient people stay outside of the work or if the natural rate of unemployment increases. In Bangladesh, although GDP growth has been increasing over time, unemployment rate is also increasing in the country. I t takes place due to the unplanned economic strategy, higher illiteracy rate and weak human resource management and weak monetary and fiscal policy from last couple of years. Foreign Direct Investment is influencing the unemployment rate in the expected way. But extent of influence is pretty low. Except FDI all other independent variable is insignificant. Meanwhile, the significant variable is influencing the unemployment rate in the expected way. Bangladesh is experiencing higher unemployment rate problem and unstable economic situation in the last couple of years. But controlled level of GDP growth and population growth is helping to survive and managing the unemployment problem. But in the near future, legal and necessary actions might be put into action to tackle the crisis of human capital for the country.

CONCLUSION

It is found that coefficient of population growth; inflation is not satisfactory or significant. The coefficient of population growth is not expected (Lahiri and Sheng, 2008). While population growth increases, unemployment must be increased but the outcome does not signify at 5% probability level. The coefficient of GDP and inflation relates the expected sign

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and besides foreign direct investment gives expected result which means increases in FDI will enhance the unemployment rate (Dianita, Hadian, Ali and Aryanti, 2020). The foreign direct investment is significant at 5% probability level. Besides, level of significance for FDI supports the long run influence in the unemployment rate of Bangladesh. The diagnostic test of the variables for the paper implies that population growth and inflation rate is stationary over time (Wesolowski, 2016).

So, no drastic move in the variable can further disturb the movement of the variable. GDP growth rate, Unemployment rate and Foreign Direct Investment have unit root or non-stationary problem over the time. Due to this problem, standard error can cause the move of the variable. As probability value is more than 5% in the above table null hypothesis must be accepted and it indicates unit root exists in the model (Billi, 2013). The correlation between unemployment and population growth is negative (-0.35) which is unexpected with the model. Inflation is positively related with unemployment (0.08) which is not expected with the model. GDP growth has positive relation with unemployment that is not expected with the model. FDI has positive relation with unemployment. The correlation between population growth and inflation is negation that is -0.19. The correlation between GDP growth and inflation is positive that is 0.11. The correlation between GDP growth and foreign direct investment has positive relation that is expected. The correlation between FDI and population growth has negative relation (Marcellino, Banerjee and Masten, 2003).

Again, the correlation between foreign direct investment and inflation has positive relation that is 0.16. The correlation between FDI growth GDP growths has positive relation. The correlation between GDP growth and inflation has positive relation that is 0.11. Again, the correlation between GDP growth and population has negative relation that is -0.26. There has a positive relation between foreign direct investment and inflation that is expected. Results of the generalized least square analysis show that foreign direct investment is significant at 5% level of significance (Vdovychenko, 2018). Irrespective of the changes in the independent variable, unemployment rate will reduce by the 12% over time. The coefficient of the population growth provides unexpected sign which means population growth is negatively related to growth of unemployment. It may happen when population or human resources are used in the efficient way. In Bangladesh, population growth is stable over time and the growth of economy is increasing over time that reduces the unemployment rate of the country (Shelley and Wallace, 2004). Inflation rate of Bangladesh is stable or slightly changes in the last decade. Investment and industrialization have reduced the unemployment rate. GDP growth increases but unemployment has been increasing which is unexpected. This type of problem arises when, a large number of the educated and efficient people stay outside of the work or if the natural rate of unemployment increases.

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