**Guided research Paper**

**Topic Name: Impact of Unemployment on economic growth in Bangladesh**

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**Abstract:**

This study estimate the impact unemployment and fdi on economic growth using yearly data for 1981-2018. Unit Root test, Co – integration and VECM model tests takes remained showed in this Research paper. This paper showed Negative relation between GDP, Unemployment and Fdi on Economic Growth.

KEY WORDS: gross domestic product, foreign direct investment, Vector Error Correction Model

**Introduction:**

Bangladesh is set to enter the list of “Developing Countries “of the world; stepping out of the list of “Least Developed Countries” (LDCs).It would by no means be inaccurate to assume that the economy of the south Asian nation is expanding. However, this current rate of economic expansion is exposed to certain challenges; including an alarming number of unemployed individuals out of its absolutely massive population. According to different reports, the unemployment rate in Bangladesh is somewhere around 12% ; which is indeed a worrying matter considering the fact that the population of this country is around 170 million ( which means the number of unemployed individuals stands at around 20.4 million.

A large population could prove to be blessing if it could be turned into manpower, by including them in the labor force. But in cases like Bangladesh the surplus population acts as a burden. Imagine the amount of contribution these 20.4 million unemployed people could have made to the economy, had they been included in the labor force. But unfortunately, this considerably huge number of people are not contributing to the economy at all, rather they are depending on the income of other people, As a result contributing to hold back the overall economic development of the nation, as a whole. Every government push to bring about charge existence inefficient unemployment rate and sustainable economic growth although and macro-economic policy.

At Present Unemployment rate in Bangladesh is not change at 4.20% in 2017 from 4.20% in 2016.But when we saw Previous unemployment rate in Bangladesh mean 3.85% from 1991 until 2017, Be brought an all-time high of 5.10% in 1997 and a record low of 2.20 % in 1991.In recently unemployment a lot of impact on economic growth, also impact inflation. In Bangladesh out of a job graduates are flourishing alarmingly .Unemployment of the graduate’s level has become a huge problem in Bangladesh. But male unemployment is less than female unemployment.

Yet we know one country is divided between two groups; one is Active economically and another is not active economically. Active economically means labor force are the group that are willing and sufficient to work, another is inactive who are not sufficient and consenting to work.

We know that unemployment rate and economic growth are macroeconomic variable its image the making of any country economies and social development. When country unemployment rate is high that’s mean country resources is not using perfectly it’s also sense social structure.

Unemployment is closely negative impact to economic growth and positively impact to inflation and also impact of social develop. So we can say that the communication of the economic growth and unemployment is explains to how the economy change when there is high number of people are unemployed .At present unemployment is a serious issue of Bangladesh. Economic Growth availed to unemployment rate.

**Literature Review:**

Ever since we lack to examine the connection between unemployment & economic growth, here are several related studies and courses that are directed by the excellence researchers. Now we are working to debate particular of them.

A study on Unemployment & economic growth has been done by **Khaliq, Soufan, Shihab (2006)** which has a negative and notable outcome.

**Quintana, Royuela (2012)** Examined on unemployment & long run Economic growth: the Role of inequality & urbanization. This outcome put forward that the rate of unemployment do not appear the way of statistical relevant to have long run growth with covers inequality they have negative effect.

From 1981 to 2013**, Huda Mohammad Mukhtar Ahmed (2014)** analyzed on real GDP Growth & Unemployment rate. The cointegration study found out a long run connection between Real gdp 7 unemployment rates.

The Result showed a negative & statistically major relation between two variables & maintain the **okan law in Sudan keshmeer Makum (2015)** proved long run the significant among unemployment & growth with cointegration from investment & unemployment.one after another to the growth in economic outcome.

The Paper of **Handson Banda, Hlanganipai Ngirande, Fortune Hogue (2016)** states the impact of economic growth on unemployment, using Quarterly South African time series data since 1994 to 2012. The consequence of jahansen Cointegration shows that a long run equilibrium connection is there between the variables. The result of VECM showed that GDP, BUG & REER have positive long run impact on unemployment has a negative influence on unemployment.

A paper on the relation between unemployment & its effect on economic growth in Bangladesh is done by **Nasrin akter (2018).**We have confirm the relation between unemployment & economic growth with a panel data using four south Asian countries along with Bangladesh for over 20 years. The outcome showed that the economic growth has significant relationship impact on unemployment & there is negative correlation between economic growth & unemployment.

**Handson Banda, Hlanganipai Ngirande, Fortune Hogwe (2016)** this paper showed the influence of economic growth on unemployment, using quarterly South African time series data from 1994-2012. The results of Johansen cointegration reflected that a long run equilibrium or relationship exists among the variables. The outcomes of VECM showed that GDP, BUG and REER have positive long run influence on unemployment even as LP negatively influence unemployment.

**Methodology:**

The yearly data for unemployment (ILO estimate), total Unemployment as a percentages national estimate, GDP Deflator ( base year by country),GDP deflator ( annual using country),GDP growth ( annual %),GDP actual ( 2010 US$), GDP ( current US $), Gross capital Formation ( % of GDP), Gross Capital formation( current US$),Foreign Direct Investment (%of GDP) is taken from World Development Indicators, World Bank (2018) the period from 1998-2018 for countries such as Bangladesh.

This Research paper included three variables which is the impact on Economic Growth, GDP, and Foreign Direct Investment, is turned on Unemployment of Bangladesh. It is turned by ADF test for Unit root, JH tests for cointegration, VECM test for Error correction.

**Key words: ADF: Augmented Dickey fuller test, JH: Johansen test, VECM: Vector error Correction Test**

**This Model is:**

**GDPt: β0 + β1unempt + β2 fdit+µt**

**β0**= measures to unknown intercept for Bangladesh

**t**= Measures to time period.

**µt**=Measures to Error term

**Results & Interpretation:**

**This paper done by three tests:**

1. Unit Root Test

2. Cointegration

3. VECM

We used Statistical Software STATA for analyzing an Economic model. This Model is differentiate which shows alignment into the subordinate and uncommitted variables.

I select optimum lag length & invent 4 criterion FRE, AIC, HQIC, SBIC as optimum lag length selected lag 2. For selecting VECM the unit root test, ADF test for all variables existed Non stationary and Stationary form.

H0: Non stationary (1st difference / level form)

H1: Stationary (2nd differential from 1)

|  |  |
| --- | --- |
|  Augmented Dickey fuller test | Order of integration |
| Order | Level form | 1st difference |
| Variables | **Calculated Value**  | **5% Critical****Value** | **Calculated Value**  | **5% Critical****Value** |  |
| GDP | -1.232 | -1.692 | -7.681 | -1.694 |  I (1) |
| FDI | -1.126 | -1.692 | -5.137 | -1.694 |  I (1) |
| Unemployment | -2.775 | -3.556 | -5.462 | -1.694 |  I ( 1) |

**Table 1 :Result 1st difference and 2nd difference**

We know that, **Calculated value> Critical value = Reject H0**

 **Calculated value< Critical value = Do not reject**

**GDP:**

This result is [1.232] < [1.692] = do not reject H0, but we can reject at 1st differentiate. So order of cointegration 1 because gdp level form non stationary & 1st differentiate stationary so lag 1.

**FDI:**

This Result is [1.126] < [1.692] = do not reject H0, but we can reject at 1st differentiate. So order of cointegration 1 because fdi level form non stationary & 1st differentiate stationary so lag 1.

**Unemployment:**

This Result is [2.775] < [3.556] = do not reject H0, but we can reject at 1st differentiate. So order of cointegration 1 because fdi level form non stationary & 1st differentiate stationary so lag 1.

 **Johansen test**

Trend: Constant Number of obs. = 37

Trial: 1981-2018 Lags = 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Maximum Rank |  parms |  Eigenvalues |  Trace Statistic  |  5% critical value |
| 0 | 3 | 0 | 56.6202 | 29.68 |
| 1 | 8 | 0.69816 | 12.2998\* | 15.41 |
| 2 | 11 | 0.26283 | 1.0171 | 3.76 |
| 3 | 12 | 0.02711 | - | - |

**Table 2 Johansen tests for cointegration**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Maximum Rank | Parms |  Eigenvalues |  Max Statistic  |  5% critical value |
| 0 | 3 | 0 | 44.3204 | 20.97 |
| 1 | 8 | 0.69816 | 11.2827 | 14.07 |
| 2 | 11 | 0.26283 | 1.0171 | 3.76 |
| 3 | 12 | 0.02711 | - | - |

**Table 3 Johansen tests for cointegration**

This table shows the maximum eigenvalue and trace statistics, for every variables around occurs at least two co integrating calculation. The Calculation is given table 2& table 3 that also showed the high impact worth of the calculation

**Co- Integrating Calculations:**

|  |
| --- |
|  Co-integrating Equations |
| **Equation** | **Parms** |  **Chi2** |  **p>chi2** |

**Table 4Co integrating Calculation**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| beta |  Coef.-3.730171 | Std. err. - | z- | p>|z|- |
| \_ce1 |
| \_cons |
| GDP | 1 | - | - | - |
| Unemployment | -.2263716 | .2193274 | -1.03 | 0.302 |
| FDI | -1.411339 | .4185939 | -3.37 | 0.001 |

**Table 5 Johansen normalization restriction imposed**

**GDP= β0 + β1unempt + β2 fdit+µt**

 = -3.73 – 0.226 unemp – 1.4113 fdi

 After deterioration this paper create Unemployment and foreign direct investment has a negative relationship with GDP. If unemployment and FDI increase then Economic growth will decrease.

**Vector error correlation model (VECM).** Variables can every have short or long run belongings, this sound applied a VECM to disaggregate these sound effects. The determination of VECM technique is that it documents us to differentiate between long effects of variables for the unemployment model.

**Vector Error Correction model:**

Sample: 1981-2018 Number of obs. = 37

 AIC = 3.90372

 Log likelihood = - 64.21882 HQIC = 4.026515

Det (Sigma\_ml) = .0064586 SBIC = 4.252027

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Equation | Parms | RMSE | R-SQ | Chi2 | p>chi2 |
| D\_gdp | 2 | .975206 | 0.6827 | 75.28946 | 0.0000 |
| D\_unemployment | 2 | .367344 | 0.0553 | 2.049207 | 0.3589 |
| D\_fdi | 2 | .249569 | 0.0215 | 0.7690029 | 0.6808 |

**Conclusion & Policy Recommendation:**

1. This study has construct that economic growth has a negative influenced on unemployment as we expense from our outcome. So, our government should accommodate a policy by as the influenced of gdp will sense unemployment rate.

2. We have also entrenched that that place is a negative correlation between unemployment and FDI .So our govt. should finance more and also embolden private investor to invest for new jobs and encourage private investors to invest for new job for unemployment people.

3. Government consider that market capitalization is extensively expanding but dying to reduction unemployment.

4. Economic policies should added more investment.

 So, our govt. essential receipts an active policy by as the influenced of market capitalization will sense unemployment rate and downfall it.

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