Factors Effecting Unemployment: A Cross Country Analysis

Dr Aurangzeb
HOD Business Administration, Dadabhoy Institute of Higher Education
Email: cdraurangzeb50@yahoo.com

Khola Asif
Research Scholar
Email: asifkhola@yahoo.com

Abstract

This paper investigates macroeconomic determinants of the unemployment for India, China and Pakistan for the period 1980 to 2009. The investigation was conducted through cointegration, granger causality and regression analysis. The variables selected for the study are unemployment, inflation, gross domestic product, exchange rate and the increasing rate of population. The results of regression analysis showed significant impact of all the variables for all three countries. GDP of Pakistan showed positive relation with the unemployment rate and the reason of that is the poverty level and underutilization of foreign investment. The result of granger causality showed that bidirectional causality does not exist between any of the variable for all three countries. Co integration result explored that long term relationship do exist among the variables for all the models. It is recommended that distribution of income needs to be improved for Pakistan in order to have positive impact of growth on the employment rate.

Keywords: Unemployment, cointegration, regression analysis, foreign investment.

Introduction

A very important issue that plays a crucial role in development of the economies is the underutilization of its human capital or in other words unemployment. It is described as the number of people actively looking for job by the labor force (Includes only those people who are willing to work, and are either employed or looking for jobs). If we take a look at the history of unemployment of Pakistan from 1990 to 2011, the lowest in record is 3.13 in December 1990 and the highest was 7.8 in June 2002. According to Tunah (2010) Some of the very common causes of unemployment in Pakistan and other developing economies are the technological changes, contribution of women in labor force, demographic structure, economic conditions, production of electricity (especially in Pakistan), immigration from rural area’s towards towns and cities. This study investigated the impact of inflation, exchange rates, GDP, and population on the fluctuating rate unemployment. A decrease in the growth of the economies because of economic recession of October 2008 is a major reason of increasing rate of unemployment for

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1 State bank of Pakistan
both developed and developing countries\textsuperscript{2}. According to theory, there is a positive relation between employment and the growth of countries.

Economic growth is a vital factor that affects the unemployment. Theoretically a positive relation should exist among growth and employment or negative with unemployment\textsuperscript{3}. The economic theory, which converse on the subject of the relationship between unemployment and the economic growth is named as Okun’s Law. He studied the tradeoff among the real gross national product (GNP) and the unemployment. According to the theory there is an inverse relation among growth and the unemployment. The relationship among unemployment and the inflation is termed as Philip curve in the economic theory and was developed in 1958 by A. W. H. Philip. He discovered positive relationship between the two variables. There is a direct (positive) relation between these two variables. Individually, Inflation and unemployment both have negative effects on the individuals.

With the globalization and open trades, exchange rate has started playing a vital role in the economy which has a direct effect on the employment level in a country. With devaluation, exports tend to boost and as a result expenditure on imports are reduced. By this, inflow of foreign currency is enhanced and economies move towards growth and consequently the rate of unemployment declines. However, some researches are of the opposite view, like Bratsiotis and Robinson (2002) concluded that exchange rate crises caused economic crises and unemployment in several developing countries. They refer to the exchange rate devaluation as crises, as according to them this trend is not healthy for the long term.

The objective of this study is to investigate which variables have a significant effect on employment rate by comparing them in three different regional countries, Pakistan, India and China. The reason for comparison is to find out if these factors have a similar effect for all the three countries. Simultaneously, this study will also help in identifying those variables which effect differently for different countries and further which variable can be improved based on the situation and environment of country. For research purpose, annual time series data is collected from 1987 to 2009 as sample. Variables considered include gross domestic product, gross domestic savings, inflation rate, exchange rate, population, production of electricity units and unemployment rate. This selection is done keeping in consideration the importance of each variable and the past studies conducted in this respect.

This study is divided into five sections. Section one consist of introduction of the research topic, section two comprises the literature review. Section three explains the hypothesis, frame work of the models, explains the variables of study, and the data collection techniques. Section four consists of the techniques used to test the data and their findings. The last section shows the conclusion of the study and the recommendations by the researcher.

\textsuperscript{2} Tunah (2010)
\textsuperscript{3} Sagbamah (1997), Levine (2012)
Literature Review

Tunah (2010) studied the macroeconomic variables which cause of unemployment for Turkey. Quarterly data from 2000 to 2008 is used as the sample data for the study. Augment Dickey Fuller test (ADF), Phillip-Perron test, Johansen’s cointegration, and granger causality techniques were used for analysis. The results showed that there is a significant impact of real GDP, consumer price index and previous unemployment rate on the unemployment rate. Whereas real effective exchange rate has no impact on the unemployment.

El-Agrody et al. (2010) examined the economic study of unemployment and its impact on the GDP for Egypt. Data was collected from year 1994 to 2004. Simple and multiple linear regression analysis were applied. Variables used in the study were privatization, population, consumption expenditure, interest rates, exchange rates, technology, agricultural domestic product, real wage rates, and agricultural investment. The results showed that there is a significant positive impact of national unemployment, national investment, exchange rate and average per capita share of GDP on the volume of GDP. The results also highlighted privatization and increasing population as the main reasons of increasing unemployment. They recommended that privatization policies need to be revised and to reduce interest rates in order to lowering the agricultural unemployment.

Lui (2009) studied the relationship between inflation and unemployment in a situation where inflation has differential outcomes on employed & unemployed workers. The data used in this analysis is from Italian Survey of household income and Wealth 2004, only labor force was included. General equilibrium model and linear regression method is used. The result explores that the relationship of inflation-unemployment is either negative or positive which depend on goods & labor market institutions. A higher rate of inflation increases workers’ incentives to work & generates a negative effect on unemployment. On the other hand, inflation lowers a firm’s return from creating job vacancies, thereby raising unemployment.

Gillani et al. (2009) investigated the relation among the crime and various economic indicators and to fulfill this objective, sample data was gathered covering period from 1975 to 2007. To find out the elation among the variables, Augmented-Dickey-Fuller test, Johansen and Julie’s cointegration and granger causality were tested. Unemployment, poverty, crimes, and inflation were used as variables. The result of cointegration showed long term relation among all the variables. The result of granger causality showed that in Pakistan, crime is granger caused by the poverty, unemployment and inflation. They recommended that while making policies, all the variables causing crimes need to be considered and addressed by the policy makers.

Berument et al. (2008) studied that how macroeconomic policy shocks affect the unemployment in Turkey for nine sectors. For this purpose quarterly data from period 1988 to 2004 was collected. Vector Autoregressive (VAR) technique was used on selected data. Shocks in real GDP, prices, exchange rate, bank interest rates, money supply and unemployment were selected as variables. The results disclosed that positive income shocks and positive money
shocks leads to a decrease in unemployment and showed that positive interest rate shocks leads to increase the unemployment.

Altavilla and Ciccarelli (2007) explored the role that inflation forecasts play in the uncertainty surroundings the estimated effects of alternative monetary rules on unemployment dynamics in the Europe and the US. The data was of US and European zone covering period from 1990 to 2005. They have used the inflation forecasts of eight competing models in a slandering Bayesian VAR to analyze the size and the timing of these effects, as well as to quantify the uncertainty relative to the different inflation models. The results are in line with the model-combination approach that central banks already follow when conceiving their strategy.

Kitov (2006) examined the inflation in USA for the period between 1960 and 2004. The data used in this paper is taken for the period of 1960 to 2004 and the variable used are inflation (consumer price index or GDP deflator), unemployment and change in labor. Phillip curve is used in this paper. The result explains that the population projections constructed by the US Census Bureau provides a useful tool to evaluate the long-term behavior of the labor force changes and the inflation and real economic growth are independent and driven by the different forces related to population.

Pallis (2006) studied the relationship between inflation and unemployment in new European Union member states. The data used in this analysis is annual that covered the period from 1994 to 2005, taken from European commission 2004 referred to the new 10 EU member states. The three variables used are “the price deflator of gross domestic product at market prices (national currency; annual percentage change)” and “nominal compensation per employee; total economy (national currency; annual percentage change)” and “total employment rate (%).” Non-linear least square method of estimations and E-views techniques are used. This paper concludes that the application of common policies across economy may be questionable because of the different effect of these policies on inflation and unemployment.

Osinubi (2005) investigated the impact of growth on the unemployment and the poverty for Nigeria. The main objective of the study is to investigate the relation among growth, unemployment and poverty and to find solutions to overcome these shortcomings. For this, annual time series data of period 1970 to 2000 is studied to answer the questions. Three stages least square (3SLS) estimation was applied on the selected data. Variables selected for the study were unemployment, inflation, and index of agricultural production, index of petroleum production, money supply, exchange rate, and changes in real GDP, savings, work stoppages and trade disputes. The result showed that growth is negatively related to the poverty and positively related to the unemployment. They suggested the policy makers to reduce the inequality of levels of income to overcome poverty and low growth.

Cashell (2004) studied the connection between Inflation and Unemployment. The data is used from the mid of 1997 through September 2001. It is concluded that the response of inflation is very slow to the changes in the rate of unemployment. They concluded that most current
estimates of the natural rate prolong to suggest that unemployment rates below 5% will eventually lead to a rising rate of inflation.

Flaim (1990) examined the population changes and unemployment rate for baby boomers. He studied population changes and changes in rates of unemployment covering period from 1960 to 1990. The results explored that unemployment rate had an upward trend in 60’s and 70’s and the reason was the growing rate of population and this rate had a downfall in the decade of 1980’s. There results confirmed that changes in age and population have a big impact on the rate of unemployment.

Objective Of The Study

The main focus of the research is on the following:

1. To perform a comparative study identifying the impact of multiple variables on unemployment in three different countries.

1.1 Modeling Framework:

Based on the theoretical work and empirical literature, we have developed a model to investigate the relationship/impact of macroeconomic variables on the unemployment.

\[ UE = f (GDP, ER, INF, POPL) \]

Where \( UE \) is unemployment of total labor force of a country in percentage, \( GDP \) is annual growth in the gross domestic product of a country, \( ER \) is effective exchange rates of local currency against US dollar, \( INF \) is inflation (annual percentages of consumer prices), and \( POPL \) is annual growth in total population.

\[
UE_{PAK} = \beta_0 + \beta_1 GDP + \beta_2 POPL + \beta_3 ER + \beta_4 INF + \varepsilon \\
UE_{IND} = \beta_0 + \beta_1 GDP + \beta_2 POPL + \beta_3 ER + \beta_4 INF + \varepsilon \\
UE_{CHINA} = \beta_0 + \beta_1 GDP + \beta_2 POPL + \beta_3 ER + \beta_4 INF + \varepsilon
\]

Here \( \varepsilon \) represent error term. In our equation \( \beta_0 \) is constant; \( \beta_1, \beta_2, \beta_3, \) & \( \beta_4 \) are expected to be positive. The data used in this analysis is secondary and is collected from the websites of the World Bank\(^4\) handbook of statistics of Pakistan and India. We have used regression analysis to find the impact of variables on unemployment.

Data and Methodology

To discover the relationship between inflation, exchange rate, GDP, and population, we have used regression, and co integration analysis. For the purpose of sample, annual data is collected from the economic survey of Pakistan, economic survey of India, economic survey of China, and World Bank website for the period of 1980 to 2009. Unemployment is used as dependent
variable, whereas Inflation rate, exchange rate, GDP, and population are use as independent variables.

1.2 Estimation and Results:

This study contains three models each for the different country. The First model is of Pakistan, second one is for India and the third one contains the data of China. Regression analysis, cointegration analysis and Granger causality are applied to analyze the relationship among the variables and the results are explained below. This study is an attempt to divulge the relationship between the unemployment, GDP, growing population, exchange rate, and inflation for all three countries. Independent analysis will be executed to discover the impact of all the variables on the unemployment rate of India, China and Pakistan, and the comparison of the results in order to find out any similarities or otherwise.

Regression analysis:

Table 4.1.1: Long run determinants of Unemployment:

<table>
<thead>
<tr>
<th>Variables</th>
<th>Model of PAK</th>
<th>Model of IND</th>
<th>Model of CHINA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Coefficient</td>
<td>t-stats</td>
<td>Prob.</td>
</tr>
<tr>
<td>Constant</td>
<td>0.123</td>
<td>3.845</td>
<td>0.001</td>
</tr>
<tr>
<td>GDP</td>
<td>0.012</td>
<td>2.875</td>
<td>0.001</td>
</tr>
<tr>
<td>INF</td>
<td>0.005</td>
<td>2.164</td>
<td>0.044</td>
</tr>
<tr>
<td>POPL</td>
<td>0.218</td>
<td>15.229</td>
<td>0.000</td>
</tr>
<tr>
<td>ER</td>
<td>0.004</td>
<td>5.592</td>
<td>0.000</td>
</tr>
<tr>
<td>Adj. R²</td>
<td>0.891</td>
<td></td>
<td></td>
</tr>
<tr>
<td>D-W stats</td>
<td>1.302</td>
<td></td>
<td></td>
</tr>
<tr>
<td>F-stat(prob)</td>
<td>49.378(0.000)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Authors’ Estimations.

The constant value which is known as the Y intercept, is 0.123 in case of Pakistan. The altitude of the regression line when it touches the Y axis is explained by the value of constant in a model. If all the regressors are assumed to be zero, it’s the projected value of unemployment.

The results show that all the variables have a significant positive impact on the rate of unemployment for Pakistan. GDP showed significant positive impact on unemployment\(^4\). This result is in contradiction to the theory where growth and unemployment has an inverse relationship. One of the reasons is, although growth plays a vital role to overcome the problem

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\(^4\) Osinubi (2005), El-Agrody, Othman, & Hassan, (2010)
of unemployment and poverty but alone it’s not adequate, poverty is one of the major reasons of the positive relation among these variables\(^5\). Another reason of the positive relation is that the foreign investment is not being utilized in a productive way in Pakistan, or its underutilized for the purpose it is intended for. Various studies have also established a positive relation between growth and unemployment. The result of India and China show negative\(^6\) impact of growth on the unemployment rate of both countries. It means that when economy grows, employment opportunities are boosted and eventually unemployment rate falls. This complies with the theory of inverse relationship, and it also means that in most cases the utilization of the resources in these countries is better than that of Pakistan. Pakistan needs to improve on this aspect to take advantage of the growth and reduce unemployment rate in the country.

For Pakistan and India, Inflation showed positive relation with the unemployment which means that when rate of inflation increases, unemployment increases as well. According to Mei Dong (2010) and Rupert Wright (2007) missing in list the relationship between the rate of unemployment and the inflation can be negative or positive according to the model and the environment\(^7\). So Pakistan and India needs to improve on its economic environment, in other words they need to contain the inflation rate which is hampering the employment rate. With the rise in prices the purchasing power starts reducing, ultimately reducing the demand. That leads to decline in production activity, and a decreasing trend in the factors of production utilization. That in turn leads to a rising rate of unemployment. Negative relation exists between unemployment and inflation for China, which supports Philip curve. This means that, when wages of labor force increases, unemployment rate is decreased\(^8\).

Population also showed positive impact on the unemployment rate. It explains that when population grows unemployment rate is increased too\(^9\). Logically and theoretically it supports the results, because with the rising population although the factors of productions keep increasing but that increase is not in proportion to the production and utilization of the resources. Thus being a limited market, a saturation state is developed which raises the unemployment rate.

\[
UE_{PAK} = \beta_0 + \beta_1 GDP + \beta_2 POPL + \beta_3 ER + \beta_4 INF + \varepsilon
\]

\[
UE_{PAK} = 0.123 + 0.012 GDP + 0.218 POPL + 0.004 ER + 0.005 INF + \varepsilon
\]

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7. Inflation and Unemployment in Competitive Search Equilibrium
8. Lui (2009)
\[ UE_{IND} = \theta_0 + \theta_1 GDP + \theta_2 POPL + \theta_3 ER + \theta_4 INF + \epsilon \]

\[ UE_{IND} = -0.096 + 0.007 GDP + 0.318 POPL + 0.006 ER + 0.025 INF + \epsilon \]

\[ UE_{CHINA} = \theta_0 + \theta_1 GDP + \theta_2 POPL + \theta_3 ER + \theta_4 INF + \epsilon \]

\[ UE_{CHINA} = -0.442 + 0.010 GDP + 0.363 POPL + 0.009 ER - 0.003 INF + \epsilon \]

Co Integration

To estimate the long term relation between the variable used in the models, Johanson and Juselius (1990) missing co-integration procedure is tested on all the models. Trace statistics and Maximum Eigen value statistics are the two tests statistics for co-integration which were used by them. Cointegration is said to exist if the values of computed statistics are significantly different from zero. The results of the cointegration analysis containing the Trace statistics and Eigen values along with their probabilities are reported below in table 4.2.
Table 4.1.2: Cointegration Analysis

<table>
<thead>
<tr>
<th>Models</th>
<th>Hypothesis No. of CE(s)</th>
<th>Trace statistics</th>
<th>5% critical values</th>
<th>Max. Eigen value statistics</th>
<th>5% critical values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model 1 PAK</td>
<td>None*</td>
<td>115.448</td>
<td>69.818</td>
<td>0.933</td>
<td>33.876</td>
</tr>
<tr>
<td></td>
<td>At Most 1*</td>
<td>58.426</td>
<td>47.856</td>
<td>0.757</td>
<td>27.584</td>
</tr>
<tr>
<td></td>
<td>At Most 2</td>
<td>28.661</td>
<td>29.797</td>
<td>0.572</td>
<td>21.131</td>
</tr>
<tr>
<td></td>
<td>At Most 3</td>
<td>10.827</td>
<td>15.494</td>
<td>0.276</td>
<td>14.264</td>
</tr>
<tr>
<td>Model 2 IND</td>
<td>None*</td>
<td>83.906</td>
<td>60.061</td>
<td>0.892</td>
<td>30.439</td>
</tr>
<tr>
<td></td>
<td>At Most 1*</td>
<td>37.000</td>
<td>40.174</td>
<td>0.567</td>
<td>24.159</td>
</tr>
<tr>
<td></td>
<td>At Most 2</td>
<td>19.409</td>
<td>24.275</td>
<td>0.459</td>
<td>17.797</td>
</tr>
<tr>
<td>Model 2 CHINA</td>
<td>None*</td>
<td>148.200</td>
<td>79.341</td>
<td>0.960</td>
<td>37.163</td>
</tr>
<tr>
<td></td>
<td>At Most 1*</td>
<td>80.543</td>
<td>55.245</td>
<td>0.849</td>
<td>30.815</td>
</tr>
<tr>
<td></td>
<td>At Most 2</td>
<td>40.799</td>
<td>35.010</td>
<td>0.684</td>
<td>24.252</td>
</tr>
<tr>
<td></td>
<td>At Most 3</td>
<td>16.543</td>
<td>18.397</td>
<td>0.544</td>
<td>17.146</td>
</tr>
<tr>
<td></td>
<td>At Most 4</td>
<td>0.0520</td>
<td>3.841</td>
<td>0.002</td>
<td>3.841</td>
</tr>
</tbody>
</table>

Source: Authors’ Estimations.

Table 4.1.2 shows the rejection of null hypothesis at five percent level of significance, for both the Trace statistics and the maximum eigen value statistics, in favour of alternative that there is one cointegration vector for Indian model, two cointegration vectors for Pakistani model and three cointegration vectors for the model of China. Consequently, it is concluded that long run relationship do exists between the measured variables.

**Granger Causality**

Granger causality analysis has been performed to observe the causal relationship among variables. For this purpose, Standard Granger (1969) structure has been used. Jones (1989) missing expresses that ad hoc selection method for lag length in Granger causality is better than some of the statistical method used to determine optimal lag. Consequently two lag lengths are assumed for the whole model. The results of Granger causality are represented in table below.

Table 4.1.3: Granger Causality Pakistan

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>F stats (prob)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pakistan</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP does not Granger Cause UNEM</td>
<td>4.14695 (0.029)</td>
<td>Rejected</td>
</tr>
<tr>
<td>UNEM does not Granger Cause GDP</td>
<td>0.59231 (0.561)</td>
<td>Accepted</td>
</tr>
<tr>
<td>INF does not Granger Cause UNEM</td>
<td>0.04143 (0.959)</td>
<td>Accepted</td>
</tr>
<tr>
<td>UNEM does not Granger Cause INF</td>
<td>1.69012 (0.206)</td>
<td>Accepted</td>
</tr>
</tbody>
</table>
Table 4.1.3 shows the results of the granger causality for Pakistan model. The result shows that bidirectional causality does not exist amongst any of the variable. Unidirectional causality exists among the GDP (from GDP to unemployment) and exchange rate (from unemployment to exchange rate).

**Table 4.1.4: Granger Causality India**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>F stats (prob)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP does not Granger Cause UNEM</td>
<td>0.79132 (0.465)</td>
<td>Accepted</td>
</tr>
<tr>
<td>UNEM does not Granger Cause GDP</td>
<td>0.77616 (0.471)</td>
<td>Accepted</td>
</tr>
<tr>
<td>INF does not Granger Cause UNEM</td>
<td>3.35068 (0.052)</td>
<td>Rejected</td>
</tr>
<tr>
<td>UNEM does not Granger Cause INF</td>
<td>0.41106 (0.667)</td>
<td>Accepted</td>
</tr>
<tr>
<td>POPI does not Granger Cause UNEM</td>
<td>1.61997 (0.219)</td>
<td>Accepted</td>
</tr>
<tr>
<td>UNEM does not Granger Cause POPI</td>
<td>0.95584 (0.399)</td>
<td>Accepted</td>
</tr>
<tr>
<td>ER does not Granger Cause UNEM</td>
<td>0.89751 (0.421)</td>
<td>Accepted</td>
</tr>
<tr>
<td>UNEM does not Granger Cause ER</td>
<td>1.14549 (0.335)</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Table 4.1.4 shows the results of the granger causality for Pakistan model. The result showed that bidirectional causality does not exist amongst any of the variable. Unidirectional causality exists among only one variable that is inflation (from Inflation to unemployment).

**Table 4.1.5: Granger Causality China**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>F stats (prob)</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP does not Granger Cause UNEM</td>
<td>1.40484 (0.265)</td>
<td>Accepted</td>
</tr>
<tr>
<td>UNEM does not Granger Cause GDP</td>
<td>1.02601 (0.374)</td>
<td>Accepted</td>
</tr>
<tr>
<td>INF does not Granger Cause UNEM</td>
<td>2.05521 (0.150)</td>
<td>Accepted</td>
</tr>
<tr>
<td>UNEM does not Granger Cause INF</td>
<td>4.45791 (0.023)</td>
<td>Rejected</td>
</tr>
<tr>
<td>POPI does not Granger Cause UNEM</td>
<td>7.52241 (0.003)</td>
<td>Rejected</td>
</tr>
<tr>
<td>UNEM does not Granger Cause POPI</td>
<td>0.58567 (0.564)</td>
<td>Accepted</td>
</tr>
<tr>
<td>ER does not Granger Cause UNEM</td>
<td>3.71601 (0.040)</td>
<td>Rejected</td>
</tr>
<tr>
<td>UNEM does not Granger Cause ER</td>
<td>2.72333 (0.086)</td>
<td>Rejected</td>
</tr>
</tbody>
</table>
Conclusion

This study investigates the factors affecting the rate of unemployment in a country. For this purpose sample data is collected covering period from 1987 to 2009. Regression analysis, granger Causality and the Co integration analysis are tested on the selected data. The variables selected for the study are unemployment rate, inflation rate, gross domestic product, exchange rate and the increasing rate of population. The result of regression analysis showed significant impact of all the variables for all three countries. GDP of Pakistan showed positive\(^{10}\) relation with the unemployment rate and the reason of that is the poverty level and underutilization of foreign investment. The result of granger causality showed that bidirectional causality does not exist between any of the variable for all three countries. Co integration result explored that long term relationship do exist among the variables for all the models.

It is concluded that for Pakistan, growth has a positive relation with the unemployment rate. Numerous factors are the reason of this result like unequal income distribution, improper utilization of foreign investment, poverty, and growing population, worsening economic conditions, political instability, low growth and many others. To overcome this situation, policies need to be revised. We recommend that:

- The policy makers need to improve the distribution of income in Pakistan to shift the impact of growth towards the betterment of the employment rate.
- Another reason of negative relation of growth is that the foreign investment are not been utilized in productive manners in Pakistan like India and China. Like these two countries, we need to have proper utilization of foreign investment to improve the growth and reduce unemployment rate.
- One more reason of increasing rate of unemployment is the mismatch between the skills required for a job and the skills of job seekers. To avoid this situation, training opportunities need to be developed in order to develop skills of old and new workers of organizations to adopt changes of the environment.
- Rate of unemployment is very high in Pakistan and it is increasing day by day. Government need to create employment opportunities for both educated and uneducated people.
- Labor intensive strategies are need for the poor people in rural and urban areas so that they can participate in the growth of the economy.
- Further research can be done by using age, gender, qualification, sector, wages etc. as variables to have a broad view towards unemployment and the reasons of unemployment.
- Due to limited time and the resources, data used is very limited. A detailed research can be done by having data of more countries and a big time frame.

\(^{10}\) (Osinubi, MACROECONOMETRIC ANALYSIS OF GROWTH, UNEMPLOYMENT AND POVERTY IN NIGERIA, 2005)
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