

## **THE LONG RUN EFFECTS BETWEEN UNEMPLOYMENT AND ECONOMIC GROWTH IN SELECTED SAARC COUNTRIES**

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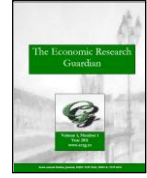
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### **Abstract**

*The objective of the study is to examine the relationship between unemployment rate and growth rate in selected SAARC countries over the period of 1990-2010. Data is analyzed by panel cointegration technique, Fully Modified OLS (FMOLS) and Dynamic OLS (DOLS) for estimating long-run relationship between the variables. The results show some evidences for unemployment hysteresis in selected SAARC countries. The results further depict that the significance of the relationship between economic growth rate and unemployment rate vary between the SAARC countries.*

**Keywords:** Unemployment, Economic growth, Panel Cointegration, FMOLS, SAARC countries

**JEL classification:** C33, E24, O47



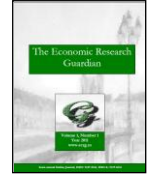
## 1. Introduction

The South Asian region is home of one fourth of the world population. It includes Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka. These countries possess similar political and economic problems in terms of nature (Chauhan, 2008). SAARC countries are facing similar social and economic problems, like education, low literacy rates, poor infrastructure, substandard quality of education, heavy dropout rates, and inadequate funding etc. The recent structural changes have effected abysmally to these countries because they have low literacy rates, with very low technical education or vocational trainings. These densely populated countries will become vulnerable to precarious threats of job creation, which poses serious threats of problem like unemployment. Unemployment is defined as economically active population who are without work but available for seeking work, including people who have lost their jobs and those who have voluntarily left the work (World Bank, 1998:63). Since the last few decades there has been a paradigm shift in the world political and economic order as a result of globalization and advancement of technology, as new tools and techniques are devised and with the help of communication world become global village, while the SAARC regions can't cope with the changing circumstances due to social and economic problems. Such circumstances of the economy hinder economic growth of Saarc region and these countries are reported as developing countries accurately in the American Mathematical society report. In this region as all countries are having colonial history and structural changes have occurred but to know progress of transformation results are observed that tell about SAARC region is affected by political instability and other factors. (Sawhney, 2010).

SAARC countries before 3 decades ago were asked to form Asian Union like EU but they all were having traditional economy and that was considered not suitable to establish a union. Concept of union took birth as economies started to undergo structural changes which lead these countries to establish a SAARC in December 1985. Such co operation has lead to form strong trade agreements like "SAARC preferential Trading agreements SAPTA" in 1993. That facilitated countries to have gains from trade by industrial development and employment generation but these structural changes were strongly affected by political instability like wars among countries which just resulted into destructions. Benefits of structural changes in South Asian country has remained a puzzle due to Economic, Social and Political uncertainty that have hearted these countries by turning their economic face away from each other. (Ragahavan, 1995)

Structural changes are made with the idea to improve the income level of the mass. It involves advancement of technology and such technical transformation moves economy from traditional to the modern sectors this technology advancement went on to create shortage of skills in labors which ultimately leads to unemployment (Birchenall, 2002). The structural changes cause high unemployment rates as demand for labor decreases due to skill mismatch as per newly emerged jobs (Mahmoud and Rumman, 2012).

One possible way out to reduce the problem of unemployment is to lower the interest rate. It may effect adversely as the loaning of private sector will increase and forced the economy into recession which ultimately increase unemployment again such unemployment will be cyclic in nature as it



occurred due to business cycle fluctuations. As the business cycle fluctuations are negatively linked with the growth so the policy makers try to make policies that at least reduce the fluctuations of the business cycle (Mahmood, 2001).

Unemployment seems to be a simple problem but its effects are chronic in developing countries. Other possible way out is Structural transformation but a paradox situation occurs as economists and researchers like Kuznets (1966,1971), Fisher (1935,1939), and Chenery(1979) suggest necessity of structural changes for economic growth where these shifts in economy like in production sector are far faster than the shifts in employment sector. That leads to skill shortage resulting higher unemployment and decrease of economic growth again. As unemployment and economic growth are inversely related but if the growth in real GDP exceeds growth in labor productivity; employment approximately will rise. High unemployment rate is considered bad as it put negative consequences for economic well being. (Levine, 2012)

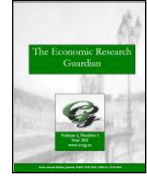
The relationship between growth and unemployment is presented by Okun's in 1962 and this relationship in literature is known as Okun's law which states that economic growth rate increase by 3 percent (above the normal rate) then it reduces the unemployment rate by 1 percentage point. Or, to put it the other way round: the gain of real GDP associated with a reduction in unemployment of one percentage point was estimated to be 3 percent. SAARC countries are having structural transformation since three to four decades according to report of United Nations (2006). But such a shift of economy for advancement is whether suitable for them? And if it is so what cost they will be paying? This study focus on unemployment and its confrontations or compliance with economic growth in selected SAARC countries.

The study is divided into following sections: after introduction which is presented in Section 1 above, Section 2 shows the review of literature. Data source and methodological framework are presented in Section 3. Results are discussed in Section 4. Final section concludes the study.

## **2. Literature review**

Economic growth of a country is measured by a commonly used parameter i.e. GDP growth; which is affected by factors like inflation, unemployment, literacy rate etc. Levine (2012) explained the relationship and consequences of unemployment on economic growth of US and negative relationship are found up to the period where growth in real GDP exceeds growth in labor productivity which shows concrete evidence for the validity of Okun's law. But contrary to that, Mahmoud and Rumman (2012) conducted same study for Arab countries focusing their economic policies. The study revealed that lower economic growth rates hinder new job creation which causes high rates of unemployment. Empirical findings validate the occurrence of Okun's law and suggest that separate policies should be designed to control unemployment rate and boosting economic growth.

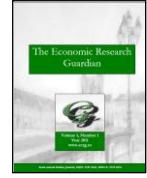
Ewald (1999) investigated relationship between unemployment and economic growth for EU countries by time series annual data during the period 1968 to 1998 and empirically proved a



negative relationship between GDP and unemployment. Similarly, Lal et al. (2010) estimate the Okun's coefficient, and check the validity of Okun's law in some countries of a Asian region namely China, India, Bangladesh, Sri Lanka and Pakistan, for this purpose they have used time series annual data during the period 1980 to 2006 and used Engle Granger (1987) co integration technique to investigate long run relationship between variable and error correction mechanism for short run dynamic. The result reveals that Okun's law interpretation may not be applicable in few Asian developing countries. Tatoglu (2011) finds the movement of economic growth rate and unemployment rate for individuals and pooled cases in European countries over the period 1977-2008. The result show that the validity of Okun's Law and the significance of the relationship between economic growth rate and unemployment rate vary between countries. Hussain et al. (2010) also examine causal relationship between growth and unemployment, using time series data for Pakistan from 1972 to 2006. The results indicate that there is short and long run causal relation between growth and unemployment including capital, labor and human capital as explanatory variables. Aranki et al. (2010) studied on the basis of Swedish data concerning the relationship between unemployment and GDP. The estimate shows that the relationship varies over time and that a higher level of economic growth is needed today to alter the level of unemployment compared to the average historical relationship

Validity of Okun's law is checked by many researchers like Ewald (1999) studied Okun's law for EU countries by time series annual data during the period 1968 to 1998 and concluded as chances for cutting unemployment by higher economic growth has remained better in nineties. Mitchell/Pearce (2007a) analyzed in Wall Street Journal (WSJ) by studying United States and have concluded that there is a significant negative correlation between forecasts of changes in unemployment rate and forecasts of rate of real output growth. Similarly, Christian (et. al, 2008) followed Mitchell/Pearce work but studied G7 countries for validity of linear relationship of Okun's law and concluded that economists believed in validity of Okun's law.

Sawhney (2010) studied structural changes in SAARC countries for last two decades relationship of unemployment and economic growth and study emphasized that Structural changes are made to better off the nations. It involves advancement of technology and such technical transformation moves economy from traditional to the modern sectors. While, in contrast to Sawhney, Kuznets (1966, 1971), fisher (1935, 1939), and Chenery (1979) suggest in their seminal work done that describes about the features of structural transformations. Structural transformations are necessary for economic growth but these shifts in economy like in production sector are far faster than the shifts in employment sector. Similarly, Margarida and Diego (2009) studied about role of structural transformations in aggregate productivity of United states and their study concluded that structural transformations firstly lead to catch up as labor form agriculture sector is reallocated to industry but such catch up is followed by slowdown, stagnation, and even decline. Birchenall (2002) concluded with this technology advancement went on to create shortage of skills in labors which ultimately leads to unemployment. Mehta (2011) gave reasons for increasing unemployment due to technology which is 'technology' acquiring is a complex and costly affair and that requires strong policies interventions by government. Similarly, Njoku (2011) analyzed economic growth and unemployment in perspective of structural changes in Nigerian economy and concluded that structural changes have moved economy to modern sector from traditional sector which raised unemployment as agriculture sector was responsible for decreasing unemployment. Its evidence was that unemployment rate



surpasses in urban areas that in rural areas reflecting that agriculture sector had the capacity to absorb more labor. Even Murphy (et. all, 1989) have developed classical models of structural transformation, which emphasized on augmenting productivity of agriculture sector to improve per capita income which will increase aggregate demand in economy. Hubert and Herbert (2005) on the other hand studied the unemployment-growth relationship in transition countries and illustrated that high level of unemployment rate is result of low aggregate demand and that contributes poorly to economic growth due to low productivity in an economy.

Structural changes are occurring in South Asian countries since few decades (United Nations, 2006) and one of the consequences of structural changes is decreasing the share and employment ratio of agriculture sector in Gross domestic product (GDP). Even though there are large inter-sectoral output gaps which ensures two things; employment chances and rapid economic growth (Rodrik, 2011).

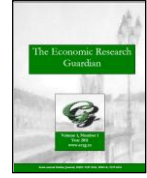
The pattern of structural transformation is different of SAARC than developed countries as it do not strictly validate the phenomenon of structural changes and economic growth. Because there is lot of heterogeneity in these countries (Bah, 2008) and heterogeneity has lead to disparities in human resource development that are limiting transfer and absorption of technology in SAARC countries such difference are due to human and physical infrastructure development as well as soundness of other indicators (Amsden, 1989). Sound financial development and economic growth are positively linked in SAARC countries and financial development factors are like macroeconomic stability, legal system effectiveness, educational attainment and trade openness (Afaque et. all, 2009).

### **3. Data source and methodological framework**

This methodology is consisting of panel econometrics tests that are useful in predicting the long run relationship between unemployment and economic growth among SAARC countries. Similar study for European countries analyzing the relationship between economic growth and unemployment was done by Tatoglu (2011).

The theoretical model was developed on the basis on “Unemployment hysteresis” for checking empirically. The terminology of “**unemployment hysteresis**” was introduced by Blanchard and Summers (1986) which means that a high degree dependence of the current employment level on the past. Because the natural rate hypothesis given by Phelps (1967) and Friedman (1968) who argue that unemployment rate reverts to its mean while the deviations from the natural rate should considered be temporary.

Econometrically, economic variables that are typically included to explain this relationship are: unemployment rate and GDP growth. While, the hysteresis hypothesis implies that the unemployment rates are non-stationary and unit roots tests can be used to test this hypothesis. Let  $u_t$  be the unemployment rate of country  $i=1,2,\dots,N$  at time  $t=1,2,\dots,T$ . The existence of unit root



in unemployment series is tested with the following basic Augmented Dickey Fuller (ADF) specification for panel data;

$$\Delta U_{it} = \alpha_{it} + \alpha_{li} U_{it-1} + \alpha_{2i} t + \sum_i^m \beta_{ij} \Delta U_{it-t} + e_{it} \quad (1)$$

The lag order for the difference terms (mlag) is allowed by specification to vary across the cross-section. Using different null and alternative hypothesis there are several panel unit root test constructed given below:

Hypotheses (A)  $H_0: \alpha_{li} = 0$  for all  $i$  versus  $H_1: \alpha_{li} < 0$  for all  $i$

Hypotheses (B)  $H_0: \alpha_{li} = 0$  for all  $i$  versus  $H_1: \alpha_{li} < 0$  for some  $i$

Hypotheses (C)  $H_0: \alpha_{li} < 0$  for all  $i$  versus  $H_1: \alpha_{li} = 0$  for all  $i$

While hypotheses (A) is used for Levin et al. (2002) panel unit root test; hypotheses (B) is assumed in Im et al. (2003) and Fisher type tests (ADF–Fisher and PP–Fisher) proposed by Maddala and Wu (1999) and Choi (2001). Hypotheses (C) is used in Hadri (2000) panel unit root test. Using these types of tests, the unemployment hysteresis can be tested.

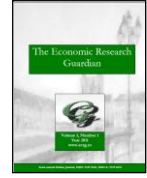
Assuming  $it$   $u$  and  $it$   $y$  are both  $I(1)$  and if  $eit \sim I(0)$ , cointegration relationship exists between these series (see Engle and Granger, 1987). Pedroni (1999) suggests seven Philips-Perron type panel cointegration tests (four panel and three group test statistics) under the null hypothesis of no cointegration against the alternative of cointegration with allowance for heterogeneity. Above mentioned panel test statistics under appropriate standardization is distributed asymptotically as a normal distribution and expressed as follows:

$$\frac{\theta_{NT} - \mu\sqrt{N}}{\sqrt{\nu}} \rightarrow N(0,1) \quad (2)$$

Pedroni (1999) gives critical values for  $\mu$  and  $\nu$  including and excluding intercepts and deterministic trends. Kao (1999) explains the bias-corrected tests for the null of no cointegration in a model where the variance of innovations is the same in all cross section units. Kao suggests five panel cointegration tests, Kao ADF test is obtained by running the following regression:

$$\hat{\epsilon}_{it} = \rho \hat{\epsilon}_{it-1} + \sum_{j=1}^p \nu_j \Delta \hat{\epsilon}_{it-j} + \nu_{ip} \quad (3)$$

and the ADF test statistic is constructed as (Kao, 1999; 8):



$$ADF = \frac{t_{ADF} + \frac{\sqrt{6N\hat{\sigma}_v}}{2\hat{\sigma}_{ov}}}{\sqrt{\frac{\hat{\sigma}_{ov}^2}{2\hat{\sigma}_v^2} + \frac{3\hat{\sigma}_v^2}{10\hat{\sigma}_{ov}^2}}}, \quad (4)$$

where,  $t_{ADF}$  is the t statistics refer long run variance of the residuals that is given below:

$$\rho, \hat{\sigma}_v^2 = \sum_{yy} - \sum_{yx} \sum_{xx}^{-1} \text{ and } \hat{\sigma}_v^2 = \Omega_{yy} - \Omega_{yx} \Omega_{xx}^{-1} \Omega_{xy} \quad (5)$$

If there is long term relationship between series according to panel cointegration tests results, the long term relationship can be estimated with FMOLS (fully modified OLS) proposed by Philips and Moon (1999) and Pedroni (2000) and DOLS (dynamic OLS) (Stock and Watson, 1993) estimation methods. The FMOLS estimator is constructed by making corrections for endogeneity and serial correlation to the OLS estimator and it is obtained using the following equation (Pedroni, 2000, 102-103):

$$\hat{\beta}_{NT}^* - \beta = \left[ \sum_{t=1}^N \hat{L}_{22i}^{-2} \sum_{t=1}^T (u_{it} - \bar{u}_i)^2 \right]^{-1} \sum_{t=1}^N \hat{L}_{11i}^{-1} \hat{L}_{22i}^{-1} \left[ \sum_{t=1}^T (u_{it} - \bar{u}_i) \mu_{it}^* - T \hat{\gamma}_i \right], \quad (6)$$

where,  $\hat{\beta}_{NT}^*$  is standard panel OLS estimator,  $i \neq$  refer to the individual specific means:

$$\mu_{it}^* = \mu_{it} - \frac{\ddot{L}_{21i}}{\hat{L}_{22i}} \Delta x_{it}, \hat{\gamma}_i \equiv \hat{\Gamma}_{21i} + \hat{\Omega}_{21i}^0 - \frac{\ddot{L}_{21i}}{\hat{L}_{22i}} (\hat{\Gamma}_{22i} + \hat{\Omega}_{21i}^0) \quad (7)$$

The estimator of  $\hat{\beta}_{NT}^*$  converges to the true value at rate  $TN$  and is distributed as:

$$T\sqrt{N}(\hat{\beta}_{NT}^* - \beta) \rightarrow N(0, \nu), \text{ where } \nu = \begin{cases} \frac{2}{6} & \text{if } \bar{u}_i = \bar{y}_i = 0 \\ \text{else} & \end{cases} \quad (8)$$

as  $T \rightarrow \infty, N \rightarrow \infty$

Although FMOLS and DOLS estimation methods calculate only long run parameters in the model. The panel DOLS estimator is obtained by running the following regression which include leads and lags of differenced I(1) regressor in the regression:

$$y_{it} = \alpha_i + u_{it}'\beta + \sum_{j=-q}^q c_{ij} \Delta u_{it+j} + v_{it} \quad (9)$$



#### 4. Results and discussion

In this study, we use an annual balanced panel data from 1990 to 2010 for selected 5 Saarc countries (namely, Bangladesh, Bhutan, India, Pakistan and Sri Lanka). The variables that we consider are the unemployment rate and the GDP growth rate. Pakistan and Sri Lanka have generally the highest unemployment rate and Bangladesh and Bhutan have the lowest unemployment rate. The GDP growth rate is on moderate scale for Bangladesh, Pakistan and Sri Lanka, but on higher scale for India and Bhutan. Among all, Sri Lanka is having negative GDP growth rate i.e. in 2000.

Firstly, we apply two panel unit root tests on unemployment rate and GDP nexus i.e., the individual and the pooled panel unit root tests which are found in Table 1 and Table 2, respectively. Pooled unit root tests results shows that the unit root null hypothesis for panel data cannot be rejected for both series; I(0) and I (1) however, it is rejected for IM, Pesaran & Shin W-stat at level but accepted at I (1). According to ADF individual panel unit root test results, the unemployment rate series for all countries are accepted at I (1) even Bhutan has acceptance on level also for only unemployment rate. Similarly, ADF individual panel unit root test results, the GDP growth is having series at I (1) for all countries except Sri Lanka and Pakistan have both series acceptance of GDP growth; level and I (1).

Table 1 - Individual Unit Root test

| ADF fisher Panel<br>unit root test | Unemployment rate (U <sub>o</sub> ) |                         | Real GDP (Y <sub>o</sub> ) |                         |
|------------------------------------|-------------------------------------|-------------------------|----------------------------|-------------------------|
|                                    | Level<br>(p-value)                  | First Dif.<br>(p-value) | Level<br>(p-value)         | First Dif.<br>(p-value) |
| Bangladesh                         | 0.8856                              | 0.0034                  | 0.7207                     | 0.0093                  |
| Bhutan                             | 0.0033                              | 0.0072                  | 0.7207                     | 0.0093                  |
| India                              | 0.3204                              | 0.0094                  | 0.3204                     | 0.0094                  |
| Pakistan                           | 0.4128                              | 0.0018                  | 0.0509                     | 0.0003                  |
| Sri Lanka                          | 0.4849                              | 0.0094                  | 0.0148                     | 0.0000                  |



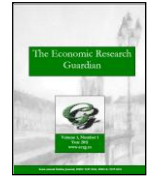


Table 2 - Pooled Unit root tests

| Test                         | Unemployment rate (Uo) |                    | Real GDP (Yo)     |                    |
|------------------------------|------------------------|--------------------|-------------------|--------------------|
|                              | Level                  | First difference   | Level             | First difference   |
| Levin, Lin & t-stat          | -1.747<br>(0.040)      | -3.363<br>(0.000)  | -2.350<br>(0.009) | -8.849<br>(0.000)  |
| Im, Pesaran & Shin<br>W-stat | -1.147<br>(0.125)      | -6.150<br>(0.000)  | -1.454<br>(0.073) | -7.556<br>(0.000)  |
| ADF fisher Chi-square        | 17.163<br>(0.070)      | 52.508<br>(0.000)  | 17.963<br>(0.055) | 64.841<br>(0.000)  |
| PP-Fisher Chi-square         | 17.884<br>(0.057)      | 355.430<br>(0.000) | 16.935<br>(0.075) | 155.101<br>(0.000) |
| Hadri Z-stat                 | 5.773<br>(0.0000)      | 3.696<br>(0.000)   | 2.674<br>(0.003)  | 1.747<br>(0.040)   |

- *P-values are in parenthesis.*
- *The null hypothesis in Hadri-Z test that series are stationary.*

Secondly, we estimate panel cointegration between GDP and unemployment rate. We check for existence of long term relationship using Pedroni (1999) and Kao (1999) cointegration tests are applied, results are given in Table 3. The lag orders are chosen by Akaike information criterion, individual intercept are included. We can not reject the relationship for selected SAARC countries between unemployment rate and GDP growth rate for both model 1 (dependent variable: unemployment rate,  $U_{it}$ ) and model 2 (dependent variable: GDP,  $Y_{it}$ ) with most of cointegration test statistics.

Table 3 - Cointegration tests

| Tests                     | Independent variable  |                     | Dependent variable    |                     |
|---------------------------|-----------------------|---------------------|-----------------------|---------------------|
|                           | Unweighted statistics | Weighted Statistics | Unweighted statistics | Weighted statistics |
| Pedroni Panel<br>v-stat   | -0.416<br>(0.843)     | -0.466<br>(0.996)   | 0.918<br>(0.011)      | 0.649<br>(0.990)    |
| Pedroni Panel<br>rho-stat | 0.500<br>(0.0033)     | -1.000<br>(0.2116)  | -5.364<br>(0.000)     | -4.454<br>(0.1634)  |
| Pedroni Panel<br>pp-stat  | -0.255<br>(0.000)     | -2.241<br>(0.2592)  | -5.148<br>(0.000)     | -4.252<br>(0.256)   |



|                           |                      |                   |                       |                    |
|---------------------------|----------------------|-------------------|-----------------------|--------------------|
| Pedroni Panel<br>adf-stat | -0.323<br>(0.0146)   | -2.662<br>(0.025) | -5.317<br>(0.0053)    | -4.701<br>(0.0143) |
| Pedroni Group<br>rho-stat | -0.30534<br>(0.1062) |                   | -3.3225<br>(0.0209)   | -----              |
| Pedroni Group<br>pp-stat  | -1.42693<br>(0.000)  |                   | -4.6195<br>(0.0004)   | -----              |
| Pedroni Group<br>adf-stat | -1.83669<br>(0.0473) |                   | -5.08148<br>(0.0325)  | -----              |
| Kao adf-stat              | -0.17822<br>(0.0009) |                   | -0.850500<br>(0.0000) |                    |

- *P-values are in parenthesis.*
- *The null hypothesis is no cointegration for all cointegration tests.*

Thirdly, methodology contains an estimation for the long run model using FMOLS (fully modified OLS) and DOLS (dynamic OLS) estimation methods for both model 1 (dependent variable: GDP growth rate,  $Y_{it}$ ) and model 2 (dependent variable: Unemployment rate,  $U_{it}$ ). The results are displayed in Table 4 and Table 5 for individual. The results are having significant probability value except for Sri Lanka and Pakistan. In this research study, long term relationship between Unemployment rate and GDP growth can be conformed for all countries except for Pakistan and Sri Lanka.

Table 4 - FMOLS and DOLS  
Dependent variable: GDP

| Country    | FMOLS              | DOLS               |
|------------|--------------------|--------------------|
| Bangladesh | 0.576<br>(0.000)   | 0.560<br>(0.000)   |
| Bhutan     | 0.129<br>(0.053)   | 0.255<br>(0.047)   |
| India      | 1.000<br>(0.000)   | 1.000<br>(0.000)   |
| Pakistan   | 0.206<br>(0.4062)  | 0.662<br>(0.1108)  |
| Sri Lanka  | -0.170<br>(0.3253) | -0.136<br>(0.3967) |

- *P-values are in parenthesis.*



Table 5 - FMOLS and DOLS

Dependent variable: Unemployment

| Country    | FMOLS             | DOLS              |
|------------|-------------------|-------------------|
| Bangladesh | 1.638<br>(0.000)  | 1.600<br>(0.000)  |
| Bhutan     | 3.110<br>(0.000)  | 2.473<br>(0.013)  |
| India      | 1.000<br>(0.000)  | 1.000<br>(0.000)  |
| Pakistan   | 0.076<br>(0.710)  | -0.078<br>(0.815) |
| Sri Lanka  | -0.306<br>(0.621) | -0.310<br>(0.772) |

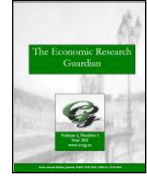
• *P-values are in parenthesis.*

The results described as India is having significant values that tell us about as economic growth increased so did unemployment, there are changes observed during 1990's onwards due to structural changes as labor started moving from agriculture to non-primary sectors like industrial and service sector with lower rates (Aggarwal and Nagesh, 2012). India having largest youth population in world (UN, 2007) is suffering from youth unemployment. In 1993-94 youth unemployed in India increased from 6.5 million in 1993-94 to 9.5 million in 2004-05. Because technical transformation moves economy from traditional to the modern sectors but this technology advancement went on to create shortage of skills in labors which ultimately leads to unemployment, (Birchenall, 2002).

Similarly, the structural changes in Bangladesh started to recover since after 1990's as small, medium and large industries were growing. But in long run this growth was affected by macroeconomic mismanagement (Bhattacharaya, 2003) Similarly, Tendulkar and Bhavani (2004) interestingly noticed, the structural change in the distribution of labour force could have made a significant contribution of GDP growth in developing countries, however the overall contribution of employment remains insignificant. In case of Bhutan, although economy has grown steadily as growth process is urban-centric and capital intensive but has failed to generate employment opportunities adequately (Bhutan NHD report, 2005). While, results observed of country like Pakistan having significant economic growth, decreasing poverty and contributing to decrease unemployment since after late 1990's (Arif and Shujaat, 2011).

## 5. Conclusion

In this study, we examined unemployment hysteresis and the long run term relationships between unemployment rate and economic growth in selected SAARC countries over the period of 1990 to 2010. Estimation results support the unemployment hysteresis in most of selected SAARC countries. Selected SAARC countries have under gone structural changes (United Nations, 2006) and have made skills shortage leading to more unemployment (Birchenall, 2002). According to traditional



economic industrialization process will increase unemployment rates (Taylor, 2004). And technology is a complex and costly affair (Mehta, 2009). And youth and less skilled workers have strongest risk as affected by rise in unemployment (Economic outlook, 2011). As world's youth live almost 84 per cent in developing countries and their concentrated proportion is targeted by higher youth unemployment like India. And employment can be increased by skill development and vocational trainings. Considering youth as a major human resource for development and a key agents for social change and driving force for technological innovation and contributing vitally to economic growth (Mahendra and Venkatanarayana, 2011). Concluding as structural transformations are ongoing process and may be targeted by obstacles that may end development as it is not a smooth process (Peter, 2007)

SAARC countries have under gone structural changes due to globalization and macro economic reforms that are done for structural advancement. Need for improvement in governance improvement is essential for all SAARC countries that will strengthen institutions that will help in promoting economic growth and stability. The government should help in having sound political, financial and social reforms to achieve structural changes smoothly because SAARC countries have potential to grow and that will help in increasing productivity of economy and economic welfare. (Sawhney, 2010)

SAARC countries should develop their human and physical infrastructure development by extending regional cooperation to other areas along with those reducing restrictions on intra-regional investment and technology flows. This expansion of trade can be done by promoting free trade that will cause equalize factor prices among trading nations so that international income inequalities will decrease. (Ragahavan, 1995) Sound financial development and economic growth are positively linked in SAARC countries and financial development factors are like macroeconomic stability, legal system effectiveness, educational attainment and trade openness (Afaque et. all, 2009).

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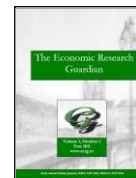
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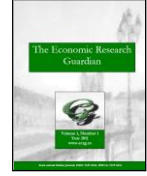
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