Globalization and its impact on Employment: Evidence from Pakistan

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Abstract

The core purpose of the analysis is to explore the influence of Globalization on Pakistan's employment situation. The study is based on time series data covering the period from 1972 to 2010. The study has applied Johansen Cointegration technique to estimate the long run and short run relationship among variables. The results indicate that Globalization has positive and significant impact on employment generation. Further, it is found that health expenditure and national savings have positive influence on employment while population has negative and significance effect on employment. The study suggests that free trade is necessary for employment creation through specialization.

Keywords: Globalization, Johansen Cointegration, Employed Labor force, health expenditure, Population growth, log – log model.

1. Introduction

Globalization is a manifold phenomenon. It has many dimensions and interpretations – Economic Globalization, social globalization and political globalization. Simply, it can be referred as the unification of the economies through liberalization of trade, FDI, capital follows, immigration and the spread of technological know how. Employment creation has remained main objective in all developing and developed countries. Therefore, it may be considered that globalization is the main source of employment.

The concept of globalization has been growing since 1980's almost in all developing economies. But, it has become a hotly debated issue in the recent years. Simply Globalization meant to increase the interdependence, interconnection, social and cultural, technological and ecological on global level .Pakistan has to adopt the policy of liberalization in late 1980's when she was facing the problem of deficit in current Account that is caused by

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decreasing demand for her exports because of recession in industrialized economies. Trade liberalization policy under the structural adjustment programme (SAP) did not give fruitful results and was bad experience for Pakistan. Pakistan liberalized too much her economy in the trade liberalization era. Pakistan adopted more strong commercial policy by reducing more tariff rate as suggested by world trade organization (WTO) tariffs rates. In resulting the government income decreased tremendously and the social welfare of the needy or poor people affected due to fall in govt. spending. In addition, government implemented very harsh monetary and fiscal policies that shrank aggregated demand and discouraged investment in private sector.(Anwar, 2002).

Employment generation is the top priority issue for economists as well as politicians. It is not only issue for the developing economies but developed nations are also combating with this problem. Policy makers always make efforts to trace out ways for creating more opportunities for employment. Pakistan is the 10th boggest in the world according to the labor force size. According to the government of Pakistan estimates, total labor force is 41.83 million in 2001 – 02, 45.5 million in 2003 – 03, 50.05 million in 2006 – 07 and 53.72 million in 2009 – 10[1]. These estimates indicate that labor force is growing over the years but employment opportunities are insufficient. Although, the government of Pakistan has launched various fiscal and monetary measures to overcome the issue of unemployment but still economy is suffering from the problem of unemployment and under – employment.

Many studies[2] elaborate the policy of tarde liberalization in Pakistan under Social action programme and its impact on pak economy by using the various proxies of globalization. The present study focuses on the globalization index in order to trace out its impact on employment creation in Pakistan. The remaining analysis is arranged as follows. Section II provides the concise description of the theoretical framework or background of the study. The review of the past studies is given in the section III. The section IV interprets the data sources, construction of variables and methodological issues. The results and discussion is made in the section V. The last section provides the concluding remarks.

2. Theoretical Background

The following are the main reasons of trade between nations. (i) An advantage of the differences in resources i.e. Comparative Advantage. (ii) Benefits from

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[1] Government of Pakistan, Economic Survey (Various Issues)
[2] Anwar (2002), Khan and Latif (2009), Rizvi and Nishat (2009) and Fatima (2010)

economies of scale in production and product differentiation. Adam Smith (1937) stressed the importance of free trade in order to raise the wealth of all trading nations. Further, he emphasized that labor theory of value basis the trade. David Ricardo (1817) maintained that the major source of comparative advantage was technological (productivity) differences. While Heckscher – Ohlin – Samuelson (H – O – S) theorem states that the factor endowments is the source of comparative advantage. They further interprets that international trade is a substitute for international mobility of factors. They also demonstrates that free trade not only reduces the international differences in the returns to homogeneous factors but equalize in relative factor prices.

Ricardian model explains that trade increases specialization, as resources are optimally utilized. Favorable terms of trade improves standard of living. But, Ricardian model is too simple to apply to real world, it is unable to explain how gains from trade are distributed within the country. While H – O – S model not only explains the distribution of income within the country, but also describes the effects of trade on employment and share of labor. Stolper – Samuelson Theorem states that as the price of commodity rises, the demand for the factor abundantly used in the production of that commodity increases and as a result the real income of that factor rises. Thus, the owner's of abundant factor of economy gains from trade while the owner's of scarce factor loses.

New trade theories based on the assumption of economies of scale and give the explanation why countries with similar characteristics too much trade with each other. Such type of trade is called intra – industry trade. Unfortunately, these models are less relevant to explain the effects of globalization which is characterized by fast growing trade due to differences in resources and production techniques.

3. Review of the Past studies

Pakistan has tried to unit her economy with global economy through liberalizing her trade policies and investment like other underdeveloped economies. In Pakistan, economic reforms began in the late 1980's and got momentum in the 1990's, but facts and figures indicate that still there is severe unemployment. However, there is ample literature available on the issue of employment and exports separately but a very few studies are structured on globalization and employment. Now, we present the review of some current studies relating to the issue of globalization and employment.

Dev (2000) attempted to examine the influence of trade liberalization on employment. The study found that it was complicated to trace out the impact of liberalization on employment i.e. due to trace liberalization, structural

changes would occur and workers moved from formal to informal sectors. Wages and welfare of workers decrease. Wage gap of the skilled and unskilled workers has widened.

Carneiro and Arbache (2002) studied the influence of globalization on macroeconomic performance in Brazil. The analysis showed that despite the fact of greater openness in the economy absolute magnitude of the improvement in poverty and inequality was very modest. The study found that trade openness had negative effect on employment in Brazil. They argued that extreme inequality in educational terms was responsible for greater segmentation in Brazilian labor markets.

Nurmi (2004) investigated employment dynamics and globalization in the Furnish manufacturing sector over the period 1980 – 2001 in Finland. He found that the job and worker flow rates vary much more across size categories than across trade classification. In addition, the effect of macroeconomic fluctuations was considerable. The results suggested that recovery from the recession was easier in those sectors where the degree of international openness had been high.

Napoles (2004) discussed the effects of liberalization on growth and employment as a result of export led growth strategy accompanied by a trade liberalization policies implemented in Mexico for the period 1978 – 2000.The effects of exports on employment were not very large because the exports required more capital.

Eddy Lee (2005) reviewed the studies both on Multi – country or country level in order to examine the influence of trade liberalization on employment. Multi – country analysis revealed that there were sharply contrasting effects of trade liberalization on employment in different countries due to various factors such as nature of liberalization program, flexibility of markets and the extent of pre – existing distortions in the trade regime. Therefore, it was not possible to make a broad generalized link between trade liberalization and employment. So the study concluded that it would be more beneficial to analyze at country specific studies for valuable findings.

Yasmin and Khan (2005) analyzed the effect of trade liberalization on employed labour force in manufacturing sector. The study was based on panel date for the year 1971 to 1996 considering twenty four manufacturing industries. They applied panel data technique for estimating the labour elasticities. The findings of the study showed that trade oppeness influenced directly the employment in industrial sector of Pakistan.

Khan and Latif (2009) investigated the trade benefits of implementing the world trade organization policies in South Asia. The analysis included four economies from South Asian countries. The research was based on panel data for the year 1985-2006. The study was done at two stages i.e the first stage was before world trade organization consisting of 11 years. And the second stage was after world trade organization that also consisted on 11 years. The south Asian countries had the mixed results. In sum, the study concluded that world trade organization had not enhanced the trade in the south Asian region.

Rizvi and Nishat (2009) made an empirical analysis on employment generation by foreign direct investment during the period 1985 – 2008. The result of study indicated that FDI had inverse effect on employment generation in three countries.

Fatima (2010) investigated the pattern of TOT in the long run for Pakistan. She also explored the effect of worsening TOT on consumption and income potentials. The study used the time series data covering the period 1990-2008. The author had estimated the impact of terms of trade on economic growth and concluded that the decorating terms of trade inflected economic growth negatively and ultimately GDP reduced. Malik et al. (2011) analyzed the influence of globalization on employment using time series data for period from 1972 to 2009. They concluded globalization directly influence the employment in Pakistan.

4. Data Sources, Construction of variables and Estimation Methodology

The main purpose of the research is to examine the role of globalization in determining employment opportunities in Pakistan. The secondary source of data is employed in the study. The present analysis considers the time series period for the years 1972 – 2010. We have used the KOF (Swiss Economic Institute) index of globalization to capture the effect of globalization on employment. Globalization is measured in terms of economic, social and political dimension. (Dreher, 2006) developed the globalization index first in 2002 and was updated by Dreher et al.(2008). (Data on yearly basis for 122 countries are available and can be accessed through http:// globalization. Kof. Ethz.ch/).

The data on all other variables like employed labor force, national savings (in million rupees), health expenditures, total population are taken from Govt. of Pakistan, Economic survey, Ministry of Finance (various issues) and Annual reports of the state bank of Pakistan. We have also consulted 50 years of statistics for Pakistan, Published by Federal Bureau of Statistics (FBS) for

data collection. The present study has used four explanatory variables among which globalization index is core variable and others are supporting variables. All the variables are converted in logarithmic form. The employed labor force in million people is used as a proxy for employment.

The study considers the Globalization index as a core variable. It is hypothesized that globalization has positive impact on employment. In addition, the expected signs of health expenditures and national savings are assumed to be positive. Theoretically, it is assumed that population may have both positive and negative impact on employment.

As far concerned, the estimation issues, the employment function is interpreted as;

$$Y_t = f(GI, HE, NS, PO)$$

Where Yt = Employment or employed labor force in the economy in the time period. GI refers to the Globalization index. HE, NS and PO indicate Health expenditure, national savings and total population in the country respectively.
In order to estimate the Elasticities or growth rate, we have used log – log model. The Specific form the double log model is expressed as follows;

$$LEMLF = \hat{\alpha}_0 + \hat{\alpha}_1 LGI + \hat{\alpha}_2 LHE + \hat{\alpha}_3 LNS + \hat{\alpha}_4 LPO + \mu_t$$

We require econometrics techniques of time series i.e, co-integration, error correction and granger causality test for investigating long run and short relationship between globalization and employment. The method of ordinary least squares becomes inapplicable and estimates become inefficient. When some or all variables are not stationary, so in order to get rid of the problem of spurious regression, it is vital to find the stationarity of the variables.

The stationarity properties of the variables in a time series data are judged by unit root test. If the mean, variance and auto – covariance of the variable remain constant, the variable is called Stationer. There is no shortage of tests for judging the existence of the unit root problem in the literature of econometrics. Dickey and Fuller (1979, 1981) developed a technique for formal testing of non stationarity, names DF test. The DF test is appropriate, if the disturbance term is un – correlated. This test becomes inappropriate when error terms (u_t) are correlated. Dickey and Fuller have suggested an extended form of testing procedure by incorporating an additional lagged term of explained variable for tackling the problem of autocorrelation when there is white noise error. Lag length is determined based on Akaike Information Criterion (AIC) and or Schwartz Bayesian Criterion (SBC). The equations of ADF test may be outlined as follows;

$$\Delta EM_t = \delta EM_{t-1} + \alpha_t \sum_{t=1}^{m} \Delta EM_{t-1} + \varepsilon_t \quad \text{(Without intercept and trend)}$$

$$\Delta EM_t = \gamma_1 + \delta EM_{t-1} + \alpha_t \sum_{t=1}^{m} \Delta EM_{t-1} + \varepsilon_t \quad \text{(With intercept and no trend)}$$

$$\Delta EM_t = \gamma_1 + \gamma_2 t + \delta EM_{t-1} + \alpha_t \sum_{t=1}^{m} \Delta EM_{t-1} + \varepsilon_t \quad \text{(With intercept and trend)}$$

If we have found that the time series data on economic variables are non – stationary at level I(0) and have the order of integration one i.e. I(1) based on the Augmented Dickey – Fuller test, then we have to apply co-integration technique that was first introduced by Granger (1981). Co – integration is the most useful technique for finding the long run relationship among variables. Johansen (1981) and Johansen – Juselius (1990) approach is used in order to examine the co-integration in multiple equations. The two main statistics like the value of LR test which depends on the Maximum Eigen – value and the trace value of the stochastic matrix are the result of Johansen procedure of co-integration.

In order to trace out the short run relationship of the model, we have used ECM technique. The rate of adjustment from short-run to the long run equilibrium is interpreted by the ECM term. The specified form of the error correction model is explained by the following equation.

$$\Delta LEM_t = \alpha_0 + \alpha_1 \sum_{t=1}^{m} \Delta LGI_{t-1} + \alpha_2 \sum_{t=1}^{m} \Delta LHE_{t-1} + \alpha_3 \sum_{t=1}^{m} \Delta LNS_{t-1} + \alpha_4 \sum_{t=1}^{m} \Delta LPo_{t-1} + \theta EC_{t-1} + \varepsilon_t$$

Where Δ denotes the differences operator and all other variables are defined earlier except EC_{t-1} which is the one year lagged error correction term. The value and sign of EC_{t-1} (i.e. θ) measures the speed of adjustment towards the long run equilibrium.

Granger (1969) developed Granger causality test in order to examine the causal relationship among the variables. According to Granger, a variable X_t is known to be Granger cause to another variable Y_t, if the present and past values of X_t supports to predict Y_t. The following equation is used to explore the causal relationship between the variables.

$$Y_t = \sum_{j=1}^{m} \lambda_{1j} Y_{t-j} + \sum_{j=1}^{m} w_{1j} X_{t-1} + \theta_1 \varepsilon_{1t-1} + \mu_{1t}$$

$$X_t = \sum_{j=1}^{m} \lambda_{2j} Y_{t-j} + \sum_{j=1}^{m} w_{2j} X_{t-1} + \theta_2 \varepsilon_{2t-1} + \mu_{2t}$$

We use the following procedure to test the Null hypothesis.

$H_0 : w_{1j} = 0, j = 1,2,3,......, m$ which shows that X_t does not Granger cause Y_t and $H_1 : w_{1j} \neq 0$. Similarly $H_0 : \lambda_{2j} = 0, j = 1,2,3,......, m$ which indicates that Y_t does not Granger cause X_t. If the both null hypothesis are accepted, variables have no causal relationship. We conclude that the two variables are independent. If we reject one hypothesis, then we have unidirectional relationship between variables. If we reject both null hypotheses, then it is concluded that there is bi-directional relationship between the variables.

5. Results and Discussion

We first give the brief but comprehensive discussion of descriptive analysis and then econometric analysis is interpreted in detail.

a. Descriptive Analysis

The descriptive analysis comprises on descriptive statistics of selected variables and zero order correlation matrix. Table 1 provides the descriptive statistics of variables used in the analysis. It is observed that on the average employed labor force is 31.76 million people with 8.90 variability and average rate of globalization index is about 36 with standard deviation 9.84. The study has also indicated that the mean values of national savings and population are 364399.8 rupees and 112.07 million people with variability 484011.70 and 30.04 respectively.

Table 1: Descriptive Statistics

Variables	Means	Standard Deviation	Skewness	Kurtosis
EM	31.76	8.09	0.55	2.45
GI	35.99	9.84	0.50	1.65
HE	15639.15	17899.82	1.61	5.13
NS	364399.80	484011.70	1.62	4.69
PO	112.07	30.04	0.09	1.74

b. Correlation Analysis

The degree of association among the variables is reported in table 2. It is observed in the study that all variables have high degree of relationship among the variables. The coefficient of correlation between globalization and Health expenditure and globalization and national savings is 0.89. Similarly, the coefficient of correlation between Health expenditure and national savings is 0.98. All the variables are positively correlated.

Table 2: Correlation Matrix

Variables	GI	HE	NS	PO
GI	1.00			
HE	0.89	1.00		
NS	0.89	0.98	1.00	
PO	0.96	0.98	0.85	1.00

c. Unit Root Test

The problem of spurious regression has occurred when we have applied OLS regression technique. In order to avoid the problem of spurious regression, we use unit root test to examine the stationarity of the variables for determining the order of integration. Augmented Dickey Fuller test is employed to measure the unit roots of all the variables.

Table 3: Result of Augmented Dickey Fuller Test (ADF) for Unit root

Variables	Results of Unit Root with Intercept		Results of Unit root test with Trend and Intercept		Conclusion
	Level	1st Difference	Level	1st Difference	
LEM	0.618	-4.432	-1.56	-6.96	I(1)
LGI	0.491	-3.315	-1.96	-5.72	I(1)
LHE	-0.937	-6.285	-2.53	-5.23	I(1)
LNS	-1.516	-5.698	-3.06	-2.43	I(1)
LPO	-1.018	-5.697	-2.12	-0.91	I(1)

Note: The Null hypothesis is that the series is non stationary or contains a unit root. The rejection of null hypothesis for ADF test is based on the Mackinnon Critical values at 5%.

Table 3 interprets the findings of ADF test. We have found that all the variables used in the model are stationary at level. Thje model has been transformed in the logarithmic form and there exists the unit root. We have found stationary of all the variables at first difference and reject the null hypothesis of non stationary at 5 percent level of significance. In order to select lag length, we have used vector autoregressive test (VAR) based on the values of Akaike Information Criterion (AIC) and Schwarz Criterion (SBC). The optimal lag length in our study is one.

Table 4: Unrestricted Co integration Rank test (Maximum Eigen Value)

Eigen Value	Likelihood Ratio	5% Critical Values	1% Critical Values	Hypothesized No. of CE (S)
0.83	140.67	76.07	84.45	None**

0.58	80.29	53.12	60.16	At Most 1**
0.56	51.01	34.91	41.07	At Most 2**
0.35	22.82	19.96	24.60	At Most 3*
0.22	8.23	9.24	12.97	At Most 4

Note: *(**) denotes rejection of the hypothesis at 5% (1%) significance level
L.R test indicates 4 co-integrating equation(s) at 5% significance level.

Once we have selected suitablelag length, we have used the LR test which based on the Eigen values of the stochastic matrix of the Johanson (1991) procedure for finding the number of co-integrating vectors. The results of co-integration tests are given in the table 4. In this present analysis, four co-integrating vectors are observed at 5 percent level of significance based on likelihood ratio test (LR). The null hypothesis of zero co-integrated vectors is rejected against the alternative of one co-integrating vector. Similarly, the null hypothesis of At most 1, At most 2 and At most 3 co-integrating vectors are also rejected against the alternative hypothesis

Table 5: Normalized Co-integrating Coefficients: 1 Co-integrating equation(s)

Variables	Coefficients	Standard Errors	t – Statistics
Constant	21.04***	7.03	2.99
LGI	0.48**	0.23	2.087
LHE	0.77***	0.26	2.96
LNS	0.34***	0.10	3.40
LPO	-5.95***	2.09	-2.85

Note: *** significant at 1% level of significance, ** significant at 5% level of significance.

Table 5 presents the findings of the coefficients of β matrices in the form of normalized co-integrating coefficients of the 1st equation. We have found long run relationships among variables in the current study. The results of the study are highly significant. We have also observed that all the variables are less sensitive except population which is more elastic and highly significant. The core variable in the present research is globalization. The coefficient of globalization index is positive and has discernible effect on employment. The employment opportunities in Pakistan are increased about 0.48 percent due to one percent increase in globalization index. The reason may be that more specialization would take place because of free trade and comparative advantage and would generate more employment opportunities internally in the long run. In addition, the factor abundance and factor intensity based on factor prices would become the major source of employment. Our findings

support Martens and Amelung (2010) study that more globalized nations is better in employment generation and have less inflation.

We have found in the current study that the health expenditure are directly influencing the employment in Pakistan. The value of the coefficient of health expenditure (LHE) is positive and is highly significant one percent level. The reason may be that good health would produce more output and generate more employment. According to efficiency wage theory, healthier workers are more productive. Our results stay in line with Strauss and Thomas (1998)'s findings. It is noted in the present research that savings are the major source of employment creation. The effect of aggregate savings on employment is positive and highly significant. The employment increases about 0.34 percent because of an increase of one percent national savings. The coefficient of population is negative and more elastic. The effect of population growth on employment is not only negative but has highly significant impact. An increase of one percent in population reduces employment about 6 percent. The reason may be that there are not ample resources for employment generation in Pakistan being an underdeveloped economy. Lack of industrialization and lack of investment opportunities may be the cause of high unemployment.

Table 6: Results of Error Correction model for Short run dynamics

Independent Variables	Coefficient	t – Statistic
Constant	-0.02	-0.3263
D(LGI(-1))	-0.01	-0.0479
D(LHE(-1))	-0.07	-1.435
D(LNS(-1))	-0.06***	-1.928
D(LPO(-1))	2.73	1.213
Speed of Adjustment	-0.46*	-3.001
R – Squared 0.41	**Adjusted R – Squared** 0.36	**F – Statistics** 1.83

Note: * Significant at 1 percent level, *** significant at 10 percent level. Dependent variable = $\Delta LEMP$

In the previous analysis, we have explored the long run relationship among variables. The short run relationship of the variables may be found through ECM approach. The ECM permits the introduction of last disequilibrium as an explanatory variable in the model. Thus, error correction model is beneficial in controlling the short run as well as long run association among the variables. The short run behavior of the employment model is given in the table 6. The error correction model correlates the changes in the log of employed labor force to the changes in other relevant variables and the error term of lagged period. The error correction term ECt-1 indicates the rate of adjustment. The

coefficient of the error correction term is significant at 1 percent level and shows inverse relationship. In the present analysis, we have found 46 percent speed of adjustment which is meant that movement of the short run towards long run would occur almost 46 percent per year. In addition, we have observed that all the variables except population have negative influence on employment in the short run.

Table 7: Results of Granger Causality test

Pairwise Granger Causality test; Sample 1972 – 2010; Lag: 1		
Null Hypothesis	**F – Statistics**	**Probability**
LGI does not Granger Cause LEMLF	1.65	0.21
LEMLF does not Granger Cause LGI	2.22	0.15
LHE does not Granger Cause LEMLF	0.61	0.44
LEMLF does not Granger Cause LHE	3.31	0.08
LNS does not Granger Cause LEMLF	0.66	0.42
LEMLF does not Granger Cause LNS	7.28	0.01
LPO does not Granger Cause LEMLF	0.21	0.65
LEMLF does not Granger Cause LPO	0.11	0.74
LHE does not Granger Cause LGI	5.10	0.03
LGI does not Granger Cause LHE	3.30	0.08
LSN does not Granger Cause LGI	2.09	0.16
LGI does not Granger Cause LSN	1.87	0.18
LPO does not Granger Cause LGI	6.28	0.02
LGI does not Granger Cause LPO	9.84	0.00
LNS does not Granger Cause LHE	5.92	0.02
LHE does not Granger Cause LNS	7.57	0.01

LPO does not Granger Cause LHE	8.65	0.01
LHE does not Granger Cause LPO	5.85	0.02
LPO does not Granger Cause LNS	7.21	0.01
LNS does not Granger Cause LPO	0.56	0.46

The results of Granger Causality are presented in the table 7. The optimal lag length is selected based the AIC and SBC which is K = 1 in the current study. The findings of the test indicate that there is no directional causality between employed labor force and globalization index. There is unidirectional causality between employed labor force and health expenditures, employed labor force and aggregate savings and population and aggregate savings. Moreover, it is observed that there is bidirectional causality between population and globalization index, health expenditures and globalization index, savings and health expenditure.

6. Conclusion

In the current analysis, it is tried to explore the influence of globalization on employment in Pakistan. The present study is based on the time series data. Considering the time series econometrics, we have found that all the variables used in the study are not stationary at level and are stationary at their first difference. The findings of co-integration test indicate that there exists a long run relationship between employed labor force, globalization index, health expenditure, national savings and total population in Pakistan.

The main conclusion of the present study is that the globalization has positive and significant impact on employment when the economies are globalized, more employment opportunities are created. The investigation of the analysis shows that Health expenditure and aggregate savings also raise the employment opportunities for growing labor force.

Based on the findings of the analysis, it is suggested that there should be free trade and trade barriers should be removed. In result, the specialization will take place and employment will be increased. Quality and quantity of the exports should be promoted. Further, in order to raise the quality of exportable goods, better health and education facilities should be provided. This thing has a cumulative effect on employment generation. It is found in the present study that population growth has adverse impact on employment. Therefore population should be controlled and should keep at the optimum level.

End Notes

Anwar, Talat (2002). Impact of globalization and liberalization on growth. Employment and poverty: a case study of Pakistan. *WIDER discussion paper 17.*

Aniceto, C. (2002). Globalization and Employment: The Impact of Trade on Employment Level and Structure in Philippines. *PIDS Discussion Paper.*

Carneiro, F. G. and Arbache, J. S. (2000). The Impacts of Trade Openness on Emloyment, Poverty, and Inequality. The case of Brazil. *FinalRreport for the Export-led Reasearch Project Sponsored by UNDP.*

Dickey, D. and Fuller, W. (1981). Likelihood ratio statistics for autoregressive time series with a unit root. *Econometrica,* 49, 1057-1072.

Dreher, A. (2005). Does Globalization Affects Growth? Evidence from a new index of Globalization. *Research Paper Series* 6.

Dreher, A., Noel, G. and Martens, Pim. (2008).Measuring Globalization, Gauging its Consequences. New York: Springer.

Dev, S.M. (2000). Economic Liberalization and Employment in South Asia. *Economicand Political Weekly,* 35, 40-51.

Fatima, Nishat. (2010). Analyzing the terms of Trade Effects for Pakistan. *PIDE Working Paper* 59.

Fischer, J.A.V. and Somogyi, F. (2009). Globalization and Protection of Employment. *KOF Working Paper,* 238.

Gujrati, D.N. (2003). Basic Econometrics. *Gary Burke.*

Granger, C. W. J. (1969). Investigationg Causal relations by econometric and cross-spectral method. *Econometrica,* 37(3), 424-438.

Granger, C. W. J. (1988). Some recent developments in a concept of causality. *Journal of Econometrics,* 39, 199-211.

Government of Pakistan, (Various Issues), Pakistan Economic Survey, Federal Bureau of Statistics, Islamabad

Hashmi, S.M. and Lee, Y.T. (2008). Towards East Asian Economic Integration. *European Journal of Economics, Finance and Administrative Sciences,* 12, 116 – 122.

Johansen, S. (1988). Statistical analysis of cointegration vectors.*Journal of Economic Dynamics and Control,* 12, 231-254.

Johansen, S. and Juselius, K. (1990). Maximum Likelihood estimation and inference on cointegration with application to the demand for money. *Oxford Buletin of Economics and statistics,* 52, 169-210.

Koutsoyannis, A. (1997). Theory of econometrics. Palgrave.

Khan, R. I. A. and Latif, M. I. (2009). Analysis of Trade before and after the WTO: A case study of South Asia. *Pakistan Journal of Commerce and Social Sciences,* 2, 53-67.

Lee, E. and Vivarelli, M. (2006). The Social Impact of Globalization in the Developing Countries. *InternationalLabour Review,* 145(3), 167-184.

Martens, P. and Amelung, B. (2010). On the Correlation Between Globalization and Vulnerability in times of Economic Crisis ….. A Statistical Analysis for Europe.*Globality Studies Journal,* 17

Malik, S., Chaudhry, I. S. and Iffat, J. (2011). Globalization and Employment: Evidence from Pakistan. *Pakistan Journal of Social Sciences,* 31 (2), 215-226.

Nurmi, S. (2004). Openness to Trade and Employment Dynamics in Finish Manufacturing. *www.google.com.pk*

Rizvi, S.Z.A. and Nishat, M. (2009). *The impact of foreign direct investment on employment opportunities: Panel Data Analysis, Empirical Evidence from Pakistan, India and China.* Unpublished manuscript, Institute of Business Management (IBM), Karachi.

Siddiqui, R. and Kemal, A.R. (2006). Remittances, Trade Liberalization and Poverty in Pakistan: The role of excluded variables in Poverty Change Analysis. *The Pakistan Development Review,* 45(3), 383 – 415.

Streeten, P. (1998). Globalization threat or opportunity? *The Pakistan Development Review,* 37(4), 51 – 83.

Streeten, Paul F., (1999, 28th-31st January). *Globalization: Threat or Opportunity.* Paper presented at the 14th annual general meeting and conference of Pakistan Institute of Development Economics, Islamabad, Pakistan.

Sen, S. (2010). International Trade Theory and Policy: A review of the literature. *Levy Economics Institute working paper,* 635.

Todaro, M.P. and Stephen, C.S. (2003). Economic Development, 8th Edition, Singapore, Pearson Education.

Yoganandan, G. (2010).Globalization of Pakistan: Lessons for politically unstable countries. *International Journal of Marketing Studies,* 2(1), 133 – 139.

Yasmin, B. and Khan, A.H. (2005). Trade liberalization and labor demand elasticities: Empirical evidence for Pakistan. *The Pakistan Development Review,* 44(4), 1067 – 89.

Zaidi, S.A. (2005). *Issues in Pakistan's Economy.* Oxford University Press.