Journal of the Research Society of Pakistan
Volume No. 55, Issue No. 1(January - June, 2018)

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Foreign Aid and Economic Growth Nexus: A comparative study of Pakistan with four SAARC countries

Abstract

The aim of the present study is to investigate the impact of foreign aid inflows on economic growth in selected four countries namely Pakistan, India, Bangladesh and Sri Lanka of SAARC. Specifically, the focus of the study is to conduct a comparative analysis of foreign aid and economic growth nexus in Pakistan with other countries. For checking the unit root in the data Augmented Dickey Fuller test has been used. The estimation of regression results has been computed by using fixed effect method. The main findings of the study are foreign aid inflows that foreign aid inflows put negative effects on the economic growth of Pakistan and all other SAARC. Moreover, education, gross capital formation and population growth rate shows a positive relationship with economic growth. Whereas, inflation turned out insignificant with the expected negative sign. Furthermore, the initial GDP also turned negatively significant showing the absence of catch up effect in Pakistan and overall selected SAARC countries. The findings suggest that Pakistan and other SAARC countries should efficiently utilized the domestic resources instead of dependence on foreign aid for accelerating economic growth.

Keywords: Foreign Aid Inflows, Economic Growth, SAARC

JEL Classification: F35; N15; O40

1. Inroducton

Foreign aid is considered a source of revenue to finance the government for promoting economic growth in developing countries. A number of studies have been undertaken to examine the role of foreign aid on economic growth. The results from the studies are mixed and varied across countries and regions. For example, Girma (2015) has identified that aid provided to African countries affect the economic growth negatively. Ali (2014), Anwar (2014) and Basnet (2013) provide evidence that foreign aid has a negative impact on most of the developing countries. In contrast, Moolio and Kong (2016) concluded that foreign aid put favorable impact on the economic growth of ASEAN countries. Similarly, Abdu (2015), Quazi et al. (2014), Bhaven (2013), Hirano (2013) and Shahzad et al.

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(2011) also find evidences of a positive relationship between foreign aid inflow and economic growth. However, Hossain (2014) and Burnside and Dollar (2000) provide a proof that a positive role can be realized only when certain circumstances such as political stability, corruption free economy and a decent macroeconomic environment exist.

During the past few decades, foreign aid has become a important source for tackling poverty and fulfillment of the needs of the people in developing countries. Moreover, the role of the world major organizations including World Bank, United Nations and International Monetary Fund significantly increased in the socio-economic affairs of these countries (Hjertholm and White, 2003). However, besides all these efforts, the governments and policy makers of the advanced countries are still not clear whether foreign aid outflows to the underdeveloped countries are effective in boosting up the economic growth and development in the recipient countries are not? Moreover, the empirical evidences regarding the role of foreign aid are also mixed and not conclusive (Philip, 2013). Morrisey (2001) found out that the impact of foreign aid inflows in developing counties is conditional on the dynamics of other macroeconomic aggregates. Tiwari (2011) and Liew et al. (2012) studies suggested that foreign aid has no impact on the economic growth of under developed countries. These studies showed the relationship between foreign aid and economic growth is still not clear and seems to be in the data. In this respect, this factor becomes crucial as South Asian economic trend concerned. In this study, South Asian used to refer Bangladesh, Pakistan, India and Sri Lanka. It is theoretically and empirically believed that foreign aid plays a dynamic role in reducing poverty through several channels, fulfill saving gap as well as foreign exchange gap. It can develop infrastructure in the economies and also it is seen as an essential financing factor in the economic sector (Ali, 2014).

The South Asian Association for Regional Cooperation (SAARC) was formed in 1985 to organize and unite sub-continent countries. The eight member nations are Afghanistan[1], Bangladesh, India, Sri Lanka, Bhutan, Maldives, Pakistan and Nepal. SAARC is an economic and geopolitical organization and its all members are belonged to South Asia except Afghanistan. SAARC comprises 3 percent of the total world's area and contains 21 percent of the world's overall population. India makes around 70 percent of the area and population among these eight member countries. The four main SAARC countries are Pakistan, Bangladesh, India and Sri Lanka. Indian economy is the largest one while the Pakistan and Bangladesh are second and third leading medium sized economies. Nepal and Bhutan are landlocked countries while the Maldives and Sri Lanka are islands. During 2005-2008 the average GDP growth rate of the SAARC was an extraordinary 8.8 percent then it was slowed down in 2011. Similarly, the average annual GDP per capita growth rate in SAARC has been recorded 5.42% and it receives 12.3 billion US dollars net foreign aid during 2008. This large amount of foreign aid inflows ranks 3rd SAARC in third positive in the World Bank regional classification[2] (Basnet, 2013). These countries are developing and their more than 10 percent population is living on fewer than US $1.25 a day and they have no or less access to the facilities of improved sanitation (Asian Development Bank, 2016).

The above discussion shows that the empirical results of all studies carried out for different countries are still inconclusive. Some studies showed that foreign aid works as vehicle of economic growth and development (Chenery and Strout,1966). While, other claimed a negative impact of foreign aid on the economic growth. These mixed results in the literature about the foreign aid and economic growth nexus motivated us to empirically investigate the impact of foreign aid on the economic growth for four selected SAARC countries namely Pakistan, Bangladesh, India and Sri Lanka. Specifically, there are two main objectives of this study. First, to examine the impact of foreign aid on the economic growth of overall SAARC economies. And secondly to carry out a comparative analysis of the effect of foreign aid on economic growth of Pakistan with other selected SAARC countries. The study seems to be of immense importance because during the last few decades the inflows of foreign aid has been tremendously increased in the developing countries. Similar increased has also been witnessed in case of Pakistan and other SAARC countries. However, inspite of this large increased in the foreign aid inflows the economic growth acceleration is still not satisfactory in SAARC countries against the developed countries of the world. Moreover, a study on the foreign aid and economic growth nexus in SAARC is providing a complete different setup for research. Because of the commonalties in their socio-economic, cultural and political setups. To the best of our knowledge so far only one study has been undertaken for investigating the role of foreign aid in domestic saving and economic growth in SAARC i.e. Bangladesh, India, Nepal, Pakistan, and Sri Lanka (See, Basnet, 2013). However, they have analyzed the effect of foreign aid on domestic saving and economic in a simultaneous equation approach for overall SAARC with lack of proper theoretical framework and justified empirical results.

The present study is different from their work in several aspects. First, it is examining the impact of foreign aid on economic growth in a two gap growth model. Moreover, the study will carry out a comparative analysis of Pakistan with overall SAARC and individually with India, Bangladesh and Sri Lanka by using a panel data approach. It is expected that the results of the study would make a valuable addition to the literature and highlight important policy implications for SAARC on the issue.

2. Litrature Review

The importance of foreign aid in promoting the growth is initially developed by Chenery and Strout (1966) in their famous theory of Two Gap Model. The theory states that the developing countries are facing the hurdles of foreign exchange and saving constrains. Low level of savings creates the gap that causes low level of capital formation which affects the overall level of domestic investment. On the other side, Bacha and Taylor (1990) argued that developing countries are also having the problem fiscal deficit by which additional resources are required to finance the government.

In terms of empirical literature, the aid and growth relationship results are mixed. Empirically, Malik (2008) observed the negative relationship between foreign aid and economic growth. Liew et al. (2012) agreed that foreign aid do not have impacts on the growth. Kolawole (2013) also examined the impact of

external economic assistance on the GDP growth and found that aid has an undesirable and negative relationship with growth rate. Mohamed and Kaliappan (2014) also tested that foreign aid impact on the economic growth that aid does not influence the economic growth. Ali (2014) clarified that Pakistan has gotten an immense sum of foreign aid, foreign direct investment and worker remittances from the last few decades. The study concentrated on their consequences on the economy using Johansen Co-integration technique and Granger causality test. The time series data were used for the analysis and the time period was from 1972 to 2013. It was concluded that all these inflows have negative impacts on the economic system in the long run. Nevertheless, inflation reduces the economic growth pace and it can be corrected through suitable financial policy while the education stimulates the growth in the short run also in the long run. Domestic resources are more efficient than external debt. It was suggested that skilled workers in better health and educational facilities accompanied by foreign direct investment are very beneficial for a speedy economic growth of the less develop economy. Girma (2015) analyzed the impact of foreign aid inflows on economic growth in an African aid dependent Ethiopia. The aim of the study was to examine the impact of foreign aid on the general economic conditions of the economy. The Auto Regressive Distributed Lag (ARDL) approach has been applied for the time series data of 1974-2011. It has been concluded that on average rise in the amount of foreign aid leads to a reduction in the real GDP growth. The study recommended that foreign aid has an adverse impact on the economic growth.

In contrast, Burnside and Dollar (2000) in panel and cross sections study reveals that can play both positive and negative impact on the growth in a country. It is depended upon the macroeconomic policies of that country. Shahzad et al. (2011) and Tiwari (2011) found a positive relation of aid and growth in the corruption free environment. Philip (2013) investigate the role of foreign aid on the level of poverty for eight West African nations for the period 1975-2010. The panel data techniques of first and second generations were applied for the estimation. The types of foreign aid have different effects on the economy. It was concluded that the total amount of foreign aid and foreign aid in the form of food reduce the poverty while the technical aid has no role in the reduction of poverty. It was further stated that there is a negative relation among the poverty level, life expectancy, per capita GDP and foreign direct investment but these entire variable were not statistically significant. The study suggested that foreign aid inflow has minimum and diverse effects on the poverty level in West Africa. Similarly, Hirano (2013) analyzed the role of foreign aid inflow in narrowing development gaps. He studied the relationships among foreign aid, institutions, economic policies and the Gross Domestic Product (GDP) per capita. But he gave the primary importance to the association between macroeconomic policies and aid effectiveness. The study estimated that foreign aid inflow has positive effect on economic growth while the quality of institutions is low. It could be better if strong economic policies are made and efficiently implemented. Hossian (2014) also studied the influence of foreign aid on economic growth of Bangladesh. It is found that foreign aid has an encouraging, positive and significant effect on economic growth of Bangladesh. Some models are also statistically significant and investigated that because of institutional weaknesses, foreign aid creates decreasing return to scale in Bangladesh. Anwar (2014) investigated that aid has a

positive significant relation with the per capita income when there is a good political situation. Abdu (2015) studies the foreign aid impact on growth and suggests that aid should be used to support the budget deficit. The study found that aid is helpful in reducing the income inequality and poverty.

The above discussion shows that the literature does not provide any clear evidence about the effect of foreign aid inflows on the economic growth in the host countries. One reason for that can be the difference in studies selection of countries, time duration and econometric techniques. However, because of the differences in the economic setups of the world economies one country result cannot be generalized to other countries.

It is clear from the literature that so far no effort has been made to examine the effect of foreign aid inflows on economic growth of SAARC. This study aims to make an addition to the literature through testing the nexus between foreign aid and economic growth in South Asian context.

3. Theoritical Framework

The theoretical framework of the present study is two gap model. The effectiveness of foreign aid in the third world countries has been under discussion since 1960s. The approach to this study was developed by Harrod and Domar in 1940s. They suggested that foreign aid is simple way to increase the physical capital accumulation in the developing countries and it can promote growth. Later, the idea of the Two Gap Model was developed by McKinnon in 1964. Then two economists Chenery and Strout modified the model in 1966 and published it in their famous article "Foreign Assistance and Economic Development". According to Chenery and Strout (1966) "the two gaps represents the saving gap and foreign exchange gap. These two gaps are independent and separate constraints and can be filled by the foreign aid to achieve the target growth rate in the developing economies. The identity between the two gaps is the investment-saving $(I - S)$ gap and import-export $(X - M)$ gap". It is clear that if a country invests more than it saves the balance of payments will be in deficit and an excess of imports over exports implies an excess of resources used by the country. Chenery and Strout (1966) assert that foreign aid is a way to fill these gaps. Finally, Bacha and Taylor (1990) suggested that foreign aid helps to fill in these two gaps for the desired level of investment and growth. This indicates that there is a shortage of effective source of revenue to support the economic activities.

3.1 Model of the Study

The general form of the model is given in equation (1) as follows.

$$GDPG_{it} = \alpha_0 + \mu_i + \lambda_t + \beta_{ijt}X_{ijt} + \varepsilon_{it} \quad (1)$$

In the model GDPG stands for the GDP growth rate. Whereas, on the right side of the equation the intercept part of the equation has three components, α_0 which is common to all countries and time periods and is mean of all unobservable effects, μ_i is the country specific intercept denotes those unobservable effects which are specific to country but common for all the time periods and λ_t is the time specific intercept denotes those effects which are

specific to all the time periods but common to all countries. The error term ε_{it} represents all those unobservable effects which vary overtime as well as in cross sections. β_{ijt} is the slope of parameters. And $X_{ijt}$is a vector of all variables.

The above equation cannot be estimated in this form. For the empirical estimation some restrictions may be imposed and assumed that the slopes of parameters are constant over time and for all countries. The empirical form of the model has been used for estimation is as follows.

$$GDPG(PC)_{it} = \alpha_0 + \mu_i + \lambda_t + \beta_1 GDP(PC_{1991}) + \beta_2 ODA_{it} + \beta_3 GCF_{it} + \beta_4 EDU_{it} + \beta_5 INF_{it} + \beta_6 POP_{it} + \varepsilon_{it} \quad (2)$$

Equation (2) shows the empirical model of the study. This model is similar[3] to the models adopted by Dewan and Hussein (2001) and Waheed (2014) in their studies for examining the role of foreign aid in economic growth. In the model GPD per capita growth rate (GDPG(PC) is the dependent variable. While, initial GDP per capita for the period 1991 GDP(PC_{1991}), Official Development Assistance (ODA), Population growth rate (POP) and Inflation rate (INF), Education (EDU) and Gross Capital Formation (GCF) have been included as independent variables in the model. Whereas, β_1, β_2, β_3, β_4, β_5 and β_6 are the relevant parameters in the model. And ε_{it} is the error term.

3.2 Data Description and Econometric Techniques

The time period of the present study is from 1991-2014. This study is undertaken for four selected SAARC countries namely Pakistan, Bangladesh, India and Sri Lanka. Because of unavailability of data for Afghanistan, Bhutan, Maldives and Nepal, these countries are not considered in this study. The data for the study variables like GDP growth rate, Official Development Assistant, Gross Capital Formation, Labor Force Participation, Inflation and Population Growth (See table 1 for details) are collected from official Databank of World Bank.

The first and most important step in the data analysis is to check the nature of data and select a proper method of estimation. If most of the variables are stationary at level then we can adopt the Pooled OLS, Fixed Effect or Random Effect Model for estimation. In case of non-stationarity of variables, we have to use Panel ARDL or Panel Co-integration. To justify which model is suitable to explain this study in a better way. It is necessary to evaluate the appropriateness of these models by comparing the coefficient vector estimated. To evaluate the estimators of POLS and Random Effect, we will apply Breusch-Pagan LM (BPLM) test. Rejection of the null hypothesis favors' the Random Effect. On the other hand, the Hausman Specification test is used to decide whether Random Effect or Fixed Effect should be used. Rejection of the null hypothesis favors' the choice of Fixed Effect.

The panel data are collected for four countries namely Bangladesh, India, Pakistan and Sri Lanka over the period of twenty four years from 1991 to 2014. It can be analyzed by using the POLS, Fixed Effect Model or Random Effect Model (Dewan and Hussein, 2001).

The second objective of the study is to make a comparative analysis of Pakistan with the SAARC countries. For this purpose a dummy variable has been estimated. The DD=1 category of the dummy variable has been taken for all the variables of Pakistan. Whereas, the DD=0 category has been undertaken for all the variables of the other SAARC countries as a group.

Table 1: Variables Definition and Sources of Data

Variable	**Symbol**	**Measurement**	**Descriptions**	**Source**
Economic Growth	GDPG(PC)	GDP per capita annual growth rates	Annual percentage in growth rate of GDP Per Capita at market prices, expressed in percent.	The data for all the variables of the selected SAARC economies namely Pakistan, India, Bangladesh and Sri Lanka has been retrieved from World Bank World Development Indictors Data Bank.
Foreign Aid	ODA	Net ODA received in current US $	Net Official Development Assistance (ODA) is provided by Bilateral, Multilateral and Financial institutions with a concessional grant element of 25 percent.	
Gross Capital Formation	GCF	GCF in current US $	GCF is consisted of outlay to the fixed assets and sum of all changes in the inventories.	
Inflation	INF	Inflation rate in consumer price, annual in percent	Inflation is shown by Consumer Price Index (CPI). It shows the change in annual percentage in basket of goods and services.	
Population	POP	Population growth rate, annual in percent	Population growth rate is the exponential growth rate in a year. It is usually expressed in percent.	
Education	EDU	(Gross Enrollment Ratio, Secondary, both sexes) measured in percent	The %age of population both male and female having secondary school education.	
Initial GDP Per Capita	$GDP(PC_{1991})$	Initial GDP per capita for the year 1991 for all countries measured in US dollars		
Dummy Variable	DD =1, DD=0	The dummy variable has been categorized into two groups. DD =1 and DD=0. First for the comparison of Pakistan with overall SAARC The DD =1 has been taken for all the variables of Pakistan and DD=0 for all the study variables of SAARC. Similarly, to carry out a comparative analysis of India with SAARC, Bangladesh with SAARC and Sri Lanka with SAARC DD =1 has been used for all the variables of India, Bangladesh and Sri Lanka and DD=0 for SAARC respectively.		

4. Results And Discussion

The present section shows the estimated results of the study. First section 4.1 shows the ADF test results. Then the estimation results have been presented in section 4.2. However, in section 4.2 the regression results for investigating the

influence of foreign aid inflows on economic growth in overall SAARC countries has been given in section 4.2.1. Whereas, results for the comparative analysis of the effect of foreign aid on economic growth of Pakistan and other selected SAARC countries has been given in section 4.2.2.

4.1 Unit Root Test

If the data is varied with time, then it is necessary to check the data that it is stationary or non-stationary. The non-stationary data series lead to create problems in the estimation like spurious regression. The statistical tests in such situation are not reliable and results may be inconsistent and biased. The technique to investigate the stationarity is known panel unit root tests. Two types of panel unit root tests are generally used. First, concerning the persistence parameters $\eta_i = \eta$ constant cross sections (the Levin, Lin and Chu (LLC), Breitung, Hadri tests) and the second one is dealing these parameters cross section specific (the Im, Pesaran, Shin, Fischer-ADF, Fisher-PP tests). Each type of test has its own advantages and disadvantages. Im, Pesara and Shin test is used to check the stationarity of data in the study. The results showed that all variables including GDP Per Capita growth rate (GDPG PC), Official Development Assistance (ODA), Education (EDU), Population growth rate (POP) and Inflation rate (CPI) are stationary at level while the Gross Capital Formation (GCF) is stationary at first difference. Stationarity reports about all the relevant variables are shown in Table 2.

Table 2: Panel Unit Root Test Results

Unit Root Test At Level			Unit Root Test At First Difference		
Variables	**Stat**	**P-Values**	**Stat**	**P-Values**	**Conclusion**
GDPG (PC)	-2.11	0.00			I (0)
ODA	-2.26	0.01			I (0)
POP	-1.71	0.04			I (0)
GCF	1.73	0.95	-3.59	0.00	I (1)
INF	-3.66	0.00			I (0)
EDU	-2.769	0.00			I (0)

- Significance level is at 5%

4.2 Estimation Results

The present study used panel data over the period 1991-2014. The present study is based on panel data covering the period 1991 to 2014. The time period is consisting of T =24 years and N=4 four cross sections which are the selected four SAARC countries namely Pakistan, India, Bangladesh and Sri Lanka. Dealing with panel data it is important make sure the application of appropriate econometric techniques for getting accurate and reliable results. Various tests are available through which it can be determined that which method should be used for the estimation of results. It is important to choose appropriate econometric technique for accurate and reliable results. Which method has been selected for the estimation in the present study? The details are given in section 4.2.1 as follows.

4.2.1 +Pooled OLS (POLS), Fixed Effect Model (FEM) and Random Effect Model (REM)

Results for SAARC

After the decision of the model estimation the problem of the choice of the model arises. The two most prominently used tests are Breusch-Pagan LM test (Pooled OLS vs Random Effect) and Hausman Test (Random Effect vs Fixed Effect) to choose one of the appropriate methods of estimation among the POLS, FEM and REM. The Breusch-Pagan LM test suggested REM and Hausman Test approved the FEM for estimation. "If T is large and N is small, there is likely to be little difference in the values of parameters estimated by FEM and REM. Then for computational convenience FEM is better" (Gujarati, 2012)

Table 3: Regression Results for SAARC

South Asian Association for Regional Cooperation (SAARC)			
Independent Variables	Cross section Fixed Effect	Period Fixed Effect	Cross section & period Fixed Effect
	Coefficients Values (Prob-Values)	Coefficients Values (Prob-Values)	Coefficients Values (Prob-Values)
Constant	2.08 (0.16)	2.33 (0.22)	2.84 (0.50)
ODA	-0.81 (0.00)	-0.85 (0.00)	-0.89 (0.02)
GDP (PC_{1991})	-0.16 (0.00)	-0.06 (0.03)	0.29 (0.05)
EDU	1.75 (0.12)	1.37 (0.09)	2.04 (0.23)
GCF	2.48 (0.26)	1.54 (0.00)	1.97 (0.14)
INF	-3.11 (0.33)	-1.39 (0.23)	-2.89 (0.30)
POP	0.34 (0.02)	0.32 (0.07)	0.42 (0.00)
R^2	0.53	0.56	0.50
AdjR^2	0.42	0.46	0.41
DW Statistic	1.71	1.81	1.69
Breusch Pagan LM Test(Pooled OLS vs REM)			86.67***
Hausman Test(REM vs FEM)			108.05***

- GDP per capita annual growth rate is Dependent Variable
- *** In BPLM test and Hausman Test Null Hypnosis have been rejected.
- Significant level is 5%.

Table 4: Redundant Fixed Effect Test Results

Tests	**Statistic**	**d.f.**
Cross-section F	4.37	(3,64)
Cross-section Chi-square	21.08	3
Period F	1.76	(23,64)
Period Chi-square	45.88	23
Cross-Section/Period F	2.47	(26,64)
Cross-Section/Period Chi-square	63.27	26

Table 4 shows that the period fixed effect test is the best one among the three different fixed effect tests. The statistic value for the period fixed test given in table 4 is 1.76which is lower than the statistic value of the Cross section fixed effect test value i.e. 4.37 and cross section/period fixed effect i.e. 2.47.

The values of R^2 and Adj R^2presented in table 3 are comparatively higher in the Period Fixed Effect test than the two other tests which are Cross section effect test and cross section/period fixed effect test. Moreover, the Durban Watson statistic value is nearer to 2.00 in the period fixed effect test. The results strongly recommended the study with period fixed effect only. Hence, based on the above results only period fixed, Fixed Effect Model estimation is considered and conclusion is drawn from this test.

Moreover, the results showed in table 3 depicts that Official Development Assistance (ODA) has a negative sign indicating that foreign aid has an adverse impact on the economic growth in the SAARC countries. The study supports some of the previous studies that condemned foreign aid to be associated poor performance in the recipient countries specifically in developing countries. The findings confirm the earlier research work of Ishfaq and Ahmed (2005), Burke et al. (2006) and Khan etal (2007). The results of the study are in line with the findings of Girma (2015), Azam et al., (2016); Azam(2016); Azam and Gavrila (2015); Azam (2014), Ali (2014) and Kolawole (2013).

Some of the reasons for this negative impact of foreign aid on economic growth of selected SAARC countries are the weak financial institutions, unstable political setup, ineffective monetary and fiscal policies and terrorism etc. This result points towards the self dependency of these economies by properly utilizing their own resources for the economic growth and development. The initial value of GDP per capita also turned significant but with a negative sign.

Moreover, Education (EDU) showed a positive and significant relationship with the economic growth of SAARC. This result is line with the findings of Hanif and Arshed for SAARC and Barro (1991), Bils and Klenow (2000) and Hanushek and Kimko (2000) for other countries who also reached to similar conclusion that education is the primary input factor for the economic growth. Population (POP) and Gross Capital Formation (GCF) also showed a positive relationship with the economic growth. Only inflation (INF) turned insignificant with expected negative sign. Whereas, the initial GDP per capita

became negatively significant showing that the convergence hypothesis[4] has been rejected in case of Pakistan as well as other SAARC countries. And signs of divergence have been witnessed in these economies. One of the reasons for this absence of catch up effect in these SAARC economies can be the structural, institutional, political, social and cultural constraints which is not allowing these countries to strengthen their economic position and to reach to economically developed countries of the world.

4.2.2 Comparison of Pakistan with the SAARC Countries

The second objective of the study is to make a comparative analysis of Pakistan with the SAARC countries. For this purpose, foreign aid and economic growth nexus of Pakistan and other selected SAARC countries has been compared by using the fixed effect dummy variable procedure.

Table5: Regression Results of Period Fixed Effect for Pakistan and overall SAARC

Independent Variables	Pakistan			SAARC
	Coefficients (P-Values)	R^2	DW Statistic	Coefficients (P-Values)
ODA	-0.94 (0.05)	0.55	1.72	-0.85 (0.00)
GDP $PC_{1INITIAL}$	-0.33 (0.00)	0.53	1.70	-0.06 (0.00)
GCF	0.86 (0.56)	0.54	1.72	1.54 (0.00)
INF	-0.34 (0.05)	0.63	1.80	-1.39 (0.23)
POP	-0.65 (0.00)	0.59	1.81	0.32 (0.07)
EDU	1.25 (0.00)	0.67	1.65	1.37 (0.09)

- GDP per capita annual growth rate is Dependent Variable
- Significant level is at 5%.

The results given in table 5 shows that Official Development Assistance (ODA) has a negative impact on the GDP growth rate of Pakistan and SAARC as a whole. The GCF turned insignificant for Pakistan and positively significant for SAARC. INF showed a negative relationship with the economic growth in case of Pakistan at 10% level of significance whereas, for SAARC it turned insignificant with the expected sign. The POP showed negative relationship with economic growth for Pakistan. However, when this relationship is estimated for overall SAARC including Pakistan the relationship between population and economic growth turned positive but at 10% level of significance. Moreover, EDU showed a positive relationship with the economic growth for Pakistan and SAARC. The initial GDP per capita coefficient becomes negatively significant both for Pakistan and SAARC.

Similarly, unlike table 5 where a comparison has been made between Pakistan and SAARC as a group, table 6 shows a comparative analysis of Pakistan with other SAARC countries India, Bangladesh and Sri Lanka individually. The

results showed that ODA showed a negative relationship with the economic growth of Pakistan, positive relationship in case of Bangladesh and Sri Lanka and insignificant relationship in case of India. Similarly, the initial GDP per capita turned negative for Pakistan, Bangladesh and India and insignificant for Sri Lanka with same negative sign. Moreover, EDU remained positively significant for all the four countries. For inflation only meaningful results have been obtained for Pakistan for which it becomes negatively significant. Whereas, for India and Bangladesh it turned insignificant. Furthermore, POP showed a negative relationship with economic growth in case of Pakistan and India. And GCF showed turned positively significant only for Bangladesh.

Table6: Regression Results of Period Fixed Effect for Pakistan, Bangladesh, India and Sri Lanka

Independent Variables	Pakistan			Bangladesh			India			Sri Lanka		
	Coefficients (P-Values)	R^2	DW Statistic	Coefficients (P-Values)	R^2	DW Statistic	Coefficients (P-Values)	R^2	DW Statistic	Coefficients (P-Values)	R^2	DW Statistic
ODA	-0.94 (0.05)	0.55	1.72	0.66 (0.00)	0.65	1.79	1.22 (0.29)	0.65	1.84	0.49 (0.05)	0.69	1.57
GDP $PC_{INITIAL}$	-0.33 (0.00)	0.53	1.70	-0.89 (0.00)	0.56	1.88	-0.45 (0.00)	0.59	1.79	-0.69 (0.23)	0.65	1.74
GCF	0.86 (0.56)	0.54	1.72	0.97 (0.00)	0.60	1.81	-0.09 (0.21)	0.59	1.70	-1.57 (0.00)	0.64	1.69
INF	-0.34 (0.05)	0.63	1.80	0.44 (0.56)	0.54	1.85	0.59 (0.11)	0.60	1.84	0.98 (0.05)	0.60	1.77
POP	-0.65 (0.00)	0.59	1.81	-0.03 (0.19)	0.58	1.79	-1.09 (0.00)	0.49	1.89	-1.08 (0.45)	0.49	1.67
EDU	1.25 (0.00)	0.67	1.65	0,76 (0.10)	0.56	1.88	2.10 (0.00)	0.61	1.78	2.05 (0.00)	0.52	1.54

- GDP per capita annual growth rate is Dependent Variable
- Significance level is at 5%

Conclusion

The study carried out a comparative analysis of the impact of foreign aid inflows on the economic growth of Pakistan and other SAARC countries i.e. India, Bangladesh and Sri Lanka during the period 1991 to 2014. For this purpose, first Augmented Dickey Fuller test has been applied for checking the unit root in the data. After that fixed effect regression method has been used for the estimation of the results. It is find out that foreign aid inflows negatively affect the economic growth of Pakistan. Some of the reasons for this are the weak financial institutions, political instability, terrorism and corruption etc. Moreover, education, gross capital formation and population growth rate showed positive influence on the economic growth of Pakistan. And inflation became insignificant. Furthermore, the initial GDP per capita turned significant but with a negative sign which showed the rejection of the convergence hypothesis for Pakistan and other SAARC countries. These results of the study suggest that the governments of SAARC countries should make sure the efficient utilization of the domestic resources to boost up the economic growth. And the unnecessary dependence on the foreign aid should be reduced.

Notes & References

[1] Afghanistan joined the SAARC in 2007.

[2] The World Bank classification consisting of East Asia and Pacific, Europe and Central Asia, Latin America and Caribbean, Middle East and North Africa, South Asia, Sub-Saharan Africa. Sub-Saharan Africa stands on number one position in terms of net foreign aid inflows and Middle East and North Africa on number two position (World Development Indicators, 2017).

[3] However, unlike them instead of using GDP growth rate as dependent variable we have used GDP per capita growth rates as dependent variable. Moreover, GDP per capita initial values for the period 1991 has been used included as a regressor in the model for examining the possible convergence or divergence effects for SAARC economies.

[4] "There are two well-known concepts of convergence that appear in discussions of economic growth across countries or regions. According to one concept convergence applies if poor economies tend to grow faster than the rich ones so that the former tend to catch-up with the latter in terms of the level of per capita income. This type of catch-up or convergence is known as β-convergence. The second concept concerns cross sectional dispersion. According to this concept convergence occurs if the dispersion, measured by the standard deviation of the logarithm of per capita income across a group of countries or regions, declines over time. This type of process is known as σ-convergence.1 In general the convergence of first type (poor countries grow faster than rich ones) tends to generate convergence of second type (reduced dispersion of per capita income), but the converse is not true. Furthermore the convergence process can by disturbed by new shocks that tend to increase dispersion" (Ahmad and Naz, 2000). However, in present study the focus is only on Beta convergence.