

DOI: 10.19275/RSEP071

Received: 11.06.2019

Accepted: 15.10.2019

DOES FOREIGN AID AFFECT ECONOMIC GROWTH IN PAKISTAN? A DISAGGREGATE ANALYSIS

Shagufta Sultana

Pakistan Institute of Development Economics, Pakistan
Shaguftasultana_16@pide.edu.pk

Abstract

Pakistan receives huge amount of aid flows every year like other developing countries but still stagnant and aid dependent. This reality forced a vigorous debate on effectiveness of aid. The objective of present study is to examine the effectiveness of foreign aid and other variables such as (bilateral aid, multilateral aid, inflation, trade openness, US aid, UK aid and Japanese aid) on economic growth of Pakistan over the period 1972-2014. When we disaggregate aid in terms of bilateral aid, multilateral aid, aid from United States, aid from UK and aid from Japan, all the aid sources showed insignificant relationship with the economic growth of Pakistan in the short run. Bounds test for Cointegration accepts the hypothesis that no long run relationship exists between the variables. So in the absence of long run relationship study takes the analysis towards short run relationship by using multivariate Granger Causality test. The causality test results showed that total foreign aid, bilateral aid, aid from United States and aid from UK does not causes economic growth significantly in Pakistan over the period 1972-2014. On the other hand multilateral aid and Japanese aid significantly causes growth. Granger Causality test results shows bi-directional causality between multilateral aid and economic growth. The study is useful for policy implications because results show that multilateral aid have significant relationship with economic growth in Granger Causality test. So authorities should give priority to multilateral aid over bilateral aid.

Keywords: Economic Growth, Bilateral aid, Multilateral aid, Inflation, Trade openness, ARDL, ADF, Granger Causality

JEL Classification: E31; O40; B22

Citation: Sultana, S. (2019). Does Foreign Aid Affect Economic Growth in Pakistan? A Disaggregate Analysis, Review of Socio-Economic Perspectives, Vol 4(2), pp. 81-102, DOI: 10.19275/RSEP071.

1. Introduction

In mostly developing countries foreign aid is considered as an essential source of foreign capital. It covers saving-investment gap and influences economic growth in aid recipient countries.

It is well-known fact that foreign aid plays an essential and effective role in the development of a country. Moreover, it serves as external source of capital accumulation in developing countries. Lack of capital is very common problem in mostly developing countries, in this scenario foreign aid helps developing countries to cope with shortage of capital and continue their development projects.

Foreign aid promotes productivity, employment, transfer of technology and reduces poverty in recipient countries (Morrissey, 2001). The results from the available literature on foreign aid and its link with economic growth are two fold. First the studies for example, [Durbarry et al (1998); Moreira (2005); Karras (2006); Asteriou (2008); Burnside and Dollar (1997); Martinez (2015)] conclude that the impact of foreign aid on economic growth of the developing countries is positive, it increases growth rate by fulfilling capital requirement of country. Whereas there are several studies which show the opposite results the reasons quoted are inefficient use of aid, bad policies, government intervention and corruption in many developing countries [Khan and Ahmed (2007); Mallik (2008); Javid and Qayyum (2011); Ali (2013); Aboubacar et al. (2015)]. These studies concluded that foreign aid increases dependency of developing countries on donor countries and institutions. Large portion of aid is used for consumption purpose rather than production.

Foreign aid takes the form of loans or grants because it depends on intentions of donor countries or institutions. For economic, political and strategic motivations developed countries offer foreign aid to developing countries. Shah et al. (2005) categorized foreign aid into financial aid, united aid, grants, loans commodity aid, tied aid, technical aid, military aid and FDI. Developed countries provide aid to developing countries for humanitarian assistance, debt relief, balance of payment problem and reduction in poverty. Aid donors also finance particular projects like schools, hospitals, etc.

Pakistan is considered aid dependent country because it relies heavily on aid inflows to fill saving-investment and export-import gap. Domestic resources are not enough to cope with demand for foreign exchange. Like other developing countries, Pakistan receives huge amount of bilateral as well as multilateral aid but results are not fruitful in terms of economic growth. The main objective of aid is to reduce poverty, promote gender equality, improvement of health and educational sector but in Pakistan foreign aid is not playing effective role to achieve these targets.

Large body of research work has been done on the topic under consideration but this area of research is still debatable. Easterly (2001) concludes there exists no empirical connection between foreign aid, investment and economic growth. Stable macroeconomic policies is a prerequisite for a positive relationship between foreign aid on economic growth (Burnside and Dollar, 2000). In the study Hansen & Tarp (2001) find that foreign aid through capital accumulation contributes to

economic growth and it does not depend on good policy environment.

Lancaster (2007) argued that the actual outcome of foreign aid can be judged by taking into account the purpose of aid and donors motives behind aid allocation. Large amount of aid used for non-development expenditure so total amount of foreign aid should not be judged as contributing factor to economic growth. Donor's countries give bilateral aid mostly for their economic and strategic interests. Cultural, political or strategic affiliations between donors and recipient countries determine the allocation of bilateral aid.

Empirical findings of shows mixed results in case of Pakistan. For example, Shabbir and Mahmood (1992) concluded that foreign aid has positive impact on GDP growth of Pakistan. Ali (1993) explained that there is no significant link exists between foreign aid and economic growth. Khan (1997) find existence of negative relationship between aid and economic growth. Ishfaq and Eatzaaz (2005) found negative and insignificant impact of foreign aid on economic growth. Khan and Ahmed (2007) concluded negative relationship among foreign aid and economic growth at aggregate and also on disaggregate level. They also find that domestic investment, foreign direct investment and export growth are significant factors for economic growth in Pakistan.

This study aims at examining the relationship between foreign aid and economic growth by using annual data for the period 1972-2014 in the context of Pakistan. The contribution of the study to the literature is that it examines the relationship between foreign aid and economic growth by decomposing the foreign aid into different categories in terms of its sources and checks the effect of each source on the growth of Pakistan separately. The results will help to determine that which source of foreign aid is more effective determinant of economic growth. The study addresses two questions. (1) Does foreign aid affect economic growth of Pakistan? (2) Does bilateral aid or multilateral aid serves as the main source of economic growth in Pakistan?

2. Literature review

Different studies have been carried out on foreign aid and its resulting impact on economic growth and the findings of the studies show foreign aid may affect economic growth positively or negatively.

Gounder (2001) examined aid-growth nexus by employing neo classical production function and concludes that in foreign aid to Fiji contributes to the economic growth of the country significantly. Similarly, Fasanya and Onakoya (2012)'s results on aid and economic growth in case of Nigeria were found to be significant. The long run impact of foreign aid on growth is found to be positive while the short run ones seem to be insignificant because aid has been mainly used to finance investment which has long growth period Setargie (2015). Moreover, aid affects growth positively but conditional to good policy environment (Burnside and Dollar, 1997). Durbarry et al. (1998) concludes that aid affects growth positively via stable macroeconomic policies in aid recipient countries. However, according to Ram (2004) there is slight empirical indication to encourage the well-established view that disbursement of aid to countries with good policy management or good institutional environment results in more

economic growth and reduction in poverty level of the developing countries. The long run impact of an aid program and its transitional dynamics based significantly on (1) the elasticity of substitution in production, (2) foreign aid is restricted to investment or not, (3) how the aid-receiving country wants to response to the flow of foreign aid, and (4) nature of foreign assistance program (permanent or temporary) (Chatterjee and Turnovsky, 2005). Foreign aid affect growth extensively, positively and significantly (Karras ,2006). According to Minoiu and Reddy (2009), development aid fosters economic growth, C.Basnet (2013) foreign assistance contributes in growth positively but have negative impact on domestic savings. Buying growth with aid is expensive and inefficiency but economic restructuring and trade liberalization enforced by aid donors may help to enhance economic growth in aid recipient countries Martinez (2015).

Mavrotas (2002) composition of aid is important to get conclusive results about effectiveness of aid. Aid in the form of foreign loans and grants can be mutually interchangeable between public investment and public consumption (Quazi, 2005). Foreign aid effects growth insignificantly [(Khan & Rahim (1993); Kolawole (2013)]. Khan & Ahmed (2007) finds foreign aid at aggregate level as well as at disaggregate level does not influence GDP growth in Pakistan. Domestic investment, export expansion and the inflow of FDI serve as the essential components for growth. The effect of multilateral aid is insignificant in short run while that of bilateral aid is significant (Javid and Qayyum, 2011). Foreign aid negatively affected governments' fiscal responsibility (Butt and Javid, 2013). Loans seem to be bringing more responsible fiscal behavior as compare to grants (Quazi, 2005). Foreign aid considered substitute to domestic savings rather than mobilizing domestic savings (Mallik, 2008 & C. Basnet, 2013). Development aid supports long run growth (Minoiu and Reddy, 2009).

3. Theoretical Framework

Our main focus is to capture the effect the inflow of foreign aid on economic growth of Pakistan. A c c o r d i n g t o t h e Dual Gap Model developed by (Chenery and Strouts, 1966), foreign aid leads to growth by closing the saving-investment and export-import gap. Mostly developing countries face shortage of savings and foreign capital due to limited resources. These countries cannot overcome shortage at their own so they have to depend on foreign capital flows in order to achieve growth targets. Aggregate foreign aid is subdivided into bilateral and multilateral aid in order check the effect of strategic and economic concerns of donors on usefulness of aid.

Different researchers have adopted different models for evaluating the foreign aid effectiveness for economic growth. For example, Khan and Ahmed (2007) find that foreign aid has an insignificant negative effect on growth at the aggregate level and report same results for disaggregate levels in Pakistan by using Auto Regressive Distributed Lag (ARDL) model for empirical analysis.

On the basis of empirical studies, such as Khan and Ahmed (2007) and Javid and Qayyum (2011), we specify a model exploring the impact of aid on economic growth in the following way;

$$\text{LnRGDP}_t = \alpha_0 + \alpha_1 \text{LnAID}_t + \alpha_2 \text{INF}_t + \alpha_3 \text{LnTO}_t + u_{1t} \dots \dots \dots (1)$$

Following Ram (2003), we subdivided foreign aid into two segments: first one is bilateral aid and other is multilateral aid on the basis of their attributes. Bilateral and multilateral aid can be distinguished from each other due to three main reasons, which are donor’s attentions, conditions and relationship with recipient country.

$$\text{LnRGDP}_t = \gamma_0 + \gamma_1 \text{LnBAID}_t + \gamma_2 \text{INF}_t + \gamma_3 \text{LnTO}_t + u_{2t} \dots \dots \dots (2)$$

$$\text{LnRGDP}_t = \delta_0 + \delta_1 \text{LnMAID}_t + \delta_2 \text{INF}_t + \delta_3 \text{LnTO}_t + u_{3t} \dots \dots \dots (3)$$

$$\text{LnRGDP}_t = \beta_0 + \beta_1 \text{LnBAID}_t + \beta_2 \text{LnMAID}_t + \beta_3 \text{INF}_t + \beta_4 \text{LnTO}_t + u_{4t} \dots \dots \dots (4)$$

in equation 1, LnRGDP_t represents log of Real Gross Domestic Product at time t, LnAID_t represents log ratio of total aid inflow to gross domestic product, INF represents consumer prices annual percentage and LnTO_t represents log of trade openness(exports plus imports ratio to GDP). In equation 2 and 3 LnBAID_t represents ratio of bilateral aid to GDP and LnMAID_t represents ratio of multilateral aid to GDP.

3.1 Data Description

I employed annual data from 1972-2014 to explore whether foreign aid affect economic growth in pakistan or not. Secondary data is used from World Development Indicator (2014) and OECD’s International Development Statistics (IDS) online data base. Variables used in the estimation, their measurement, definition and sources are depicted in appendix table 1.

4. Methodology

Autoregressive Distributed Lag (ARDL) model developed by Pesaran, et al. (2001) is going to be employed in this study for investigating the long run relationship between the variables under consideration. The ARDL has some advantages over other techniques, such as it not only covers short run dynamics but also long run dynamics. Similarly, it does not take into account the order of integration of the variables. Furthermore, for small samples, ARDL is an appropriate technique. However, this technique is not valid for I (2) variables so pretesting for the order of integration is required. Estimation procedure depends on two steps. First step is computing the F-statistic for the detection of long run relationships between variables, if long run relationship is witnessed by F-statistic, then ARDL method is used for estimation of parameters (short run and long run).

Let Y_t be LnGDP and X_t be LnBAID, LnMAID, INF and LnTO. The Unrestricted

Error Correction Model (UECM) can be expressed as:

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{n_1} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{n_2} \alpha_{2i} \Delta X_{t-i} + \beta_1 Y_{t-1} + \beta_2 X_{t-1} + u_t \dots \dots \dots (5)$$

In above equation Differenced variables show short run effects while level variables represent long run effects.

4.1 Co-integration test

To detect Co-integration following hypothesis will be tested;

$$H_0 : \beta_1 = \beta_2 = 0 \text{ (No Co-integration)}$$

$$H_1 : \beta_1 \neq \beta_2 \neq 0 \text{ (Co-integration)}$$

H_0 indicates non-existence of the co-integrating relationship between concerned variables. To check the existence of co-integration between concerned variables, F-test is conducted for joint significance. The null hypothesis is rejected if the F-statistics lies outside the upper and lower bounds, otherwise it is accepted.

If c-ointegration is detected then we formulate Error Correction Model (ECM) to examine short as well as long run dynamics. The Model is specified as follows;

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{n_1} \alpha_{1i} \Delta Y_{t-1} + \sum_{i=0}^{n_2} \alpha_{2i} \Delta X_{t-i} + \lambda ECM_{t-1} + v_t \dots \dots \dots (6)$$

If co-integration is not detected in bounds test then in the absence of long run relationship we takes the analysis towards short run. For short run analysis model is specified as follows;

$$\Delta Y_t = \alpha_0 + \sum_{i=1}^{n_1} \alpha_{1i} \Delta Y_{t-i} + \sum_{i=0}^{n_2} \alpha_{2i} \Delta X_{t-i} + v_t \dots \dots \dots (7)$$

5. Results and Discussion

5.1 Unit root Tests

Before the application of the bounds test for co-integration, the Augmented Dickey Fuller unit root test is applied to check the stationarity of the variables. The results of ADF test are given in Table 1.

Table 1 : Test of Non-Stationarity of Variables

Variables	Constant/Trend	Level	First Difference	Order of Integration
LRGDP	Constant	-2.62 (0) ***	-9.99(0) **	I(0)
LRTAID	Constant	-2.50(0)	-7.35(1) **	I(1)
LRTBAID	Constant	-2.89(0) ***	-9.04(0) **	I(0)
LRTMAID	Constant	-3.46(0) **	-9.12(0) **	I(0)
INF	Constant	-3.29(0) **	-7.78(0) **	I(0)
LTO	Constant	-3.39(0) **	-7.24(0) **	I(0)
LRUS_AID	Constant	-3.28(0) **	-6.47(0) **	I(0)
LRUK_AID	Constant	-2.49(0)	-6.25(0) **	I(1)
LRJAP_AID	Constant	-3.14(0) **	-8.82(0) **	I(0)
*,** and *** indicates level of significance at 1%, 5% and 10% respectively				
At constant Mackinnon (1996) critical values are -3.597, -2.93 and -2.60 at 1%, 5% and 10% level of significance respectively.				

The ADF test provides mixed results as can be seen from table 1, two variables (i.e. ratio of total aid and ratio of UK aid) are non-stationary at the levels and turns to be stationary after taking first difference, and all other variables i.e. real GDP, ratio of total multilateral aid, ratio of total bilateral aid, inflation, trade openness, US aid and Japanese aid are stationary at levels, i.e. I(0).

Therefore, mixed results of the unit root justifies that ARDL is the best approach to fulfill the objectives of the study.

5.2 Lag Selection Criterion

The appropriate lag length must be chosen for the unrestricted error correction model (UECM) before application of bounds test of co-integration. For lag length selection, many criterion are used in the studies. For example, Akaike Information criterion (AIC), Schwarz Bayesian Criterion (SBC) and Hannan-Quin Criterion (HQC) mostly used in the studies. However, AIC shows a better fit of data, thus we used AIC for lag selection in this study. Based on the AIC, the appropriate lag length of order one is selected (see Table 2).

Table 2: Lag Selection Criteria

Lag	AIC	SC	HQ
0	3.201818	3.372440	3.263036
1	0.720925*	1.574033*	1.027013*
2	1.027658	2.563254	1.578617
3	1.292753	3.510835	2.088581
4	0.834013	3.734582	1.874713

* indicates lag order selected by the criterion

5.3 Bound testing

The long run relationship between the variables of interest (RGDP, TAID, TO, INF, BAID, MAID, US aid, UK aid and Japan aid), F-test for joint significance by applying zero restriction on variables of first order. The value of F statistic shows that there exists long run relationship. Results of bound test depicted in table 3.

Table 3: Results of Cointegration Test

Dependent variables	F-statistic	I(0) Bound	I(1) Bound	Outcome
$F_y(\text{RGDP}/\text{RTAID}, \text{INF}, \text{TO})$	1.478822	2.37	3.2	No Cointegration
$F_y(\text{RGDP}/\text{RTBAID}, \text{INF}, \text{TO})$	1.626614	2.37	3.2	No Cointegration
$F_y(\text{RGDP}/\text{RTMAID}, \text{INF}, \text{TO})$	1.548465	2.37	3.2	No Cointegration
$F_y(\text{RGDP}/\text{RTBAID}, \text{RTMAID}, \text{INF}, \text{TO})$	1.545981	2.2	3.09	No Cointegration
$F_y(\text{RGDP}/\text{RUS_AID}, \text{INF}, \text{TO})$	2.290181	2.37	3.2	No Cointegration
$F_y(\text{RGDP}/\text{RUK_AID}, \text{INF}, \text{TO})$	1.534858	2.37	3.2	No Cointegration
$F_y(\text{RGDP}/\text{RJAP_AID}, \text{INF}, \text{TO})$	1.034429	2.37	3.2	No Cointegration

Note: The critical values are taken from Pesaran, et al. (2001).

Cointegration test results presented in Table 3 indicates that in each specification aid growth relationship F-statistic accepts the null hypothesis because the values of F-statistics lies within the bounds tabulated F-statistics.

Cointegration among variables of interest not detected in the bounds test, so in the absence of long run relationship we take the analysis towards short run relationship by using Granger Causality test. Results of Autoregressive Distributed Lag (ARDL) are given in appendix. Diagnostics test results are also given in appendix.

5.4 Multivariate Short Run Analysis

The literature on foreign aid and growth shows that different researchers find mixed results when analyzing the relationship between aid and growth. In Pakistan, Ishfaq and Ahmed (2005) found that the impact of foreign assistance is negative and insignificant on the left hand side variable. Another study by Ali (1993) concludes that negative relationship exists between aid and growth. Our findings are consistent with these studies. Since there is no long run relationship among the variables which takes the

analysis towards short run estimation, therefore we examine the short run relationship by using Granger Causality test.

5.5 Multivariate Causality Analysis between Total Aid and Growth

Table 4 presents the aid-growth model which includes real GDP, ratio of total aid, inflation and trade openness.

Table 4 Multivariate Causality Analysis

Dependent Variables	Independent Variables			
	LRGDP	ΔLRTAID	INF	LTO
LRGDP	-	0.23 [0.64]	0.16 [0.69]	2.42 [0.12]
ΔLRTAID	0.00 [0.95]	-	0.02 [0.87]	0.47 [0.49]
INF	0.36 [0.55]	0.06 [0.81]	-	0.02 [0.90]
LTO	3.79 [0.05]**	1.03 [0.31]	0.04 [0.84]	-

Notes: ** represent significance at 5% level where figures in parentheses represent the probabilities

Results suggest that total aid does not causes economic growth. Similar results are found by Bhandari et al. (2007), Khan and Rahim (1993), Khan and Ahmed (2007), Rajan and Subramanian (2008), Javed and Qayyum(2011) and Ram (2003). Many factors are responsible for this result like instable macroeconomic policies, political instability, corruption and aid fungibility. Foreign aid considered substitute to domestic savings rather than mobilizing domestic savings (Mallik, 2008), that could be the reason of ineffective functioning of foreign aid for the GDP growth. The bulk of external assistance diverted into unproductive use such as to finance budget deficit, Butt and Javid (2013) also concluded that foreign aid negatively affected government’s fiscal responsibility. Foreign aid given for infrastructural development in the country is either draws off or diverted into unproductive use that’s why it has no effect on real growth (Kolawole, 2013). The short run effect of foreign aid effect is insignificant because aid has been used investment purpose which takes long time for growth (Setargie, 2015).

It can be seen from the results that inflation does not cause economic growth which is consistent with the results of Bruno and Easterly (1996), they report no causal relationship among inflation and economic growth. They argued that there is no permanent loss to growth from distinct high inflation crunches, as countries have a tendency to restore their pre-crunch growth rates. The reason behind no causality between inflation and growth may be a continual increase in the general price level is

harmful for economic growth in Pakistan (Ayyoub et al., 2011). The other reason could be that high inflation causes low savings and investment in the economy therefore economic growth reduced by inflation.

Results also show that trade openness does not causes economic growth, these results supports the findings of Yanikkaya (2003) and also consistent with the findings of theoretical growth and development literature. The reason could be imports of Pakistan are consisting of capital goods while exports are primary goods and Specialization in primary products not causes growth (Dowrick and Golley, 2004). Din, et al.(2003) concludes that short run disparities in openness and growth rates may be conquered by business cycle fluctuations with no obvious casual trend in the short term. On the other hand, growth causes trade openness significantly; these findings are consistent with the (Frankel and Romer, 1999). Those countries who achieve high growth with other factors except openness engage in more international trade.

5.6 Multivariate Causality Analysis between Bilateral Aid and Growth

Table 5 reports the model which includes real GDP, ratio of total bilateral aid, inflation and trade openness.

Table 5: Multivariate Causality Analysis

Dependent Variables	Independent Variables			
	LRGDP	LRTBAID	INF	LTO
LRGDP	–	2.24 [0.13]	0.13 [0.72]	1.68 [0.19]
LRTBAID	4.12 [0.04]**	–	5.38 [0.02]**	8.41 [0.00]*
INF	2.18 [0.14]	0.07 [0.79]	–	1.12 [0.29]
LTO	3.03 [0.08]***	0.45 [0.50]	0.19 [0.66]	–

Notes: *, ** and *** represents 1%, 5% and 10% significance level where figures in parentheses represent the probabilities

It can be seen from the results that bilateral aid does not causes GDP growth; the role of bilateral aid in GDP growth is insignificant. Many factors are responsible for these results for example donor’s political, strategic and economic interests. According to

Maizels and Nissanke (1984), most of the time bilateral aid is allocated for donors' economic, political and security interests. According to Javed and Qayyum (2011) donor's motives and interest may be the reason behind the ineffectiveness of foreign aid in development process of Pakistan. McGillivray (2003) concluded that bilateral aid donors allocate aid among recipients on the basis of their own interests. The aid expected on the basis of geopolitical factors does not have an effect on growth (Rajan and Subramanian, 2008). Aid may not only be utilized for economic interest of donors but also serve to get political support from aid beneficiary countries (Alesina and Dollar, 2000 & Alesina and Weder, 2002). The results also indicate that GDP growth causes bilateral aid significantly, the findings are consistent with the results of Berthelemy (2007). He concludes that donor countries provide more aid to recipients with high growth performances. Boon (1996) concluded that aid increases (government) consumption but had no significant impact on investment.

5.7 Multivariate Causality Analysis between Multilateral Aid and Growth

Table 6 presents model which includes variables real GDP, multilateral aid, inflation and trade openness.

Table 6: Multivariate Causality Analysis

Dependent Variables	Independent Variables			
	LRGDP	LRTMAID	INF	LTO
LRGDP	-	5.89 [0.02]**	0.16 [0.68]	0.60 [0.81]
LRTMAID	2.78 [0.095]***	-	0.25 [0.61]	0.07 [0.79]
INF	3.67 [0.06]***	0.35 [0.55]	-	1.44 [0.23]
LTO	1.13 [0.28]	4.33 [0.04]**	0.09 [0.76]	-

Notes: ** and *** represent 5% and 10% significance level where figures in parentheses represent the probabilities

Results show that aid from multilateral institutions significantly affect economic growth and economic growth also significantly causes multilateral aid, there is two-way relation between multilateral aid and economic growth. The findings confirm the results of Headey (2005), Senbet and Senbeta (2007), Alvi and Senbeta (2012) and Wamboye, Adekola and Sergi (2013). Headey (2005) concludes that there exist significant positive effect of multilateral aid on growth both before and in the aftermath of the cold war. Minoiu and Reddy (2007) reports direct significant relationship between multilateral aid and economic growth. The reason could be that historically multilateral institutions were able to impose conditionalities over their aid.

5.8 Multivariate Causality Analysis between Bilateral, Multilateral Aid and Growth

Table 7 represents model which includes real GDP, ratio of bilateral aid, ratio of multilateral aid, inflation and trade openness.

Table 7 : Multivariate Causality Analysis

Dependent variables	Independent variables				
	LRGDP	LRTBAID	LRTMAID	INF	LTO
LRGDP	-	1.18 [0.27]	4.65 [0.03]**	0.00 [0.93]	0.56 [0.45]
LRTBAID	3.74 [0.05]**	-	0.10 [0.75]	5.35 [0.02]**	8.11 [0.00]*
LRTMAID	0.79 [0.37]	2.24 [0.13]	-	1.18 [0.27]	0.93 [0.34]
INF	2.39 [0.12]	0.15 [0.69]	0.43 [0.51]	-	0.71 [0.39]
LTO	2.15 [0.14]	1.36 [0.24]	5.23 [0.02]**	0.59 [0.44]	-

Notes: * and ** represent significance at 1%, 5% significance level where figures in parentheses represent the probabilities

Results in table 5.7 indicate that bilateral aid does not cause economic growth while multilateral aid significantly causes economic growth. These findings are consistent with the results of Senbet and Senbeta (2007), they found that foreign aid (both bilateral and multilateral) had significant positive relationship with public spending. But large portion of bilateral aid is used for government current consumption and multilateral aid is used for investment in development projects which sho that multilateral aid is mostly development oriented.

Alesina and Dollar (2000) conclude that bilateral aid may work effectively for promotion of donors strategic interests but it has very weak connection with poverty, democracy and good policy. In developing countries large portion of aid is used to finance government budget deficit rather than development purpose, the correlation between bilateral aid and public consumption is strongly positive (Burnside and Dollar, 1997).

Younas (2008) argues that all bilateral donors mostly give aid to recipient countries who imports machinery and transportation equipment from them in which they have comparative advantage. For example, Germany, France and Canada sanction more aid to countries importing basic manufactured goods from them. Donors provide aid to

maintain their influence in recipient countries, so political interests of donors take over their objective of enhancing development via aid in recipient countries.

Foreign aid channeled through multilateral organizations considered developmental in nature. For example Headey (2007) concluded that multilateral aid less depends on strategic factors as compare to bilateral aid.

Results also show that trade openness significantly causes bilateral aid; the findings of Osei et al. (2004) supports our results. There results suggest that share of import is the important factor in the aid allocation decision of donors.

5.9 Multivariate Causality Analysis between US Aid and Growth

Table 5.8 presents model which includes real GDP, ratio of US Aid, inflation and trade

Table 8: Multivariate Causality Analysis

Dependent Variables	Independent Variables			
	LRGDP	LRUS_AID	INF	LTO
LRGDP	-	0.74 [0.39]	0.06 [0.81]	2.47 [0.12]
LRUS_AID	1.59 [0.21]	-	5.20 [0.02]**	2.39 [0.12]
INF	2.15 [0.14]	0.32 [0.57]	-	1.43 [0.23]
LTO	2.99 [0.08]***	1.05 [0.31]	0.26 [0.61]	-

Notes: ** and *** represent 5% and 10% significance level where figures in parentheses represent the probabilities

It can be seen from the results that US aid does not cause economic growth, the reason could be United States provide aid on the basis of political and strategic interests in Pakistan. Rutten (1996) and Zimmermann (1993) conclude that US government frequently used aid as a significant tool for achievement of foreign policy objectives.

In 2001 after terrorist attacks Pakistan become front line partner of USA for war against terrorism and received \$0.8 billion per annum from 2001 to 2003 (Mullick, 2004). But this alliance has come with a heavy price tag for Pakistan. After three months of announcement of alliance with USA, according to Pakistani president, Pakistan has bared a loss of \$1.8 billion which included decline in net exports and business optimism (Khan 2001).

The findings of Dreher et al. (2008) suggest that US aid has definitely bought voting compliance, general budget support and grants used to induce recipient countries to vote in the favor of United States.

So we can say that due to influence of political consideration US aid does not play effective role in economic growth of Pakistan.

5.10. Multivariate Causality Analysis between UK Aid and Growth

Table 9 reports the model which includes real GDP, ratio of UK aid, inflation and trade openness.

Table 9: Multivariate Causality Analysis

Dependent Variables	Independent Variables			
	LRGDP	Δ LRUK_AID	INF	LTO
LRGDP	-	2.23 [0.13]	0.47 [0.49]	2.92 [0.09]***
Δ LRUK_AID	0.23 [0.63]	-	0.92 [0.34]	1.16 [0.28]
INF	0.46 [0.49]	0.23 [0.62]	-	0.05 [0.82]
LTO	3.08 [0.08]***	0.50 [0.48]	0.00 [0.95]	-

Notes: *** represent 10% significance level where figures in parentheses represent the probabilities

The results in table 5.9 shows that aid from United Kingdom does not cause economic growth, the reasons could be political and economic motives. According to Berthelemy (2007) United Kingdom is known for frequently tying assistance. Tied aid imposes condition on recipient country to use aid for purchase of goods and services produced in the donor country. Britain has been tying their aid allocations much more close to export orders (Maizels and Nissanke, 1984). So in this case amount of funds available for development reduced and aid cannot play any role in growth of recipient country. Britain's interest behind sanctioning aid is essentially political rather than economic (Mckinlay and Little, 1978).

Mostly developing countries use foreign aid to reduce fiscal gap, Franco-Rodriguez et al. (1998) argues that half of aid has used for government consumption in Pakistan and it has negative effect on tax effort.

Results suggest that there is bi-directional relation among trade openness and growth which confirms the findings of Iqbal & Zahid (1998) and Frankel & Romer (1999) who found that trade openness is beneficial for economic growth in case of Pakistan.

5.11. Multivariate Causality Analysis between Japan Aid and Growth

Table 5.10 reports the model which includes real GDP, Japanese aid, inflation and trade openness.

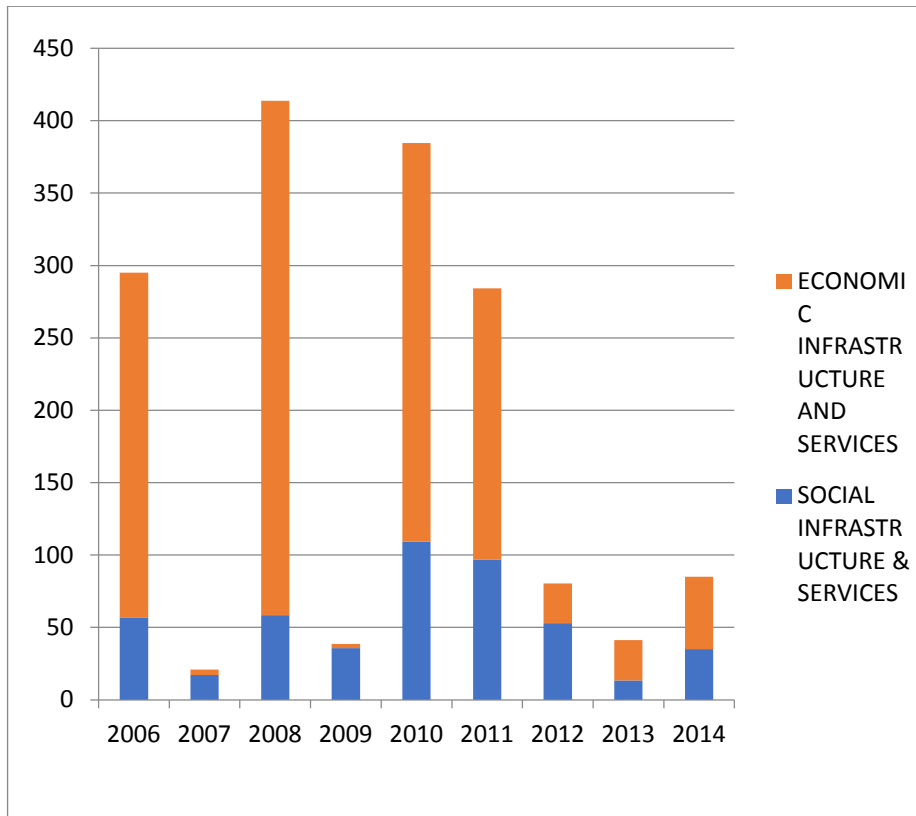
Table 10: Multivariate causality analysis

Dependent Variables	Independent Variables			
	LRGDP	LRJAP_AID	INF	LTO
LRGDP	-	4.09 [0.04]**	0.71 [0.39]	0.00 [0.92]
LRJAP_AID	0.51 [0.47]	-	0.00 [0.94]	0.59 [0.44]
INF	3.14 [0.08]	1.72 [0.19]	-	0.87 [0.35]
LTO	3.04 [0.08]***	2.30 [0.12]	0.39 [0.53]	-

Notes: ** and *** represent 5% and 10% significance level where figures in parentheses represent the probabilities

Results in table 5.10 suggest that Japanese aid significantly causes economic growth, the reason could be large portion of Japanese aid consist of economic aid. Foreign aid disbursed for economic development is more helpful for GDP growth. Figure 5.1 depicts that Japanese aid for economic infrastructure and services consists large portion as compare to social infrastructure and services.

Figure 1 ODA from Japan (USD millions) spent on economic infrastructure and social infrastructure in Pakistan 2006-2014



Source: OECD.stat 2014

6. Conclusion

The empirical analysis proposed that economic growth cannot be stimulate by foreign aid in case of Pakistan. Our findings are consistent with Bhandari et al. (2007), Khan and Ahmed (2007), Mallik (2008), Kolawole (2013), Aboubacar et al. (2015) and Setargie (2015). Bilateral aid also does not cause economic growth but multilateral aid significantly causes economic growth. Results show two-way causality among multilateral aid and economic growth. The reason could be two-fold: one could be large amount of bilateral aid for the purpose of reducing debt and grants to the countries on the humanitarian basis. Second, aid from the multilateral institutions mostly is used for improving economic and social infrastructure (OECD.stat 2014).

Estimated results indicate that aid from UK and US also does not cause economic growth in Pakistan. But Japanese aid significantly causes economic growth, the reasons could be that United States and United Kingdom provides aid on the basis of political and strategic motives. Japan spent large portion of aid on economic infrastructure and

services, so we can say that in this way Japanese aid contributes to economic growth of Pakistan.

References

- Aboubacar,B.,D.Xu, and A.Ousseini (2015) Foreign Aids Effect on Economic Growth, New Result from WAEMUS Countries: *Theoretical Economics Letters* 5, 425-430.
- Alesina,A and D.Dollar (2000) Who Gives Aid to Whom and Why? *Journal of Economic Growth* 5, 33-63
- Alesina, A., Weder, B., 2002. Do Corrupt Governments Receive Less Foreign Aid? *American Economic Review*, September,92.
- Ali,H. (2013) Foreign Aid and Economic Growth in Egypt: A Cointegration Analysis. *International Journal of Economics and Financial issues* 3:3, 743-751.
- Ali, S. S. (1993) Management of Foreign Debt and Dependency in Pakistan. Unpublished
M.Phil Thesis, Department of Economics, Quaid-i-Azam University Islamabad.
- Alvi, E., & Senbeta, A. (2012). Does foreign aid reduce poverty? *Journal of International Development*, 24:8, 955-976.
- Asteriou, D. (2008) Foreign Aid and Economic Growth: New Evidence from a Panel Data Approach for Five South Asian Countries. *Journal of Policy Modeling* 31, 155– 161.
- Ayyoub, M., I. S. Chaudhry and F. Farooq (2011), Does inflation affect economic growth? The case of Pakistan. *Pakistan Journal of Social Sciences*, Volume 31:1, 51-64.
- Banerjee,A.,Dolado,J., Mestre, R.(1998). Error-Correction Mechanism Tests for Cointegration in Single-equation Framework, *Journal of Time Series Analysis*, 19,267-283.
- Basnet, H. C. (2013). Foreign aid, domestic savings, and economic growth in South Asia. *International Business & Economics Research Journal (IBER)*,12(11), 1389-1394.
- Berthélemy, J.(2006) Bilateral Donors' Interests vs. Recipients' Development Motives in Aid Allocation: Do All Donors Behave the Same? *Review of Development Economics* 10:2, 179-194.
- Bhandari, R., Dhakal D., Pradhan G., Upadhyaya K. (2007). "Foreign aid, FDI and economic growth in East European countries". *Economics Bulletin*, vol. 6, no 13 pp. 1-9
- Boone, P., (1996). Politics and effectiveness of foreign aid. *European Economic Review* 40, 289–329.
- Bruno, M. and Easterly, W. (1996) Inflation and growth: in search of a stable relationship.

- Federal Reserve Bank of St. Louis Review, 78, 139-146.
- Burnside, C. and D. Dollar (1997) Aid, Policies and Growth. Policy Research.
The World Bank, Development Research Group. Washington, DC. (Working Paper 1777).
- Burnside, C. and D. Dollar (2000) Aid, Policies, and Growth.
American Economic Review 90:4, 847– 68.
- Butt,R and A.Y.Javid (2013), Foreign Aid and Fiscal Behaviour of Government of Pakistan; *PIDE Working Papers* 2013:96.
- Chatterjee, S. and S.J.Turnovsky(2005). Financing Public Investment through Foreign Aid:
Consequences for Economic Growth and Welfare", *Review of International Economics*, 13:1, 20-44.
- Chenery, H. B. and A. Strout (1966). Foreign Assistance and Economic Development.
American Economic Review 56, 679– 733.
- Dalgaard, C. and H. Hansen (2001) On Aid, Growth and Good Policies. *Journal of Development Studies* 37: 6, 17–41.
- Dalgaard, C., H. Hansen, and F. Tarp (2001) On the Empirics of Foreign Aid and Growth. *The Economic Journal* 144, F191–F216.
- Din, Musleh-UD, E. Ghani, and O. Siddique (2003) Openness and Economic Growth in Pakistan. *The Pakistan Development Review* 42:4, 795–807.
- Dowrick, Steve and Jane Golley (2004), “Trade openness and growth: Who benefits”, *Oxford Review of Economic Policy*, vol. 20, No. 1, pp. 38- 56.
- Dreher, A., Nunnenkamp, P., and Thiele, R. (2008). Does US aid buy UN general assembly votes? A disaggregated analysis. *Public Choice*, 136(1-2), 139-164.
- Durbarry, R., N. Gemmell, and D. Greenaway (1998) New Evidence on Development and International Trade, University of Nottingham. UK.
- Easterly, W. (2001) The Political Economy of Growth without Development: A Case Study of Pakistan. Paper for the Analytical Narratives of Growth Project, Kennedy School of Harvard University.
- Ekanayake, E .M and D.Chatrna(2007), The effect of foreign aid on economic growth in developing countries; *Journal of International Business and Cultural Studies*.
- Fasanya and Onakoya (2012), Does Foreign Aid Accelerate Economic Growth? An Empirical Analysis for Nigeria; *International Journal of Economics and Financial Issues* 2: 4, 423-431.
- Franco-Rodriguez, S., Morrissey, O., and McGillivray, M. (1998). Aid and the public sector in Pakistan: evidence with endogenous aid. *World Development*, 26(7), 1241-1250.

- Frankel, Jeffrey A., and David H. Romer. 1999. "Does Trade Cause Growth?" *American Economic Review*, 89(3): 379-399.
- Gounder, R. (2001) Aid-Growth Nexus: Empirical Evidence from Fiji. *Applied Economics* 33, 1009–1019.
- Hansen, H. and F. Tarp (2001), Aid and growth regressions, *Journal of Development Economics* 64, 547–570.
- Hassen, A. W. (2011). Effectiveness of foreign aid in sub-Saharan Africa: Does disaggregating aid into bilateral and multilateral components make a difference? *Journal of Economics and International Finance*, 3:16, 801-817.
- Hatemi,A. and M.Irandoust (2005), Foreign Aid and Economic Growth: New Evidence From Panel Cointegration; *Journal of Economic Development* 30:1
- Headey, D. (2005). Foreign Aid and Foreign Policy: How donors undermine the effectiveness of overseas development assistance (No. WP052005). School of Economics, University of Queensland, Australia.
- Ishfaq, M. and E. Ahmad (2005) Aid Effectiveness: The Case of Pakistan. *The Middle East Business and Economic Review* 17: 2.
- Iqbal, Z., and Zahid, G. M. (1998). Macroeconomic determinants of economic growth in Pakistan. *The Pakistan Development Review*, 125-148.
- Javid, M and A.Qayyum (2011), Foreign Aid and Growth Nexus in Pakistan: The Role of Macroeconomic Policies; *PIDE Working Papers 2011: 72*.
- Karras, G.(2006) Foreign Aid and Long-Run Economic Growth: Empirical Evidence for a Panel of Developing Countries. *Journal of International Development* 18, 15-28.
- Khan, M. A. and A. Ahmed (2007) Foreign Aid-Blessing or Curse: Evidence from Pakistan. *The Pakistan Development Review* 46: 3.
- Khan, N. Z., and E. Rahim (1993) Foreign Aid, Domestic Savings and Economic Growth in Pakistan: 1960-1988. *The Pakistan Development Review* 32: 4, 1157–1167.
- Khan, S. R. (1997) Has Aid Helped in Pakistan? *The Pakistan Development Review* 36:4, 853–883.
- Kahn ,A. H. (2001) "Recent Economic Performance, Impact of September 11and Short-term Economic Outlook of Pakistan" Islamabad, Pakistan.
- Kolawole, B. O 2013, Foreign Assistance and Economic Growth in Nigeria: The Two Gap Model Framework. *American International Journal of Contemporary Research*. 3(10); 153-160
- Kurihara,Y.(2014) Does foreign aid promote economic growth?. *Global Business and Economics Research Journal*, 3(4): 20-30.
- Lancaster, C. (2007) *Foreign Aid, Diplomacy, Development, Domestic Politics*. Chicago and London: University of Chicago Press.

- Mallik,G. (2008) Foreign Aid and Economic Growth: A Cointegration Analysis of the Six Poorest African Countries; *Economic Analysis and Policy* 38:2
- Martinez,P. (2015) The Impact of Foreign Aid on Economic Growth, University of Santiago, Chile. Available at [https:// mpra.ub.uni-muenchen.de/66588/MPRA Paper NO.66588](https://mpra.ub.uni-muenchen.de/66588/MPRA_Paper_NO.66588)
- Mavrotas, G. (2002) Aid and Growth in India: Some Evidence from Disaggregated Aid Data. *South Asia Economic Journal* 3: 1, 19–49.
- Maizels, A and K.M.Nissanke(1984), Motivations for Aid to Developing Countries, *World Development* 12:9, 879-900.
- McGillivray, M. (2003), Modelling Foreign Aid Allocation: Issues, Approaches and Results, *Journal of Economic Development*, 28:1, 171-188
- McKinlay, R, D. and R.Little.(1978), The U.S.Aid Relationship: A Test of the Recipient Need and the Donor Interest Models.” *Political Studies* 27:2, 236-50.
- Minoiu,C and S. Reddy(2009), Development Aid and Economic Growth: A Positive Long-Run Relation; *International Monetary Fund WP* 09:118
- Moreira, S.B. (2005) Evaluating the Impact of Foreign Aid on Economic Growth: A Cross-Country Study. *Journal of Economic Development*, 30, 25.
- Morrissey, O. (2001), "Does aid increase growth?," *Progress in Development Studies*, 1(1), 37-50.
- Mullick, H. (2004). US foreign aid and economic growth: A post-9/11 case study of Pakistan as a key ally in the war against terrorism, In *Proceedings to the Pennsylvania Economic Association Conference*.
- Osei, R., Morrissey, O., and Lloyd, T. (2004). The nature of aid and trade relationships. *The European Journal of Development Research*, 16(2), 354-374.
- Pesaran, M. H., Y. Shin, and R. J. Smith (2001) Bound Testing Approach to the Analysis of Level Relationships. *Journal of Applied Econometrics* 16, 289–326.
- Quazi, Rahim M. (2005), Effects of Foreign Aid on GDP Growth and Fiscal Behavior: An Econometric Case Study of Bangladesh, *the Journal of Developing Areas* , 38(2)
- Rajan, R. G., & Subramanian, A. (2008). Aid and growth: What does the cross-country evidence really show? *The Review of economics and Statistics*, 90(4), 643-665.
- Ram, R. (2003), Role of Bilateral and Multilateral Aid in Economic Growth of Developing Countries. *Kyklos* 56:1, 95–10.
- Ram, R. (2004), “Recipient Country’s ‘Policies’ and the Effect of Foreign Aid on Economic Growth in Developing Countries: Additional Evidence”, *Journal of International Development*, Vol. 16, pp. 201-211.

- Ruttan, V.W. (1996). *United States Development Assistance Policy: The Domestic Politics of Foreign Economic Aid*. The Johns Hopkins University Press, Baltimore.
- Sandrina, M.B (2005), Evaluating The Impact Of Foreign Aid On Economic Growth: A Cross-Country Study, *Journal Of Economic Development* 25:30
- Senbet, D., & Senbeta, A. (2007). Fiscal Response to External Finance: The Case of Sub-Saharan Africa. Western Michigan University.
- Setargie, F (2015), The Impact Of Foreign Aid On Economic Growth Of Ethiopia. *Journal Of Economics and Sustainable Development* 6:7
- Shabbir, T. and A. Mahmood (1992) The Effect of Foreign Private Investment on Economic Growth in Pakistan. *The Pakistan Development Review* 31:4, 831–862.
- Shah, S.A.H., I. Ahmed and M. Zahid (2005) Is Foreign Aid Necessary for the Economic Development of Less Developed Countries With Special Reference to Pakistan?. *IPRI Journal* V:2, 1-27.
- Wamboye, E., Adekola, A., & Sergi, B. S. (2013). Economic growth and the role of foreign aid in selected African countries. *Development*, 56:2, 155-171.
- Yanikkaya, H. (2003) “Trade Openness and Economic Growth: A Cross Country Empirical Investigation”, *Journal of Development Economics*, Vol. 72, pp. 57-8
- Younas, J. (2008). Motivation for bilateral aid allocation: Altruism or trade benefits. *European Journal of Political Economy*, 24, 661–674.
- Zimmermann, R. (1993), *Dollars, Diplomacy and Dependency – Dilemmas of U.S. Economic Aid*. Lynne Reiner Publishers Inc., Colorado.