Foreign Aid-Growth Nexus in Pakistan: Role of Macroeconomic Policies

Muhammad, Javid and Qayyum, Abdul

Pakistan Institute of DEvelopment Economics Islamabad Pakistan

2011

Foreign Aid-Growth Nexus in Pakistan:
Role of Macroeconomic Policies

Muhammad Javid

Email Address: javid@pide.org.pk

Pakistan Institute of Development Economics Islamabad

Dr. Abdul Qayyum

Pakistan Institute of Development Economics Islamabad

Abstract

Despite receiving the large quantities of foreign aid, like many other Developing Countries, Pakistan has remained stagnant and become more aid dependent. This grim reality provokes vigorous debate on the effectiveness of aid. This study examines the effectiveness of aid, focusing on the ongoing debate on the interactive effect of aid and policy on sustainable economic growth. The empirical analysis is based on the ARDL cointegration approach using the data for the period 1960 to 2008.

Based on the empirical results we find that foreign aid and real GDP has negative relationship while aid-policy interactive term and real GDP growth has positive and significant relationship. The interesting results emerge; when Aid/GDP alone is introduced into the growth equation it has insignificant positive coefficient in the long run and negative and weakly significant coefficient in the short run while aid policy interactive term has positive and significant coefficient both in the short run and long run. When we disaggregate aid in term bilateral and multilateral component, bilateral aid is significantly positive in the short run and multilateral aid is insignificant while aid interactive term is positive in both cases. The results strongly support the view that foreign aid does have positive impact on economic growth in Pakistan conditional on sound macroeconomic policies.

1   Introduction

Foreign aid has been a major source of external financing for developing countries over the past several decades. The rationale for foreign aid based on the tow gap model. In the least developed countries (LDC) the demand for investment cannot be met from domestic savings and exports earning are also insufficient to finance imports. Foreign aid is used as to fill both a savings-investment gap and a foreign exchange gap in the LDCs. Literature highlights four broad economic objectives of foreign aid. These includes: (1) foreign aid stimulates economic growth through building infrastructure, supporting productive sectors such as agriculture and manufacturing and bringing new ideas and technologies, (2) it strengthens the important sectors, such as education, health, environment and political systems, (3) aid is used to support subsistence consumption of food, (4) aid help to stabilize the economy following economic shocks. It is important to determine whether foreign aid has been effective in achieving these objectives.

Foreign aid is highly a controversial topic in terms of its impact on economic growth of recipient country, the purposes for which it is allocated and the terms and condition under which it is transferred. The literature on effectiveness of foreign aid has three broad strands. The first one points positive effect of aid on economic growth (Dalgaard and Hansen 2001, Hansen and Tarp, 2001; Asterious, 2009 and Lensink and White 2000; Clemens et al, 2004). The second strand suggests that aid has positive effect on economic growth conditional on sound economic policies, good governance, strong institution, and favorable geography (Burnside and Dollar, 1997 2000; Collier and Dehn, 2001; Alvi *et. al.,* 2008; Durbarry *et al*. 1998). The third stand of literature on aid effectiveness strongly contradict the first two stands by suggesting that not only foreign aid has no effect on growth, rather it may even hurts growth because it expands size of

the public sectors which leads to bad governance. It enriches the elite in poor countries and encourages malpractice such as corruption (Griffen and Enos, 1970; Radelet, 2006; Mosley, 1980; Dowling and Hiemenz, 1982; Singh, 1985; Boone, 1994 and Rajan and Subramanian, 2008; Kourtellos, Tan and Zhang, 2007; Arellno et. al.2009). Based on the available literature we conclude that the empirical evidence on effectiveness of aid is mixed.

An alternate strand of literature stresses on the stability of macroeconomic policies to get favorable impact of aid on economic growth. To capture the effect of foreign aid on economic growth in the presence of macroeconomic policies, Burnside and Dollar (1997, 2000) incorporate aid-policy (AID*POLICY) interactive term in the model. Burnside and Dollar (2000) focuses on the necessity of sound monetary, fiscal and trade policy as conducive for sustainable economic growth. A country with sound policy management would be one with low inflation, small fiscal imbalance and an open trade regime. The main message of their studies is that aid only works when government policies are good and that aid should be allocated to countries with good macroeconomic policies. Capital inflows will be more effective in the countries which have stable macroeconomic policies and few distortions (The World Bank, 1990).

On the other hand donor's economic and strategic motives are considered as important factors which make aid less effective for the recipients. Lancaster (2007) argues that in order to understand the controversy over the effectiveness of foreign aid one must know the purpose of aid and the donor's motives. Lancaster further argues that total amount of aid given to the developing countries should not be assessed as a contributing factors for development because a considerable portion of it used for humanitarian, diplomatic, cultural and commercial purpose. Bilateral aid is likely to be more oriented towards the donor's economic and strategic interest. National interest is the most obvious motive of the donors in bilateral aid and the donors support

countries with which they have strong cultural, political or strategic ties. Radelet (2006) argues that when bilateral donors effectively "tied[1]" a portion of their aid to some recipient it become more costly and less effective. In case of tied aid the recipient country receives much less amount of aid than allocated to him. Boone (1996) finding suggests that aid inflow are primarily focused on the donor's political and strategic interest rather than recipient needs.

Numbers of studies have been undertaken that have focused on the impact of foreign aid on economic growth in case of Pakistan. Most of the studies have found negative and insignificant relationship between foreign aid and economic growth (Ishfaq and Eatzaz, 2005; Khan and Ahmed, 2007; Khan, 1997). Khan and Rahim (1993) conclude that foreign aid has a negative relationship with domestic savings and has no significant impact on economic growth. The general conclusions of these studies suggest that foreign aid has insignificant or negative relationship with economic growth.

In case of Pakistan, various studies on foreign aid and economic growth propose that ineffectiveness of aid is due to bad macroeconomic policies of the country and foreign aid may affects economic growth positively only if the macroeconomic policies are right (Husain, 1999; Ishfaq and Eatzaz, 2005; Khan and Ahmed, 2007).

None of the study with reference to Pakistan analyzes impact of foreign aid on economic growth in the presence of macroeconomic policy and in the perspective of donor's motive. This study significantly differs from earlier studies for Pakistan in two aspects. First, we examine the impact of foreign aid on economic growth by incorporating the macroeconomic policy variable in the

---

1 Donors country demand that certain portion of aid used to purchase goods and services from the firms in donor's home country.

regression model. Second in this study we disaggregate the total aid in bilateral and multilateral aid in order to capture the separate contribution of these forms of aid on economic growth.

The outcome of the study will provide useful insight into the role of foreign aid, stable economic policies and will help the policy makers to address the issue of aid effectiveness.

The remainder of the study organized in the following manner. Aid effectiveness and macroeconomic policies are discussed in section 2. Foreign aid inflow into Pakistan has been provided in section 3. Model specification and econometrics technique used for estimation are described in section 4. Empirical results of aid growth regression have been presented in section 5. Section 6 contains concluding remarks and policy recommendations.

2   Aid Effectiveness and Macroeconomic Policy

The aid growth relationship can be traced back to two gap-gap model, in which aid is considered as driving force for economic growth through capital accumulation in recipient country. The two-gap model illustrates that despite having surplus labor, developing countries   constrained by lack of domestic savings and the foreign exchange availability to invest (Chener and Strout, 1966). The first gap is between the investment and savings and the second gap is between imports and foreign exchange earnings (Easterly, 2003). The developing countries cannot overcome the shortage of savings and foreign exchange earnings from their own resources however, foreign aid promote the growth in developing countries by reducing the saving-investment and export-import gaps.

The main criticism on supporters of aid is that if two- gap models exists in LDCs economy and foreign aid is necessary to fill these gaps then why the majority of aid recipient countries could not achieved sustainable economic growth. In the recent year,   literatures on aid effectiveness

stress on the stable macroeconomic policy of the recipient countries to make aid more effective for economic growth. The World Bank has stressed on supportive macroeconomic frame work for successful structural adjustment.

Macroeconomic stability and fewer distortions make capital inflow more effective. Distortionary policies reduce the efficiency of capital investment and thus for the rate of economic growth (World Bank, 1990). Hudson and Mosley (2001) mentioned two reasons for the inclusion of the policy variables in regression model. First, there is possibility that countries with a good policy environment grow faster, regardless in the changes of factor of production. Second, there is possibility that in the presence of good policy environment, credit is translated into investment. However, Hansen and Tarp (2001), and Rajan and Subramanian (2008) described that the role macroeconomic policy for aid effectiveness is ambiguous.

2.1   Construction of Policy Index

According to Fischer (1993), causation runs from good macroeconomic policy towards economic growth. He argues that growth is negatively associated with high inflation, large budget deficits, and distorted foreign exchange market. High inflation reduces growth by reducing investment and productivity growth. Budget deficit also reduces both capital accumulation and productivity growth. Randel.*et.al* (2004) study suggest that noninflationary monetary policy and low budget deficits is essential for savings and for accumulating capital. High inflation and large budget deficits cause the financial instability and discourage the savings and investment. Montiel and Serven(2004) study proposed that developing countries achieve the progress with appropriate fiscal, monetary policy and the volatility in behavior of these variables caused the macroeconomic instability. They considered a stable macroeconomic policy environment attribute a fiscal stance safely consistent with fiscal solvency, a monetary policy with low and

7

stable rate of inflation. Easterly and Rebelo (1993) suggest that the effect of most of fiscal variables has statistically fragile and negative effects on economic growth. Abdiweli M. Ali (2005) study shows that that fiscal volatility is strongly and negatively correlated with economic growth. Iqbal and Zahid (1998) study regarding Pakistan, conclude that budget deficit is negatively related with growth rates in per capita real income and real GDP. Two reasons are mentioned about negative relationship between fiscal deficit and growth in context of Pakistan. First is that when fiscal deficit is financed through distortion taxation, it would lower the incentive for saving and investment, thereby lowering the rate of capital accumulation and economic growth. The second argument is that higher budget deficit crowds out private investment.

Openness to trade is considered an important factor to raise growth through several channels, such as access to advanced technology from abroad, possibilities of catch-up, greater access to a variety of inputs for production, and access to broader markets that raise the efficiency of domestic production through increased specialization (Durbarry et al., 1998).

Burnside and Dollar (2000) assume that distortions affect growth that will determine the effectiveness of aid. Therefore, in the construction of policy index, they assigned the weights to the policy variables according to their correlation with growth. Unlike Burnside and Dollar (1997, 2000) we construct the policy index using the principal component methodology.

To find the weights of three variables inflation, budget deficit and trade openness through principal component analysis, first principal component represents the high correlation so we use the first components to construct policy index.

The Policy index for period is based on the following equation

Policy Index = -α₁ inflation - α₂ budget deficit + α₃ trade openness

Where α1, α2, α3 represents weights of inflation, budget deficit and trade openness respectively. The graphic representation of the policy index is depicted in figure 4.1. Sign of parameters α1, α2, α3 are very important in the construction of policy index. On the basis recent studies[2] we take α1 <0 and α2 <0 and α3>0.

Policy Index = -0.4856* INF -0.1475* BD + 0.3669* TO

Figure 1

Graph of Policy Index
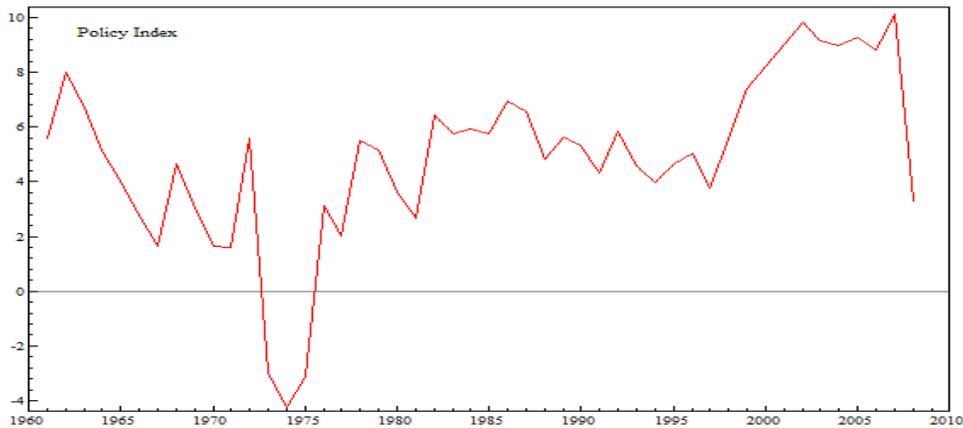
Above figure clearly indicate highly unstable macroeconomic policies in Pakistan. Monetary, fiscal and trade policies in Pakistan badly affected by external and internal shocks during the period reviewed. The inflation has a large impact on the policy index, followed by the trade openness and budget deficit has the least impact on policy index. Index is negative during the mid 1970 reflect the   high inflation and large budget deficit. The mean of the index is 4.9 and standard deviation is 3.1.

---

[2] Khan (2010), Randel.et.*al* (2004), Easterly and Rebelo (1993), Iqbal and Zahid (1998)

Figure 2: Inflation and Budget Deficit (1960-2008)
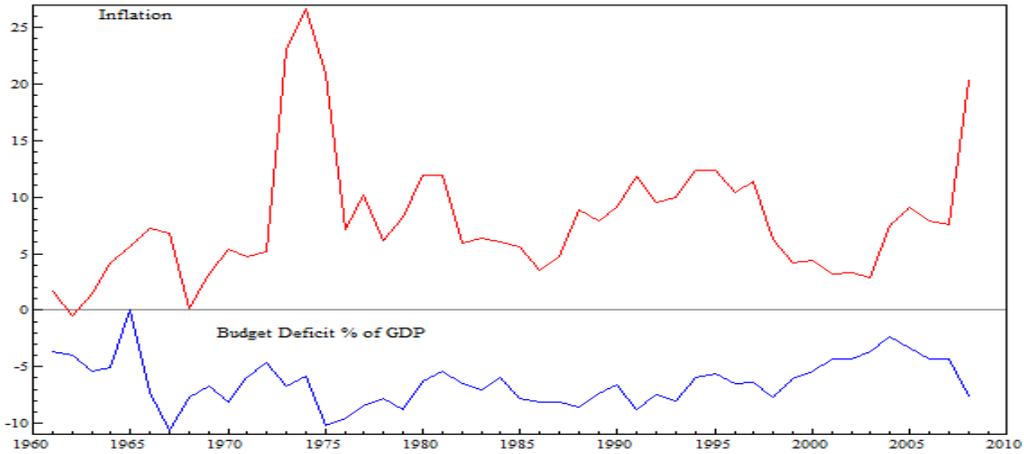
Policy index shows a persistent declining trend in sixties and seventies. High budget deficit in late sixties and high inflation early seventies were the major source of policy deterioration in the economy. Political disturbance of late sixties, 1965 war with India, separation of the East Pakistan, and oil price shock were the major events of two decades. As results this period remarked with high inflation and high budget deficit. In the decade of eighties, the movement of inflation and budget deficit somehow depict inverse relationship. 1980s can be remarked with high budget deficit and low inflation up to some extent as compared to 1990s which is characterized with high inflation and high budget deficit. The fiscal deficit that was significantly high in eighties continued to remain high in the period of nineties. The inflation rate was 7.3% in 1980s on average as compared to 12.2% on average in 1970s .However the trend of inflation and budget deficit was reversed in decade of nineties that can be characterized with high inflation and high budget deficit episode which have negative impact on policy index. In 1990 government of Pakistan adopted trade liberalization policy and financial reforms along with tariff reform which showed some positive sign for the economy but failed to achieve the objective due political instability, law and order situation and inconsistence in the macroeconomic policies.

10

Nuclear test, freezing of the foreign currency account and military takeover in 1999 led to further warrens the economy. In the first five years of 21st century remarked with low and stable inflation along with low budget deficit because abundant inflow of capital in the form of remittances and aid contributed to the macroeconomic stability. After 2005, international financial crisis, high food and oil prices and most terrible law and order situation badly deteriorate the macroeconomic stability in the country.

3   Foreign Aid Inflow into Pakistan

Pakistan's experience of foreign aid over the last several decades has not been much satisfactory. Pakistan has still away from the stage of self sustaining economic growth despite receiving the huge amount of foreign aid. Due to enormously large accumulated foreign debt, most of the aid is being used for debt servicing. Terms and condition of different type of aid, economic and strategic interest of donors and the influence of donors in Pakistan's economic policies are most important issues which badly affect the growth process of the country.

Each successive government in Pakistan relied on foreign aid to finance a significant proportion of investment and import requirement for self sustaining economic growth. Pakistan's dependence on foreign aid was started since 1950s, however, gross foreign aid inflows were negligible during the fifties, and in the first half of the sixties witnessed a rapid increase. Significance increase in aid inflow took place during sixties although after the 1965 war with India slowed down. Aid inflow to Pakistan during the different periods is given in Table1.

Table 1: Disbursement of Foreign Economic Assistance to Pakistan

	Aid Inflow (Millions US$)	Aid % of GDP	Service Payments	Net Aid Inflow	Net Transfer as % of Total Aid
1960s*	541.4	9.08	72.78	468.6	87.2
1970s*	722.9	5.95	244.2	478.7	65
1980s*	1464.7	4.58	807.6	657.1	43.8
1990s*	2465.2	4.57	1762.7	702.5	28.7
2000	2241	3.03	1401	840	37.5
2001	2085	2.89	1557	528	25.3
2002	2756	3.8	1207	1549	56.2
2003	1921	2.3	1339	582	30.3
2004	1329	1.36	2995	-1666	
2005	2709	2.47	1471	1238	45.7
2006	3166	2.5	1581	1585	50.1
2007	3297	2.3	1612	1685	51.1
2008	3580	2.79	1766	1814	50.7
2009	3297		1320	1977	60.0

Sources: Government of Pakistan, Pakistan Economic Survey (2008-9)
*Figure represents the annual average

The pattern of aid inflow rose slowly till 1960s but increased in the first half of sixties growing from 8.4 percent of GDP in 1961 to 11.99 percent of GDP in 1965. In the latter half of the sixties, foreign aid slowed down from 8.2 percent of GDP in 1966 to 6.8 percent in 1969. Foreign aid inflow as percentage of GDP dropped down to about 5 percent of GDP in the first half of 1970s. During the second half of 1970s, aid inflow increased again and reached 6.5 percent of GDP on average. Due to oil price shock in 1970s governments of petroleum-exporting countries become major sources of foreign assistance for developing countries. After 1973 Pakistan received a reasonable amount of foreign aid from Islamic countries. During the

seventies foreign aid helped the economy to overcome the severe problem of high level of inflation. In the decade of eighties and nineties, aid inflow remained almost static at 4.6 percent of the GDP on average.

Aid inflow to Pakistan has a strong association with geo-political interest of donors. The increases in aid inflow in decade of 1960s in connect with Pakistan's signing of mutual defense assistance agreements with United State in cold war era. Aid inflow of 1980s can be visualized in perspective of Afghanistan war. In 1990s economic assistance to Pakistan was cut off by USA and other multilateral donor's when Afghan war ended. Aid inflow to Pakistan was further dropped down after nuclear test in 1998 and military takeover in 1999. Most recent aid inflow is a result of Pak-US closer ties after 9/11.

3.2   Net Aid Inflow to Pakistan

By subtracting the annual debt servicing (repayment of principal and interest) from the total aid inflow, we deduce the net foreign aid which is available to the recipient country for financing its import and gross investment. In case of Pakistan, debt servicing has gradually increased over the time and amount of aid resource available for the country has reduced, net foreign aid inflows averaged about 87 percent of total aid inflow during the sixties. From table 4.1, it can be seen that due to increase in annual debt servicing charges, net transfer as a ratio of total disbursements declined from 87 percent in the sixties to 65 percent in the decade of seventies. Net aid inflow as percentage of total aid inflows has further declined and reached to 43.8 percent and 28.7 percent in the period of eighties and nineties respectively. It is estimated that 58 percent of total aid inflow went back to donor countries as debt servicing charges over the period 1961 to 2009.Out of total disbursements of $ US 77.78 billion from 1961 to 2009, an amount of $ 45.05 billion

(58% of total disbursed aid) was returned to the donor countries as debt servicing. Thus because of increase in interest payments and principal, a smaller proportion of net foreign aid has been made available to the country.

Regarding the performance of social indicators, peoples of Pakistan are still having no access to basic needs like education and health facilities. Inflow of foreign aid and reasonable growth rate completely fail to change the living standard of ordinary people of Pakistan. In case of Pakistan, foreign aid and government programs may have contributed to overall economic growth, but failed to promote social and political indicators like education, health, sanitation, fertility, gender equality, corruption, political instability and violence, and democracy -- for its level of income which cause elite domination and ethnic division(Easterly;2001). Easterly(2001) express his point view about aid contribution in Pakistan economy in the following words.

> *"Pakistan has had respectable per capita growth over 1950-99, intensive involvement by donors and international agencies ($58 billion in foreign aid), and has a well-educated and high-achieving elite and Diaspora. Yet Pakistan systematically underperforms on most social and political indicators -- education, health, sanitation, fertility, gender equality, corruption, political instability and violence, and democracy -- for its level of income. It systematically under-performs on improvements in these indicators for its rate of GDP per capita growth over time. I call this pattern "growth without development." (William Easterly, 2001)*

4.   Model Specification

Main focused on the issue of whether aid work better in the presence of good policy environment. In order to capture the effectiveness of aid inflow on growth in the presence of good policy, we incorporate the aid – policy interactive term in growth model. Total aid inflow is decomposed into bilateral and multilateral aid to see the effect of donor's strategic and

economic interest on effectiveness of aid. Based on the recent literature like Burnside and Dollar (2000, 1997), Collier and Dollar (2003), Hansen and Tarp (2001), Dalgaard, Hansen and Tarp (2004), and Rajan and Subramanian (2008) we specified the model to examine the impact of aid on economic growth, considering the macroeconomic policies. The model is;

$$RGDP_t = f(INF_t, BD_t, TO_t, M2_t, AID_t, AP_t, \varepsilon_t) \qquad (1)$$

Where $RGDP_t$ is the real gross domestic product, AID stands for ratio of aid inflow to gross domestic product and relationship between aid inflow and economic growth is an ambiguous. INF is inflation rate which is used as measure of monetary policy and literature suggests negative impact of inflation on economic growth. Budget deficit (BD) ratio to GDP is used as proxy for fiscal policy and it is expected that high budget deficit negatively affect the economic growth (Easterly and Rebelo, 1993). TO is the trade openness which measure as export plus import ratio to GDP and we expect positive relationship between trade openness and growth. AP is interactive term of aid and macroeconomic policy($\frac{Aid}{GDP} * Policy$). Policy variable is composite of trade policy, inflation and budget deficit (Burnside and Dollar 1997, 2000). We expect the positive and significant impact of aid-policy interactive term on economic growth. Money supply (M2) ratio to GDP is the financial institutional variable which is used to measure the financial depth and ε_t is the normally distributed error term.

Ram (2003) decomposes the foreign aid into two major components, bilateral aid and multilateral aid on the basis of their characteristics and effectiveness. Bilateral and multilateral aid may differ from each other with three aspects, namely, donor's motive, aid conditional and closeness of the relationship between the donors and recipients. Radelet (2006) argues that when bilateral donors "tied" portions of their aid it become more costly and less effective. Donors

force the recipient country spend portion of aid money on the donors' goods and charge the noncompetitive price which become more costly for aid recipients. Thus in case of tied aid, recipient receives much less amount of aid allocated to him. Donor motive is more prominent in case of aid inflow to Pakistan. So in this study, we disaggregate the aid on the basis of source of aid to examine the impact of aid on real economic performance of the country. Disaggregated aid inflow, i.e. bilateral aid, multilateral aid, is included in the following specification.

$$RGDP_t = f(INF_t, BD_t, TO_t, M2_t, MAID_t, \ BAID_t AP_t, \varepsilon_t) \tag{2}$$

Where $MAID$ is ratio of multilateral aid to GDP and $BAID$ is ratio of bilateral aid to GDP, All others variables are defines as previously.

An Autoregressive Distributed Lag (ARDL) approach to conintegration developed by Peasran,*et al.*(2001) has been used in this study to investigate the long run relationship among the variables of interest. Simple OLS technique is employed to estimate long run and short run coefficients of ARDL equations. This approach has few advantages, Firstly; this approach captures both short-run and long-run dynamics when testing for the existence of cointegration. Secondly, it permits the estimation of cointegration relationships when variables are I(0), I(1) or a mixture of the two. However the pre-testing for the order of integration of the variables in the model is required because the procedure is not valid for I(2) series. Thirdly, it offers explicit tests for the existence of a unique cointegration vector rather than assuming one. Finally, test is applicable for small sample. In this procedure cointegration relationship is estimated by OLS once the lag order of the model is identified. ARDL specification of equation 1 and 2 are given as follows.

$$\Delta y_{t=} \alpha_0 + \sum_{i=0}^{q} \gamma_i \Delta \, INF_{t-i} + \sum_{j=0}^{q} \varphi_j \, \Delta BD_{t-j} + \sum_{k=0}^{q} \omega_k \Delta \, TO_{t-k} + \sum_{l=0}^{q} \pi_l \, \Delta M2_{t-l} + \sum_{m=0}^{q} \theta_m \Delta \, AID_{t-m}$$

$$+ \sum_{n=0}^{q} \rho_n \Delta \, AP_{t-n} + \sum_{i=1}^{p} \vartheta_i \, \Delta y_{t-i} + \beta_1 y_{t-1} + \beta_2 INF_{t-1} + \beta_3 BD_{t-1} + \beta_4 TO_{t-1}$$

$$+ \beta_5 M2_{t-1} + \beta_6 AID_{t-1} + \beta_7 AP_{t-1} + \varepsilon_t \qquad \qquad (3)$$

Where y_t is log of real GDP and β_i are long run coefficients, α_o is the drift and ε_t are white noise errors. Now we disaggregate total inflow of aid into bilateral and multilateral aid in the following equation.

$$y_{t=} \alpha_0 + \sum_{i=0}^{q} \gamma_i \, \Delta INF_{t-i} + \sum_{j=0}^{q} \varphi_j \, \Delta BD_{t-j} + \sum_{k=0}^{q} \omega_k \, \Delta TO_{t-k} + \sum_{l=0}^{q} \pi_l \, \Delta M2_{t-l} +$$

$$\sum_{m=0}^{q} \theta_m \, \Delta BAID_{t-m} + \sum_{m=0}^{q} \theta_m \, \Delta MAID_{t-m} + \sum_{n=0}^{q} \rho_n \, \Delta AP_{t-n} + \sum_{i=1}^{p} \vartheta_i \, \Delta y_{t-i} +$$

$$\beta_1 y_{t-1} + \quad \beta_2 INF_{t-1} + \beta_3 BD_{t-1} + \beta_4 TO_{t-1} + \beta_5 M2_{t-1} + \beta_6 BAID_{t-1} + \beta_7 MAID_{t-1} +$$

$$\beta_8 AP_{t-1} + \quad \varepsilon_t \qquad\qquad (4)$$

5. Empirical Results

We use these basic equations (3 & 4) in two ways to make them more compatible with recent developments in literature regarding the aid effectiveness. Firstly we examine whether there is any evidence of a direct relationship between aid and real GDP growth in the absence of aid-policy interactive term. Secondly, we incorporate the Burnside and Dollar definition of good policy into each equation in order to examine relationship between aid real GDP growths in presence of macroeconomic policy environment. An autoregressive distributed lag (ARDL) methodology has been utilized in order to get the long run and short run parameter simultaneously.

Unit Root Test

By following the standard practice in time series econometrics, the estimation process starts by testing the time series properties of data using the augmented Dickey-Fuller (ADF) test. To ensure that the variables are not I(2) because bound test based on the assumption that variables are I(0) or I(1). Therefore, pre-testing for unit root in the ARDL procedure still might be necessary in order to ensure that none of the variables is integrated of order two i.e. I(2). ADF results are given in table 2.

Table 2: Test of non-stationarity of Variables

Variables	Constant/	Level	First	Order of
y	C,T	-1.7599	-6.988***	I(1)
INF	C	-3.48**		I(0)
BD	C	-3.87**		I(0)
TO	C,T	-3.02	-7.4348***	I(1)
M2	C,T	-1.44	-5.898***	I(1)
AID	C,T	-3.18	-7.66***	I(1)
AP	C,T	-2.8039*	-7.973***	I(1)
BAID	C,T	-2.4024	-7.7013***	I(1)
MAID	C,T	-1.938	-10.049***	I(1)

Note; c,t denotes constant and trend, * indicate significance at 10 percent,

** Significant at 5 percent and *** indicate significant at 1%,.

The test statistics indicate that all the variables are not integrated of the same order. As can be seen from the table 2, two variables budget deficit and inflation are stationarity at level i.e. I (0) and the entire remaining variable including y that is log of real GDP, M2, TO, AID, Aid policy interactive term (AP), BAID, and MAID are non-stationary at level and become stationary after taking first difference. This implies that these series are integrated of order one, i.e. I (1).

18

Therefore the mixed results obtained from the unit root test justify using ARDL technique to estimate the long-run and short-run relationship among the variables under investigation.

5.3   Bound test for cointegration:

The first step in ARDL approach is to estimate equation 3 and 4 by ordinary least square (OLS) in order to test for the existence of a long run relationship among the variables by conducting the F-test for joint significance of the lagged levels of the variables i.e., $\beta_{1=}$ $\beta_{2=}$ $\beta_{3=}$ β_4 $_=\beta_5$ $=\beta_6$ $=\beta7=0$ against the alternative that $\beta_1 \neq$ $\beta_2 \neq$ β_3 $\neq \beta_4$ $\neq \beta_5$ $\neq \beta_6$ $\neq \beta7 \neq 0$. In other words, the null hypothesis states that there is no long run relation among the variables of interest. The F computed is compared with critical value proposed by Pesran et al. (2001). If computed statistics is greater than upper bound of critical value than the null hypothesis of no log run relationship would be rejected, otherwise is accepted.

The number of lags of first differenced variables is selected on the basis of Akaike Information Criteria (AIC). Initially we set 2 lags and by using the general to specific methodology delete the insignificant variables from the model. By deleting the insignificant variables from the model justify when AIC and adjusted R^2 move in the right direction. Final model is selected when the estimated equations satisfied all the diagnostic checks including the Jarque-Bera statistic for normality of the residuals, the Breusch-Godfrey test for serial correlation, ARCH residual for homosedasticity and the Ramsey RESET test for specification error. CUSUM and CUSUMSQ statistic indicate no evidence of mis-specification and structural instability for the period estimated. The results of cointegration test are presented in Table 3

Table 3: Results of Cointegration Test

Dependent Variables.	F-statistics	I(0)	I(1)	outcome
F_y(y/INF, BD, TO, M2, AID)	4.49	2.27	3.28	Cointegration
F_y(y/INF, BD, TO, M2, AID, AP)	5.85	2.86	4.01	Cointegration
F_y(y/INF, BD, TO, M2, MAID, BAID)	4.18	2.32	3.5	Cointegration
F_y(y/INF, BD, TO, M2, MAID, BAID, AP)	6.05	2.22	3.39	Cointegration

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

Results of cointegration test presented in table 3 show that in each specification of aid growth relationship, F-statistic rejects the joint null hypothesis of no long run relationship because computed F-statistics is greater than upper bound of the tabulated F-statistics.

5.1   Real GDP Growth and Foreign Aid

Once we have established the long run relationship among the different specification of aid growth nexus, the short run and the long run estimate of ARDL are reported in table 4.

Table 4: Estimates of Equation Aid and Growth Regression

Dependent Variable (Δy_t)

Variables	Coefficient	t-Statistic
Δy_{t-2}	-0.280909	-2.055654
ΔINF	-0.595714	-6.831970
ΔINF_{t-2}	-0.243461	-2.798014
ΔBD_{t-2}	0.214608	1.287760
ΔTO	0.256342	1.905448
$\Delta M2$	-0.778617	-3.475492
ΔAID_{t-1}	-0.570368	-1.723309
y_{t-1}	-0.041584	-2.315034
INF_{t-1}	-0.380505	-3.654771
BD_{t-1}	-0.160735	-0.757583
TO_{t-1}	0.610052	4.104881
$M2_{t-1}$	0.033148	0.302615
AID_{t-1}	0.224490	0.720677
C	0.316382	2.066718
R2	0.69	
Adjusted R^2	0.56	
DW	1.84	

LM = 0.0435[0.9575]   Normality Test =1.9228[0.3823] Ramsey Test = 0.0012[0.9910]
ARCH Test=2.2564[0.1405][3]

---

[3] Note: p- values are stated in [ ]. Breusch-Godfrey Serial Correlation LM and ARCH Test

are based on F-statistics. While normality test is based on Chi-square test

Left chart legend: CUSUM of Squares ----- 5% Significance
Right chart legend: CUSUM ----- 5% Significance
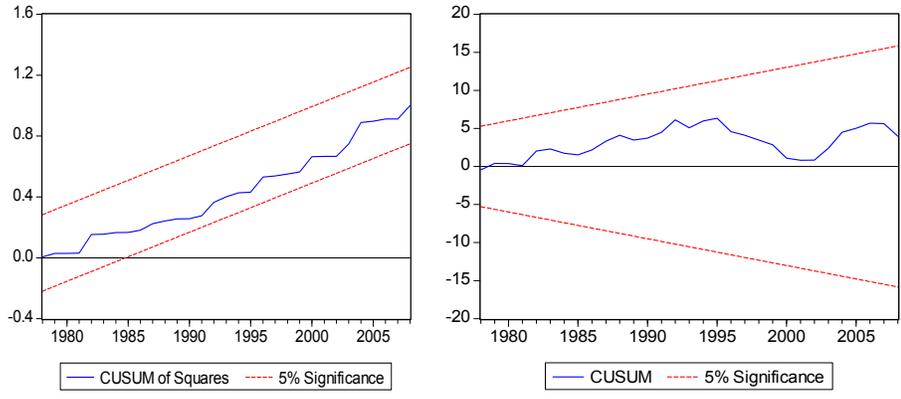
Long –run Estimates[4]:

$$y_t = 7.61 - 0.09\text{INF}_t - 0.03\text{BD}_t + 0.15\text{TO}_t + .007\text{M2}_t + 0.05\text{AID}$$

$$(2.06) \quad (-3.65) \qquad (-0.75) \qquad (4.10) \qquad (0.30) \qquad (0.72)$$

In the above table, budget deficit ratio to GDP, and foreign aid ratio to GDP are insignificant in short run as well as in the long run while M2 ratio to GDP are insignificant in the long run. This equation shows that only two variables inflation and trade openness are significant both in short run as well as in the long run with appropriate sign.

After deleting these insignificant variables from the model results are reported below in equation

$$\Delta y_t = 0.41 - 0.27\Delta y_{t-2} - 0.61\Delta inf - 0.26\Delta inf_{t-2} + 0.23\Delta TO - 0.78\Delta M2 - -0.57\Delta Aid_{t-1}$$

$$(5.43) \quad (-2.12) \qquad (-7.66) \qquad (-3.50) \qquad (1.86) \qquad (-4.07) \quad (-2.17)$$

$$-0.05y_{t-1} - 0.38inf_{t-1} + 0.64TO_{t-1}$$

$$(-4.81) \qquad (-4.23) \qquad (4.96)$$

The ARDL regression results with aid but without aid-policy interactive term shows that the coefficient of Aid/GDP is not different from zero in the long run. It implies that total foreign aid in aggregate form does not contribute in economic growth in Pakistan. Foreign aid as percentage of GDP appears significant with negative coefficient in the short run. The results support the

---

[4] t-Values are given parenthesis.

finding of Kahan and Ahmed (2007), Khan (1997), Khan and Rahim (1993), and Ishfaq and Ahmed (2005) who found negative relationship between foreign aid and economic growth. Deteriorated macroeconomic policies may be the cause of adverse affect of foreign aid on Pakistan economy (Isfaq and Ahmed, 2005). According to Kahan and Ahmed (2007) donor's conditionality, poor governance, tied aid, kickbacks paid to the foreigner contractor and weak state institution are might be the causes of failure of contribution of foreign aid in development process of Pakistan economy.

The strongly significant variables are inflation and trade openness which are consistent with the empirical growth literature. The coefficient of inflation is highly significant and negatively correlated with log of real GDP both in the short run and in the long run. High and unstable inflation reduces growth by reducing the investment. Positively significant impact of trade openness on economic growth is broadly consistent with literature and economic theory. Trade openness positively affect economic growth through several channels like access to advance technology, access to variety of inputs for production, access to foreign market for domestically produced goods. The coefficient of budget deficit is positive and insignificant in the short run while negative and insignificant in the long run. M2 coefficient is insignificant in the long run but significantly negative correlated with growth rate of real GDP in the short run.

5.2 Real GDP Growth, Aid and Macroeconomic policy.

To examine the affect of aid on growth in the presence of good policy environment, we estimate the equation 4 the results are reported in table 4.

Table 4: Estimates of Equation Aid, Growth and Policy

Dependent Variable (Δy_t)

Variables	Coefficient	t-Statistic
ΔINF	-0.797604	-4.181153
ΔBD	0.296897	1.334780
ΔTO	0.432065	2.195539
ΔTO_{t-1}	-0.378136	-1.887530
ΔTO_{t-2}	-0.476695	-2.729746
ΔM2	-0.651507	-2.632195
ΔAID	1.050133	1.805333
ΔAID_{t-2}	-0.622013	-1.585436
ΔAP	-0.186590	-1.816736
ΔAP_{t-2}	0.123886	3.243547
y_{t-1}	-0.061006	-2.849553
INF_{t-1}	-0.699143	-2.935574
BD_{t-1}	0.210988	0.741307
TO_{t-1}	1.003019	4.028781
$M2_{t-1}$	-0.050498	-0.385615
AID_{t-1}	0.777884	1.334630
AP_{t-1}	0.209079	2.107160
C	0.480074	2.729100

Diagnostic Test

R^2=0.70 R^2 adj=0.52 LM =0.0292[0.8655] Normality Test =0.824[0.6623]

Ramsey Test = 0.5703[0.4569]   ARCH Test=0.0253[0.8744]

CUSUM of Squares ----- 5% Significance   CUSUM ----- 5% Significance
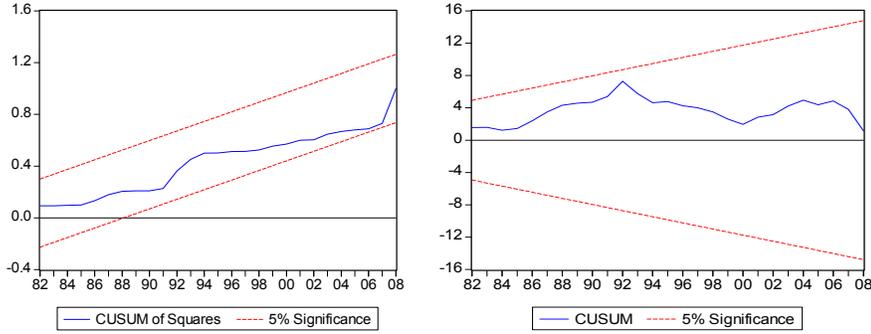
Long –run Estimates

$$y_t = 7.86 - 0.11INF_t + 0.03BD_t + 0.16TO_t - .008M2_t + 0.12AID_t + 0.034AP_t$$

(2.73)　　(-2.93)　　(0.74)　　(4.02)　(-0.38)　　(1.33)　　(2.10)

When we include the aid-policy interactive term in the regression equation 4.6, the coefficient of

budget deficit ratio to GDP is again insignificant both in the short run as well as in the long run.

Similarly coefficient of M2 ratio to GDP and coefficient of aid ratio to GDP are also not

statistically different from zero in the long run. After eliminating these insignificant variables

from the regression equation, we end up with the following results. The values given in the

brackets are t-statistics.

$$\Delta y_t = 0.61 - 0.22\Delta y_{t-2} - 0.52\Delta\text{inf} + 0.25\Delta TO - 0.29\Delta TO_{t-2} - 0.66\Delta M2$$

(4.43)　(-1.60)　　　(-5.64)　　(1.92)　　(-2.11)　　　(-3.22)

$$+0.10\Delta AP_{t-2} - 0.07y_{t-1} - 0.61inf_{t-1} + 0.91TO_{t-1} + 0.10AP_{t-1}$$

(3.63)　　　　(-4.15)　　(-3.81)　　(4.18)　　(2.11)

When Aid/GDP alone is introduced into the growth regression it has an insignificant positive

coefficient in the long run and significant negative coefficient in the short run. An interesting

story emerge, however when Aid/GDP*Policy variables is added in the above equation. Aid still

has an insignificant coefficient in the long run, but aid interacted with policy is significantly

positive both in the short run and in the long run. This result implies aid effectiveness depends

upon macroeconomic policies. There are two possible justifications for the positive effect of aid

on growth in the presence of good policy. Stable macroeconomic indicators are more attractive for the investor. High inflation and high budget deficit may cause the macroeconomic instability which discourages the investment. Montiel and Serven(2004) argue that when "other things equal, reduced aggregate volatility and lower inflation likely had a positive impact on the income of the poor" 2) high non developing expenditure cause the high budget deficit. In case of high budget deficit, foreign aid may be used for government consumption instead of investment purpose.

5.5   Real GDP Growth and Bilateral and Multilateral Aid

In this section we separately estimate equation for bilateral and multilateral aid. In the first stage we regress log of real GDP on the set of explanatory variables inflation, budget deficit, trade openness, M2 ratio GDP; results are presented in table 5.

Table 5: Bilateral and Multilateral Aid and Growth

Table 5: Dependent Variable ($\Delta LGDP$)

Variables	Coefficient	t-Statistic
Δy_{t-2}	-0.24895	-1.82582
Δinf	-0.6853	-7.49903
ΔInf_{t-2}	-0.2681	-3.16603
ΔTO	0.3384	2.34815
$\Delta M2$	-0.6014	-2.66442
$\Delta maid_{t-1}$	0.5177	0.570347
$\Delta baid_{t-2}$	0.7708	2.255773
y_{t-1}	-0.07884	-3.27581
Inf_{t-1}	-0.3817	-3.43263
to_{t-1}	0.6602	4.061926
$M2_{t-1}$	0.2278	1.610378
$maid_{t-1}$	0.803	0.939029
$baid_{t-1}$	-0.4767	-1.44778
C	0.62017	3.565854

Diagnostic Test (p-values are given in brackets)

R^2=0.69 R^2 adj=0.56   LM =1.3210[0.2824]   Normality   Test   =1.4159[0.4926]

Ramsey Test = 1.8567[0.1832]   ARCH Test=0.0076[0.9306]

Long –run Estimates:

$$y_t = 7.86 - 0.05INF_t + 0.08TO_t + .03M2_t + 0.10MAID_t - 0.06BAID$$

(3.57)   (-3.43)   (4.06)   (1.61)   (0.94)   (-1.44)

The results reported in table 5.5 indicates that multilateral aid have positive but insignificant relationship with real GDP growth both in short run as well as in the long run. Statistically insignificant coefficient of multilateral aid in this study supports the early finding of Gounder (2001, 2002). Gounder found multilateral aid coefficient statistically not differ from zero both for Fiji and Solomon Island.   However, bilateral aid has positive and statistically significant relationship with real GDP growth in the short run but negative and statistically insignificant relationship with real GDP growth in the long run. This negative relationship between bilateral aid and economic growth in the long run strength the idea that resources transfer from develop countries to developing countries are oriented towards their own economic and strategic interest instead of needs of the recipients. In case of Pakistan bilateral aid dominates the foreign aid inflow till 1990, major portion of foreign aid inflow into Pakistan was in the form of bilateral aid and historically, there is a strong association between aid inflow to Pakistan and geo-political interest of donors. These donors' motives and interest may be the cause of failure of aid contribution in the development process of the Pakistan economy. Radelet (2006) indicate that considerable portion of bilateral aid are tide and tide aid is more costly and less effective for aid recipients. Burnside and Dollar (1997) finding suggest that aid associated with donor interest, primarily bilateral aid increase the government consumption, which has no positive impact on the economic growth. Randel.*et al.* (2004) pointed out that following weakness of bilateral aid that may hurt the economic growth in the aid recipient country.

- When aid recipients unwilling to adopt the policies of donors and donor country suddenly cutoff aid which could hurt the development.

- The aid may be given with the best interest of the donor in mind, not those of the recipient country.

- The aid inflow may benefit the exporter rather than the recipient.

5.4.1 GDP Growth, Bilateral and Multilateral Aid and Macroeconomic Policy

In the last step we incorporate the aid-policy interactive term with bilateral and multilateral aid in the growth equation. Results reported in table 6.

Table 6: Bilateral and Multilateral Aid, Macroeconomic Policy and Growth

Dependent Variable (ΔLGDP)

Variables	Coefficient	t-Statistic
Δy_{t-2}	-0.342108	-2.887724
Δinf	-0.433587	-4.960405
ΔTO	0.334228	2.871965
ΔTO_{t-1}	-0.642679	-3.842679
ΔTO_{t-2}	-0.549600	-3.995189
$\Delta M2$	-0.918494	-5.299651
$\Delta maid_{t-2}$	-2.205275	-2.883633
$\Delta baid_{t-1}$	-0.507854	-1.724165
ΔAP_{t-2}	0.148065	5.293645
y_{t-1}	-0.105357	-5.665835
Inf_{t-1}	-0.939883	-5.604070
to_{t-1}	1.579224	6.515143
$maid_{t-1}$	0.817769	1.351582
$baid_{t-1}$	0.677542	2.593782
AP_{t-1}	0.241560	3.983866
C	0.776277	5.478971

Diagnostic Test

R^2=0.81   R^2 adj=0.70   LM =0.4296[0.6554] Normality   Test   =0.7098[0.6805]

Ramsey Test = 0.2075[0.6525]   ARCH Test=0.2603[0.6126]

Long –run Estimates:

$$Y_t = 7.37 - 0.09INF_t + 0.15TO_t + 0.07MAID_t + 0.06BAID_t + 0.02AP_t$$

(5.48)   (-5.60)   (6.51)   (1.35)   (2.59)   (3.98)

when (Aid/GDP*Policy) is added in the regression equation, multilateral aid has insignificant positive relationship with real GDP growth in long run and statistically significant but negative relationship in the short run. By the addition of this new variable in the model, the coefficient of bilateral aid has become positive and significant in the long run. Strongly positive and significant coefficient of aid-policy interactive term   implies that impact of aid on growth is function of macroeconomic policy.

The negative effect of foreign aid on economic growth in Pakistan can be justified on the following grounds. First, foreign aid inflow may be used to invest either in less productive sectors or to increase government consumption. This is consistent with finding of Ishfaq and Ahmad (2005) that foreign aid leakage into non-productive expenditures in the public sector may be the cause of negative relationship between foreign and economic growth. Second, unstable aid inflow and volatile macroeconomic environment have spoiled the favorable impact of aid on economic growth. Aid inflow is highly volatile in history of Pakistan. It was very high in military era while in democratic period aid inflow was very low. Third, in case of Pakistan aid inflow is seemed to be more oriented toward the donor's economic and strategic interest instead

of economics motives. Fourth, foreign aid inflow into Pakistan is used to substitute government's inability to tax its own citizens because of political pressure from elite groups.

6.   Conclusions

The belief that foreign aid help to promote sustainable economic growth and improve the welfare in developing countries is debatable issue since its start. A large body of literature now available on aid effectiveness but the issue regarding its contribution for growth and welfare remain controversy. While developing the aid growth theories, aid effectiveness studies have incorporated the number of variables like institutional quality, political instability, governance issues into the analytical frame work in order to assess the role of aid on economic growth of recipient country. Researcher highlights some key issues which may undermine the impact of foreign aid on economic growth. These include donors conditionality attached to aid inflow, stable macroeconomic environment in aid recipient country, institutional quality, governance issues; donors tide the some portion of aid and donors strategic motives for the allocation of aid. Among these two reasons are highly concerned in the management of aid inflow into Pakistan and its contribution for Pakistan economy. These reasons are donor's strategic interest in aid allocation to Pakistan and macroeconomic policy instability in Pakistan.

 The huge inflows of external resources have failed to contribute in economic development process of country and in the improvement of living standard of the ordinary people.The objective of the study is to identify the cause of failure of external financing in the development process of country and to see if macroeconomic policies have failed to create momentum on the space created by aid. A composite policy index comprise monetary, fiscal and trade policy has been constructed by using principal component analysis. The aid growth model has been

empirical tested for Pakistan over the period 1961-2008 by incorporating the policy index in the regression model. The dynamic analysis is employed to measure the interactive effect of aid and macroeconomic policy on the economic growth. In this study, foreign aid has been used both at aggregate level and disaggregate level (Bilateral and multilateral).

The major point emerging from this study is that foreign aid has positive impact on economic growth of Pakistan conditional on sound macroeconomic policies. Based on the empirical results we find that foreign aid and real GDP has negative relationship while aid-policy interactive term and real GDP has positive and significant relationship. The interesting results emerge; when Aid/GDP alone is introduced into the growth equation it has insignificant positive coefficient in the long run and negative and weakly significant coefficient in the short run. When Aid/GDP x Policy is added, aid still has a zero coefficient in the long run and aid policy interactive term has positive and significant coefficient both in the long rum and short run. Similar results obtained when we disaggregate aid in term bilateral and multilateral component.

Our finding suggests that sound economic management policy in terms of low inflation, trade openness and low budget deficit is crucial for aid effectiveness. There is need to implement appropriate policy measure, in order to achieve the positive impact of foreign aid on economic growth through minimizing budgetary deficits, lower the inflation rate and to achieve trade openness.

Aid inflow is a highly unstable and unpredictable source of external financing and it is always depend on donor's strategic interest. Policy makers take into account the stable and sustainable sources of external financing like exports, FDI and portfolio investment for stimulating growth of economy.

References

Alvi, E. D. Mukherjee, and E. K. Shukrallah (2008) Aid, Policies, and Growth in Developing

Countries: A New Look at the Empirics. *Southern Economic Journal* 74, 693-706

Ali.M. Abdiweli (2005) Fiscal Policy and Economic Growth: The effect of Fiscal Volatility.

Journal of Business and Economic Research, 3(5), 17-26

Arellano, C., Bulír, A., Lane, T. and Lipschitz, L. (2009),The dynamic implications of foreign

aid and its variability, *Journal of Development Economics*

Volume 88, Issue 1, January 2009, p 87-102

Asterious, D. (2009) Foreign Aid and Economic Growth: New Evidence from a Panel Data

Approach for Five South Asian Countries. *Journal o Policy Modeling* 31, 155-161

Boone, P. (1994) The Impact of Foreign Aid on Saving and Growth. Centre

For Economic Performance: Working paper No. 677 London School of Economics.

Burnside, C. and D. Dollar (1997). Aid, Policies and Growth. Policy Research Working
Paper 1777, The World Bank, Development Research Group, Washington, D. C.

Burnside, C. and D. Dollar (2000) Aid, Policies, and Growth. *American Economic Review* 90:4,

847–68.

Burnside, C. and D. Dollar (2004) Aid, Policies, and Growth: Revisiting the Evidence:

World Bank Policy Research working paper 3251

Chenery, H.B and A. Strout (1966) Foreign Assistance and Economic Development.

American Economic Review 56,679-733

Clemens, M. A., S. Radelet, and R. Bhavnani (2004), Counting Chickens When They Hatch: The Short-Term Effect of Aid on Growth, Centre for Global Development Working Paper No. 44 Washington: Centre for Global Development.

Collier, Paul and Jan Dehn. 2001. "Aid, Shocks, and Growth." Policy Research Working Paper 2688, World Bank, Washington D.C.

Dalgaard, C. and H.Hansen (2001) On Aid, Growth and Good Policies, *Journal of Development Studies, August* 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

Dowling, J. and Hiemenz, V. (1982) Aid, Savings and Growth in the Asian Region: the Macroeconomic Impact of Development Aid: A Critical Survey, *Journal of Development Studies* 28: 2, 163-240

Durbarry, R., N. Gemmell and D.Greenaway (1998) New Evidence on Development and International Trade, University of Nottingham.

Easterly, W. (2003) Can Foreign Aid Buy Growth? *Journal of Economic Perspectives* 17:3, 23–48

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

Easterly, W. and R. Sergio (1993) Fiscal Policy and Economic Growth: An empirical Investigation, Journal of Monetary Economics 32:3, 417-458

Fischer ,S. (1993) The Role of Macroeconomic Factors in Growth. NBER Working Paper # 4565

Griffen, K. B. and J. L. Enos (1970) foreign Assistance: Objectives and

Consequences. Econ. Development and Cultural Change18, 3: 313-327

Gounder, R. (2001) Aid Growth Nexus: Empirical Evidence from Fiji.   Applied Economics, 33,1009-1019

Hansen, H. and F. Tarp (2001). Aid Effectiveness Disputed, *Journal of International Development* 12:3, 375–98.

Hudson, J. and P. Mosley (2001) Aid policies and growth: in search of the Holy Grail, *Journal of International Development   13, 1023-1038*

Husain,I. (1999) *Pakistan the Economy of an Elitist State*. Karachi: Oxford University Press.

Iqbal, Z. (1997) Foreign Aid and the Public Sector: A Model of Fiscal Behavior in Pakistan. *The Pakistan Development Review* 36.

Ishfaq, M. and E. Ahmad (2005) Aid Effectiveness: The Case of   Pakistan. *The Middle East Business and Economic Review* 17: 2

Khan, S. R. (1997) Has Aid Helped in Pakistan? *The Pakistan Development Review,* 36.

Khan S. Mohsin (2010) The Design and Conduct of Monetary Policy: Lessns for Developing Countries, Paper presented at the 25th Annual General Meeting and Conference of Pakistan Society of Development Economist.

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

Kourtellos, A., C. M. Tan and X. Zhang (2007) Is the Relationship between Aid and Growth Nonlinear. *Journal of Macroeconomics* 29:3, 515-540

Lancaster, C. (2007) *Foreign Aid, Diplomacy, Development, Domestic Politics.* The University of Chicago press Chicago and London

Lensink, R. and H.White(2000) Assessing Aid : AManifesto for Aid in 21st Century, Oxford Development Studies 28:1

Montil, P. and L. Serven (2004) Macroeconomic Stability in Developing countries: How much is enough? World Bank Policy Research Working Paper 3356

Mosley, P. (1980) Aid, Savings, and Growth Revisited, *Oxford Bulletin of Economics and Statistics* 42:2, 79-95

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

Radelet, S. (2006) A Primer on Foreign Aid working paper Number 92, Center for Global Development.

Radelet, S., M. Clemens, and R. Bhavnani, (2005) Aid and Growth: *The. Current Debate and Some Evidence" The Macroeconomic Management of Foreign Aid*, International Monetary Fund.

Rajan, Raghuram, and Arvind Subramanian, (2008) Aid and Growth: What Does the Cross-Country Evidence Really Show?" *Review of Economics and Statistics, Vol. 90, No. 4, pp.643-665*.

Rati, Ram. (2003) Roles of Bilateral and Multilateral Aid in Economic Growth of Developing Countries, *Kyklos* 56:1, 95–110.

Sing. Ram D. (1985) State Intervention, Foreign Economic Aid, Savings and Growth in LDCs: Some Recent Evidence Kyklos 38: 2,

Zafar Iqbal & Ghulam Mustafa Zahid, (1998), Macroeconomic Determinants of Economic Growth in Pakistan," The Pakistan Development Review, 37: 2 pp. 125—148