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Foreign Aid—Blessing or Curse: Evidence from Pakistan

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The role of foreign aid in promoting economic growth is a debatable issue and remains unsettled at both theoretical and empirical levels. Pakistan has received a substantial amount of foreign aid since its Independence in 1947 but little improvement has been observed in its socio-economic development. This study considers the question as to whether foreign aid is a blessing or a curse for Pakistan. The empirical analysis is based on the ARDL cointegration approach. We examine the aid-growth link at the aggregate and disaggregate levels for the period 1972–2006. The results show negative and insignificant effects of foreign aid on the growth at the aggregate as well at the disaggregate level. The findings further suggest that domestic investment, export growth, and inflows of foreign direct investment are important contributors in enhancing economic growth in Pakistan.

JEL classification: C13, C22, F23, F35, O11
Keywords: Foreign Aid, Economic Growth, FDI, Cointegration

1. INTRODUCTION

Foreign aid is an important source of income in developing countries and carries potential to play a key role in promoting economic growth.[1] The traditional literature on economic growth emphasises the positive role of foreign aid in the process of economic development. Foreign aid inflow influences the process of growth by reducing the saving-investment gap, increasing productivity and transferring the modern technology. However, in the neoclassical growth framework the benefits of foreign capital inflows are of temporary nature. Like many other developing countries, Pakistan has heavily relied on foreign borrowings to finance its economic development. This strategy increased its dependency on external resources. Pakistan has received around US$73.14 billion in the form of foreign aid from 1960 to 2002 [Anwar and Michaelowa (2006)], but the benefits of this aid flows have not stretched to the whole society, which means that foreign aid has

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[1]Foreign aid may be defined as the transfers of all governmental resources from one country to another country. In other words, foreign aid is one that encompasses all official grants and concessional loans, in currency or in kind, that are broadly aimed at transferring resources from developed to less developed nations, on development or income distribution grounds [Todaro (2000), p. 591].

failed to improve the economic conditions in Pakistan. The literacy rate is still around 50 percent and other social indicators, such as employment, health and education etc., also do not present an encouraging picture. Saving rates have remained low, and the trade gap has widened [Husain (1999)]. Foreign aid has not been utilised for development of the economy; rather aid has served the vested interests of influential people. During 1990s, the foreign loans at commercial rate of interest have exacerbated the foreign debt problem of the country. The overall situation depicted above cast doubts about the effectiveness of foreign aid as a tool for economic growth.

The impact of foreign aid on economic development has always been a controversial issue.[2] In 1950s, 1960s and 1970s rich countries used foreign aid to fill the gaps in resources, encouraging domestic investment and industrial development under the belief that foreign aid could help developing countries to accelerate the "takeoff" into self-sustained growth by generating new domestic investment [Rostow (1960) and Waterson (1965)]. Many economists assert that foreign capital inflow is necessary and sufficient condition for economic growth in developing countries. They claim that there exist a positive correlation between foreign aid and economic growth because it complements domestic resources and also supplements domestic savings to bridge saving-investment gap and provides additional financial resources which helps to achieve the short-term growth targets. Besides, it is also held that, foreign aid assists to close the foreign exchange gap, provide excess to modern technology and managerial skills and allow easier excess to world markets [see for example, Chenery and Strout (1966); Papanek (1973); Gulati (1975); Roemer (1989); Islam (1992) and Thirlwall (1999); among others]. Mosley (1980) observes a positive relationship between foreign aid and economic growth for UK aided countries and negative for French and Scandinavian aided countries. However, he concludes that aid could not improve the economic conditions in Bangladesh, India and countries like Korea, Malawi and Kenya.

Another strand of literature asserts that external capital exert significant negative effect on the economic growth of the recipient countries. According to this view, foreign aid is fully consumed and substitutes rather than complements domestic resources. It is argued that foreign aid is used to import inappropriate technology, distorts domestic income distribution and encourages a bigger, inefficient and corrupt government in developing countries Foreign aid is also thought to displace domestic savings, which in turn retards investment and economic growth [Griffin and Enos (1970); Weisskoff (1972)]. Boone (1996) finds that aid has no effect on investment and growth—his estimates show that the marginal propensity to consume from foreign aid is insignificant and marginal propensity to investment was zero. Easterly (2001) finds no empirical relationship between foreign aid and economic growth and between aid and investment. He concludes that aid has not delivered the expected results and may create the wrong economic incentives. Many studies confirm negative correlation between foreign aid and economic growth. Negative correlation between aid and growth is the outcome of factors such as economic policies, government intervention, business cycle and instability of foreign aid flows in the recipient countries [Levy (1984)]. Singh (1985) concludes that state intervention in the economy generate negative impact on economic growth and makes the aid-growth relationship statistically insignificant. Burnside and Dollar (2000)

[2]See White (1992) and Addison, *et al.* (2005) for a comprehensive survey.

find that the relationship between foreign aid and economic growth may depend on whether the recipient countries have been pursuing sound economic policies. Gounder (2001) and Lloyd, *et al.* (2001) find that foreign aid contributes to long-term growth in private consumption and policy reforms enhance the effectiveness of economic growth. Mavrotas (2002) finds that policies impact aid effectiveness in case of India. Lensink and Morrissey (2000) analyse the impact of aid uncertainty on economic growth in developing countries. They find that the impact of foreign aid on economic growth depends on the aid levels and the stability of aid flows. Pallage and Robe (2001) explain empirical regularities in the foreign aid flows to developing countries. They reveal that aid flow is a major source of income in the majority of recipient countries and aid flow is highly volatile and overwhelmingly pro-cyclical. This means that even if foreign aid helps foster economic growth, serious problems would nevertheless stem from the fact that aid disbursement pattern intensify volatility of developing countries' disposable income which affects growth negatively. Hansen and Tarp (2001) conclude that aid increases growth via capital accumulation and it does not depend on good policy. They note that growth regressions are sensitive to choice of control variables and choice of estimators and that much more theoretical work is needed before drawing policy insights. Pack and Pack (1994) asserts that foreign aid is fungible. They claimed that because of the fungibility of foreign aid, the increase in government income in the form of aid will be crowded-out.

On the other hand, Cassen (1994) argues that the relationship between aid and growth is rather weak, and it can be either positive or negative, depending on the country's absorption capacity of aid, economic and political structure and the time period chosen. Studies based on time series data conclude that foreign aid has been an important determinant of economic growth. Feyzioglu, *et al.* (1998) concludes that sectoral concessional loans are highly fungible.

An alternate strand of literature points out that foreign economic assistance displaces processes of institutional maturation that is essential to promote economic development. Thus, foreign aid promotes aid-dependency [Friedman (1958) and Bauer (1971)]. Foreign assistance represents a side payment to elites in recipient countries, design to buy compliance in maintaining the economic and political dominance of the industrialised countries [Frank (1966)]. Brautigam and Knack (2004) point out that poor quality institutions, weak rule of law, absence of accountability, controls over information and high level of corruption have distorted the benefits of foreign aid in most African countries. Similarly, Wolfensohn the president of World Bank in 2002 observed that *"we have learned that corruption; bad policies and weak governance will make aid ineffective"*. However, selective foreign aid has helped to improve per capita income and lower infant mortality rate in under-developed nations [Easterly (2003)]. Selective foreign aid means that donor nations put some conditionalities in the form of low inflation and budget deficit, non-interference with market prices, privatisation and openness to international trade [Easterly (2003)]. Svensson (1999) concludes that foreign aid has a positive long-term impact in democratic countries, but in countries with authoritarian regimes, aid has often dissipated into unproductive activities. Ranis and Mahmood (1992) claims that foreign aid retard a country's ability to adhere to responsible economic policies.

The bulk of theoretical and empirical literature has so far produced inconsistent and elusive results regarding the relationship between foreign aid and economic growth. Empirical findings are also mixed with respect to the impact of foreign aid in Pakistan. For instance, Chishti and Hasan (1992) conclude that 28 percent of the domestic borrowings go towards financing the public sector non-development expenditures. Their results also indicate that foreign aid in the form of grants has a modest impact on public investment while loans do not seem to have a significant impact on public investment. Shabbir and Mahmood (1992) conclude that net foreign capital inflows, disbursement of grants and external loans have a positive impact on economic growth of Pakistan. Ali (1993) points out that there is no significant relationship between inflow of foreign aid and economic growth. Khan and Rahim (1993) conclude that foreign aid has negative relationship with domestic savings and it has no significant impact on economic growth. Iqbal (1997) is of the view that foreign capital that flows into the public sector has strong positive impact on social and non-development expenditures and has little effect on development spending. He further suggests that foreign loans and aid are largely consumed rather than invested productively and foreign assistance cause a strong shift of public domestic resources from development projects to non-development expenditures. Khan (1997) has also pointed out that aid has a robust negative impact on economic growth. Similarly, Ishfaq and Ahmed (2005) conclude that foreign aid has not contributed favourably to GDP growth rate of Pakistan. This ineffectiveness of aid is attributed to diversion of aid funds to non-productive activities and inefficiency in resource allocation especially in the public sector. Husain (1999) argues that foreign aid exerts positive impact on growth if the macroeconomic policies are correct, microeconomic incentives are not distorted and the supporting institutions are in place. In the absence of these preconditions foreign aid helps to postpone the tough decisions required for prudent economic management. Under these circumstances, foreign aid is curse rather than blessing and should be avoided.

These conflicting views have motivated us to reinvestigate the role of foreign aid in determining economic growth. This paper seeks to answer the question whether foreign aid is blessing or curse for Pakistan? Specifically we hypothesise that Pakistan should concentrate on those external resources that are stable, sustainable and are largely within the policy control of the authorities, rather than continue to depend on those resources which are more volatile, less stable and controlled by the external policy-makers. We formulate an empirical model to test this hypothesis for Pakistan over the period 1972-2006. The estimation is carried out using autoregressive distributed lag (ARDL) cointegration technique. This study differs significantly from earlier studies for Pakistan in three respects. *First*, we analyse the impact of foreign aid on economic growth at aggregate as well as disaggregate level by extending neo-classical production function. *Second*, the study determines the relative importance of alternative external financing resources such as exports growth and foreign direct investment. *Third*, the study uses most recent econometric techniques for estimation and covers the period from 1972 to 2006 and, finally the study extends the body of literature on aid-growth linkages.

The remainder of the study is organised as follows: Section 2 overviews the inflows of foreign capital in developing countries. The brief review of foreign aid inflows in Pakistan is given in this section. Section 3 discusses the model, methodology and data. Interpretation of empirical findings is given in Section 4, while concluding remarks along with policy implications are given in the final section.

2. FOREIGN CAPITAL INFLOWS TO DEVELOPING COUNTRIES: AN OVERVIEW

Foreign aid and foreign private investment are the two main sources of capital inflows in developing countries. Foreign aid could be categorised into grants and relatively low interest rate loans, while the foreign private investment can be categorised into foreign portfolio investment (FPI) and foreign direct investment (FDI). The pattern and trend of such foreign inflows into developing countries have significantly changed during the past three decades. Grants-type aid to developing countries increased from US$ 1.9 billion in 1970 to US$ 52.6 billion in 2005. This increase is, however, modest when compared with the expansion in FDI and FPI (Table 1).

Table 1

Inflows of Foreign Capital in Developing Countries (US$ Billion)

Year	FDI	FPI	Grants *
1970	2.2	0.0	1.9
1980	4.4	0.0	13.1
1990	24.1	2.8	28.2
1998	170.9	15.6	27.1
1999	192.0	27.6	26.4
2000	168.8	14.1	28.7
2002	160.3	5.9	32.5
2003	161.6	25.2	43.7
2004	211.4	37.6	50.3
2005	237.5	61.4	52.6

Source: Global Development Finance (2000, 2006). * Indicate net flow of grants excluding technical cooperation.

FDI flows increased from US$ 2.2 billion in 1970 to US$ 237.5 in 2005. Similarly, FPI which was US$ 2.8 billion in 1990 reached to US$ 61.4 billion in 2005, while aid in the form of grants increased from US$ 1.9 billion in 1970 to US$ 52.6 billion in 2005.

Foreign aid has been an important source of capital inflows for developing countries during 1960s, 1970s and 1980s. After the end of cold war, the strategic importance of foreign aid has declined in 1990s, although the number of donor agencies has increased from 7 to 50 from 1960 to 1990. There is no doubt that foreign aid helps to promote economic growth and infrastructure of recipient countries, particularly, at the time of natural disasters. However, the literature suggests that the impact of foreign aid on economic development is rather limited because foreign aid is usually directed towards military and political fields instead of socio-economic fields [Le and Ataullah (2002)]. On the other hand, the conditionalities imposed by the donor agencies may constrain the autonomous policies the recipient countries may like to pursue. Many empirical studies suggest that foreign aid has not contributed profoundly to the economic growth and development of recipient countries and it has tendency towards increasing inequalities among different groups [Rana and Dowling (1990) and Griffin (1991)]. Moreover, foreign aid hurts rather than helps the poor. It goes to their rulers whose spending policies are determined by their own personal and political interests, among which the position of the poor has very low priority [Lappe`, *et al.* (1980) and Bauer

(1981)]. Similarly, Hayter and Watson (1985) notes that the governments of the rich countries claims that they are providing 'aid' to help the Third World to escape from the underdevelopment and poverty but much of this aid fails to alleviate poverty.

In contrast, the British Department for International Development (2000) argues that development assistance could contribute to poverty reduction in countries pursuing sound macroeconomic policies. Canadian International Development Agency (2002) cites World Bank researchers' compelling evidence that good governance and sound policy environment are the most important determinants of aid effectiveness.

Moreover, the increasing tendency towards providing loans instead of grants and tying aid had left many Third World countries in debt burden cycle. Given the unequal effects of foreign aid and limited control over the quantity of aid received, policymakers in LDCs are increasingly looking for alternate sources of foreign capital including foreign direct investment and portfolio investment.

2.1. History of Foreign Aid in Pakistan

Foreign aid began to flow into Pakistan soon after the independence. During 1950s the flows of aid was very small. But in 1960s and 1970s, foreign aid remained an important source of capital for Pakistan. Pakistan was one of the largest aid recipient countries in Asia during this period, (see Table 2). For example, Pakistan got foreign aid around 6.6 percent of the GNP in 1960. The increase in aid was concomitant with the increase in the level of private investment, which rose from 42.55 percent of total investment in 1959-60 to 53.3 percent of the total investment in 1969-70 [Malik, *et al.* (1994)]. During this period, huge investment in the physical infrastructure, power, and irrigation related projects was made with the help of foreign aid which helped to lay down economic foundation of the country. Mega projects such as Terbala and Mangla dams were constructed during this period. The inflows of aid picked up momentum in the early 1970s and remained around 4.2 percent of the GNP. In 1974-75, the inflow of foreign aid to Pakistan reached US$ 1.00 billion mark, and the proportion of aid to GNP by then had touched 5.5 percent. Because of the huge inflow of foreign aid, the government launched public investment programmes such as roads, electric power, increasing social services, and projects like Indus Super Highway and Pakistan Steel Mills.

The increase in aid witnessed in the mid-1970s did not continue for the coming years. Gross disbursements of aid fell in 1977-78 and 1978-79 as the United States curtailed aid to Pakistan because of its nuclear policy [Malik, *et al.* (1994)]. However, during 1980s Pakistan again received a large amount of foreign aid (4.6 percent of GNP) because of its front-line role in the America-Soviet Union conflict over Afghanistan. The foreign inflows reached to US$2.0 billion mark per annum by the mid-1980s which enhanced the credit worthiness of Pakistan [Le and Ataullah (2002); Husain (1999)]. Pakistan and United States signed a six year agreement in 1985 according to which United States was to provide US$ 4.02 billion in terms of loans and grants over six-year period beginning September 1987. Of US$ 4.02 billions, 57 percent amount was allocated as economic aid and the remaining in the form of military aid. After signing this agreement, the gross disbursement of aid increased to US$1.8 billion in 1987-88. The composition of aid over the years has changed from grants and grants-type assistance to loans on difficult terms.

Table 2

Foreign Aid to Pakistan and Other Asian Countries

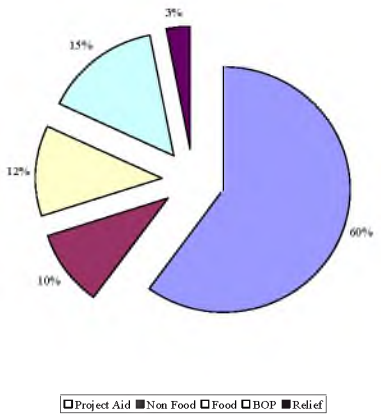
Country	Aid as Percentage of GNP									
	1960	1970	1980	1990	2000	2001	2002	2003	2004	2005
Pakistan	6.6	4.2	4.6	2.7	0.97	2.8	3.08	1.32	1.52	1.54
India	2.31	1.37	1.2	0.45	0.32	0.36	0.29	0.15	0.1	0.22
Bangladesh	–	5.21*	7.31	6.82	2.39	2.11	1.83	2.55	2.37	2.09
Sri Lanka	0.71	2.18	9.68	9.26	1.8	2.02	2.11	3.72	2.7	5.13
Nepal	1.58	2.71	8.17	11.6	7.03	7.02	6.57	7.9	6.37	5.77
Hong Kong	0.5	0.04	0.04	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Singapore	–0.05	1.5	0.12	–0.01	0.00	0.00	0.01	0.01	0.01	–
Thailand	1.6	1.04	1.3	0.94	0.58	0.25	0.24	–0.68	0.02	–0.1
	Aid Per Capita (Current US Dollar)									
Pakistan	5.5	6.94	14.27	10.43	5.01	13.73	14.69	7.15	9.36	10.7
India	1.7	1.51	3.18	1.65	1.44	1.65	1.37	0.85	0.64	1.58
Bangladesh	–	0.32**	15.66	20.11	9.06	7.79	6.78	10.2	10.15	9.31
Sri Lanka	1.05	3.93	26.24	42.8	14.24	16.69	18.08	35.16	26.71	60.6
Nepal	0.81	1.93	10.55	22.12	12.85	15.64	14.15	17.77	16.08	15.77
Hong Kong	1.9	0.36	2.15	6.69	0.65	0.53	0.58	0.74	1.01	–
Singapore	–0.2	13.81	5.75	–1.02	0.27	0.21	1.72	1.69	2.16	–
Thailand	1.61	2.04	9.02	14.56	11.36	4.53	4.7	–15.18	0.41	–2.66

Source: http://devdata.worldbank.org/query. *, ** Indicate 1977 and 1971 respectively.

In 1990, the United States announced that it would not enter into any more aid agreement with Pakistan and would wind up its aid related projects at the end of 1993. This shift in US policy led to considerable adverse change in aid receipts to Pakistan. The major reasons for changes in United States contributions were the passage of the Pressler Amendment and the Brown Amendment in the aid authorisation bills by the United States Senate in 1985 and 1995 respectively. Because of the Pressler Amendment US aid disbursement to Pakistan which was US$ 452 million in 1989, fell in early 1990s to touch rock bottom at only US$ 5.4 million in 1998 [Anwar and Michaelowa (2006)]. In 1993-94, aid from consortium and non-consortium sources declined considerably. In 1998, when Pakistan conducted nuclear tests, further international aid-sanctions, particularly by the US government, were imposed on Pakistan. As a consequence, during 1998-2001, both bilateral and multilateral aid declined significantly.

However, after the 9/11 things changed dramatically. When Pakistan joined the 'War against Terrorism', the volume of aid increased by 7 times and reached US$ 776.5 million. The US launched another US$ 3 billion five-year economic assistant package for Pakistan in June 2003. Other donor countries also sanctioned aid and rescheduled Pakistan's external debts. This situation reflects how the flow of foreign aid to Pakistan has always been subject to conditionalities, and vulnerable to geopolitical and strategic interests of the donors particularly, Unites States. Figure 1 clearly depicts the picture of the composition and structure of foreign aid received by Pakistan during the period 1956–2005.

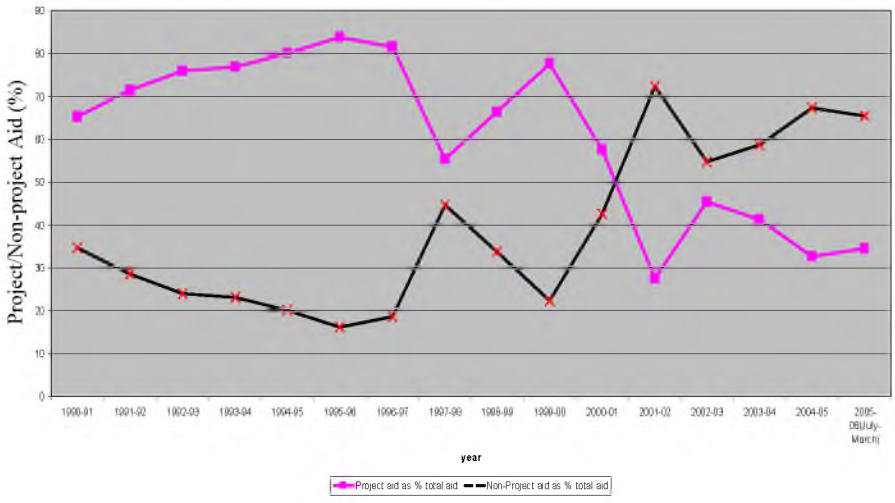
Fig.1. Source-wise Disbursement of Foreign Aid to Pakistan from 1956-57 to 2004-05



Figures 1 indicates that from 1956-57 to 2004-05, the share of project aid averaged 60 percent of the total aid, followed by the share of balance of payments support, which is 15 percent. The shares of non-food and food aid have been 10 percent and 12 percent respectively. The share of foreign aid for relief was only 3 percent during the period.

The project/non-project aid and food/non-food aid are very important components of the total foreign aid because project aid directly adds to the productive capacity of the aid recipient country. Contrarily, large proportion of non-project aid adds to the debt burden of aid receiving country. Figure 2 shows the trend of project and non-project aid inflows to Pakistan since 1990-91. The project aid depicts a declining trend during the period 1990-91 to 2005-06, whereas from 2002-03 non-project aid again had been following an increasing trend. Resultantly, total aid increased from US$ 1270 in 1996-97 to US$ 2316 million in 2005-06.

Fig. 2. Trends of Project, Non-project and Total Aid. From 1990-91 to 2005-06



The sectoral distribution of foreign private loans, for the period 1990-2005 is shown in Table 3 and Figure 3. The share of, textiles sector in total foreign private loans is almost 15 percent, Petroleum refining 14 percent, Pakistan International Air Line (PIA) 26 percent and transport 23 percent.

During the 1960s, 1970s and 1980s, Pakistan was among the largest aid recipient countries. But the benefits of this aid could not stretch to the whole society. The aim of Pakistan's five-year Plans for the period 1965-85 was elimination of dependence on foreign assistance [Le and Ataullah (2002)]. But there had been a significant increase in foreign economic assistance since then. This increase in foreign aid could not help in the socio-economic uplift. For example, during the 1960s and 1970s when Pakistan was the largest aid receiving country among Asian countries, the average percentage of population living under the poverty line declined marginally from 43 percent to 39 percent. Social services and human sector development have remained neglected and the social indicators have worsened, leaving Pakistan at par with some of the poorest African countries. Pakistan ranks 120th in the human development index constructed by UNDP [Husain (1999)]. Physical infrastructure such as irrigation, electricity, roads and highways, telecommunications, railways, and other capital assets have been poorly maintained and have neither been replaced, nor expanded to keep up with the growing demand [Husain (1999)]. Empirical studies suggest that aid has not exerted any significant effect on economic growth. Khan (1997) finds negative causal effect of aid on economic growth, while Ishfaq and Ahmed (2005) conclude that economic growth of Pakistan has remained independent of foreign aid.

The huge inflows of foreign aid to Pakistan could not be utilised for the development purposes. Rather, aid has served the vested interest of a small influential group of the society and the political elite in the government circle and has delayed the day of reckoning. An increase in foreign aid in the form of loans during the 1990s has exacerbated the foreign debt problem in the country.

Fig. 3. Economic Group-wise Disbursement of Foreign Private Loans Since 1990-91

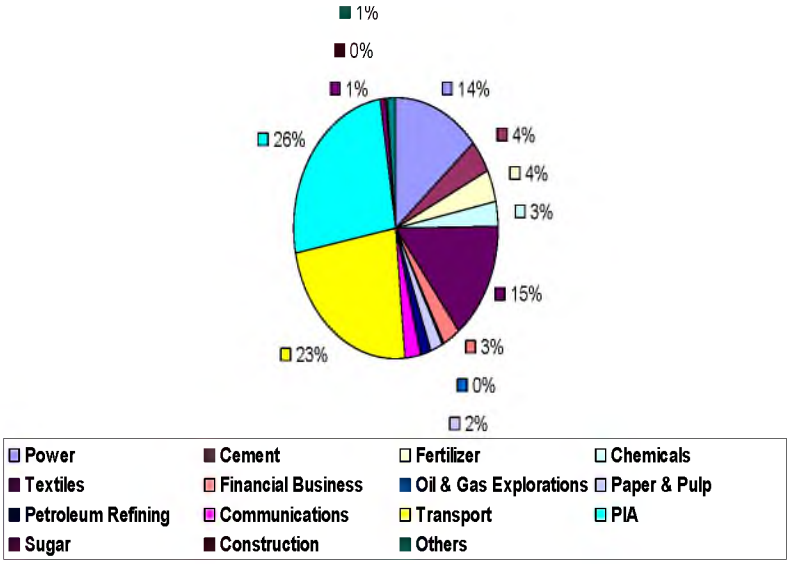


Table 3

Economic Group-wise Disbursement of Foreign Private Loans since 1990-91 (in Million US$)

Economic Group	FY91	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
Power	–	–	–	4.2	350.2	367.8	461.0	687.3	121.1	21.1	48.0	70.8	86.5	37.6	18.3
Cement	7.4	–	1.1	–	18.8	130.1	11.8	–	–	31.5	53.0	5.6	–	23.2	–
Fertiliser	–	2.0	153.6	1.8	–	–	9.8	5.0	37.2	43.5	40.5	3.5	14.7	–	–
Chemicals	–	18.6	9.3	6.2	13.0	50.7	52.0	21.4	1.0	18.6	–	6.8	–	45.9	–
Textiles	111.6	291.2	293.5	421.4	150.5	142.9	72.6	23.9	0.8	8.1	15.6	2.9	30.0	5.2	–
Financial Business	9.0	–	60.0	21.3	28.0	–	–	–	6.0	–	11.5	–	–	–	–
Oil and Gas Explorations	–	1.1	–	–	–	–	–	–	–	–	–	–	–	–	–
Paper and Pulp	–	–	0.3	25.8	–	32.4	7.5	1.8	–	6.7	–	36.5	–	–	–
Petroleum Refining	–	0.9	–	–	–	–	17.9	20.3	–	–	–	–	–	–	–
Communications	–	–	–	–	–	–	–	21.1	16.1	6.6	12.8	34.0	–	17.0	–
Transport	13.0	245.0	139.0	139.9	–	–	–	–	–	117.0	–	–	219.0	374.0	–
PIA	13.0	245.0	139.0	124.0	342.0	–	–	–	–	–	117.0	–	219.0	374.0	–
Sugar	5.0	–	–	5.7	3.3	9.8	2.7	–	–	–	–	–	–	–	–
Construction	–	–	2.7	–	4.1	–	–	–	–	–	–	–	–	–	–
Others	12.1	3.7	0.9	6.7	44.0	24.8	39.4	15.2	18.1	24.4	21.5	13.0	–	–	1.8
Total	158.1	562.5	660.4	633.0	953.9	758.5	674.7	796.0	194.3	284.0	191.4	184.6	350.0	503.0	20.1

Source: State Bank of Pakistan (Handbook for Pakistan's Economy 2005). FY represents Fiscal Year.

3. MODEL, METHODOLOGY AND DATA

The rationale that foreign aid increases economic growth is based on Chenery and Strout's Dual Gap Model. Chenery and Strout (1966) claimed that foreign aid promotes economic growth by contributing to domestic savings as well as foreign exchange availability and helping to close the saving-investment and export-import gaps. In two-gap model, investment is the cornerstone of growth and requires imported capital goods [Ali and Isse (2005)]. However, developing countries generally face two fundamental financial gaps. The first gap is between the investment and domestic savings, while the second gap is between imports and foreign exchange earnings [Easterly (2003)] The developing countries cannot overcome the shortage of savings and foreign exchange earning on their own due to their limited resources however, foreign aid and other financial flows can fill these gaps and contribute to achieving target growth rates. In two-gap model the contribution of foreign aid is to finance investment including imports of capital goods. Exports growth is also important as it generates foreign exchange to finance imports.

Following Husain (1992) we divide external resources in to two categories. First, the resources which have stable, sustainable and positive effect on economic growth and are within the policy control of the domestic authorities. These include export of goods and services (X) and foreign direct investment (FDI). Second, foreign aid, external borrowings and workers remittances are found to be volatile, less stable and under the control of external policymakers and their contributions to economic growth are questionable. The external environment influence exports demand and FDI supply, but despite short-term fluctuations these resources remains stable and are relatively more influenced by the domestic policy variables. Hence, preference may be given to these resources rather than foreign aid, worker remittances and external borrowings to finance long-term development [Husain (1992)].

Based on the above arguments we formulate the link between economic growth and foreign aid following pure production function theory. Assume that real gross domestic product (GDP) of Pakistan is:

$$Y = F(q) \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (1)$$

Where Y is the real GDP, F is the transformation rule associating Y and q, q is the vector of explanatory inputs. Assuming a multiplicative aid-trade-augmented production function and that {capital (K), labour (L), foreign aid (A) and exports (X)} $\in q$, Equation (1) becomes [Amavilah (1998)]:

$$Y = \Theta K^{\alpha} L^{\beta} A^{\delta} X^{\gamma} e^{u} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (2)$$

Where u is the normally distributed random error term. The inclusion of exports in the conventional production function may be justified on two grounds. First, exports allow countries to specialise in the production of such commodities in which they have comparative advantage. Export sector is assumed to be more competitive and efficient than other sectors. Exports growth facilitates the exploitation of scale economies, allows for increased capacity utilisation and encourages efficiency through specialisation in accordance with the principles of comparative advantage. Second, the export sector is assumed to generate positive externalities, such as relaxing foreign exchange constraints

and the introduction of technology and knowledge. It is also assumed that with the given level of capital and labour, the larger the size of the export sector, the larger the gross value of production [Rana and Dowling (1990)]. Edwards (1998) points out that exports affect economic growth positively through increases in total factor productivity. The inclusion of foreign aid in the conventional production function can also be found in Tyler (1981), Feder (1982), Gounder (2001), Amavilah (1998) and Burke, *et al.* (2006) among others.

Following Burke, *et al.* (2006) and Ahmed and Hamdani (2003) we break total capital stock (K) into domestic capital (K_d) and foreign capital (K_f) i.e., $K = K_d + K_f$. Now Equation (2) becomes:

$$Y = \Theta K_d^{\alpha} K_f^{\varphi} L^{\beta} A^{\delta} X^{\gamma} e^{u} \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad \ldots \quad (3)$$

The log-linear form of Equation (3) is given by:

$$LnY = Ln\Theta + \alpha LnK_d + \phi LnK_f + \beta LnL + \delta LnA + \lambda LnX + u \quad \ldots \quad \ldots \quad (4)$$

Since the data for domestic capital stock and foreign capital stock are not available, therefore we use domestic investment as a share of GDP (*INVY*), foreign investment to GDP (*FDIY*) as proxy for the domestic capital and foreign capital. Furthermore, we use foreign aid as a share of GDP (*AIDY*) to control for the effect of price changes over time. Edwards and Tabellini (1990) and Fosu (2001) points out that political instability is expected to exert negative impacts on growth. To account for political instability we included a dummy variable (D) taking value one for the period 1979-1985 and 1999-2002 and zero otherwise. Equation (4) now takes the following form:[3]

$$Y_t = \eta_0 + \eta_1 INVY_t + \eta_2 FDIY_t + \eta_3 AIDY_t + \eta_4 L_t + \eta_5 X_t + \eta_6 D_t + u_t \quad \ldots \quad (5a)$$

Equation (5a) represents the neoclassical growth model expanded to include exports and non-export sectors and is similar to that of Gounder (2001) and Burke, *et al.* (2006). The production function includes share of total investment to GDP (*INVY*) to measures its impact on economic growth because investment is one of the principal determinants of growth [Lensink and Morrissey (2000)]. Thus, investment is included in the model to capture its affects on growth through the level of efficiency. Exports and FDI variables are also included in the model to measure the degree of trade and financial openness. It can be argued that trade and financial openness is expected to improve resource allocation and accelerate economic growth.[4]

To examine the impact of various forms of foreign aid on economic growth, the model incorporates project aid (*PAIDY*) and non-project aid (*NAIDY*) in the following specification form:

$$Y_t = \beta_0 + \beta_1 INVY_t + \beta_2 PAIDY_t + \beta_3 NAIDY_t + \beta_4 FDIY_t + \beta_5 L_t + \beta_6 X_t + \beta_7 D_t + v_t \quad (5b)$$

Where Y is the real GDP, *INVY* the domestic investment as proportion of GDP, *PAIDY* the project aid as a share of GDP, *NAIDY* the non-project aid as share of GDP, *FDIY* the

[3]For our own convenience we eliminate "Ln" term.

[4]Other variables such as portfolio investment, worker remittances etc. may not be considered because of the small sample size.

net foreign direct investment as share of GDP, L the labour force, X the real value of exports and v_t the error term. All the variables are expressed in logarithmic form.

This study employs Autoregressive Distributed Lag (ARDL) methodology advanced by Pesaran, *et al.* (2001). The main advantage of this methodology is that it allows testing for the existence of cointegration irrespective of whether the variables are I (0) or I (1). This approach is more appropriate than the Johansen-Juselius multivariate approach to cointegration when the sample size is small [Pesaran, *et al.* (2001)]. The estimation procedure involves two steps. First, long-run relationship between the variables under consideration is tested by computing F-statistics. If the evidence of long-run relationship is found then at the second stage the short-run and long-run parameters are estimated using autoregressive distributed lag (ARDL) method. The final equation is selected based on the acceptability of various diagnostics.

The study is based on annual data covering the period 1972-2006. The data are collected from different sources. GDP, foreign aid, project aid, non-project aid (i.e., sum of non-food, food, balance of payments, relief and earthquake rehabilitation assistance), ratio of foreign direct investment to GDP, and exports are taken from the State Bank of Pakistan (2005) and *Pakistan Economic Survey* (various issues). Data on labour force is from *Asian Development Bank—Key Indicators* (various issues). The data on consumer price index (CPI) is from *International Financial Statistics (IFS)* CD-ROM (2007). All the flow variables (*INV, AID, FDI*) are measured as a ratio of GDP to control for the effect of price changes over time.[5]

4. EMPIRICAL RESULTS

The cointegration test based on the ARDL procedure is employed by estimating Equation(s) (5a and 5b) for Pakistan using annual data over the period 1972-2006.[6] The number of lags on the first-differenced variables is selected using Akaike Information Criterion (AIC). Initially, we set 3 lags for the VAR and tested down using general-to-specific methodology. The final lag is selected when the estimated equation(s) satisfy all the diagnostic checks including CUSUMSQ test of stability. On the basis of this criterion, two lags were selected to carry out ARDL cointegration test. The results of the cointegration test are reported in Table 4.

Table 4

Results of ARDL Cointegration Test

Type of Aid	Variable Included	Test Statistic	Optimal Lags	Decisions
Total Aid	$F(Y_t \mid FDIY_t, INVY, AIDY_t, L_t, X_t, D)$	6.35	2	Coinegration
Project Aid and Non- project Aid	$F(Y_t \mid FDIY_t, INVY, PAIDY_t, NAIDY_t\, L_t, X_t, D)$	3.76	2	Cointegration
Project Aid	$F(Y_t \mid FDIY_t, INVY, PAIDY_t, L_t, X_t, D)$	12.20	2	Cointegration
Non-project Aid	$F(Y_t \mid FDIY_t, INVY, NAIDY_t, L_t, X_t, D)$	6.42	2	Cointegration

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

[5]All the data used in this study is available from the authors and can be obtained upon request.
[6]Only one limitation of ARDL method is that this technique is based on single-equation approach.

It is apparent from Table 4 that for each type of aid the bound cointegration test rejects the null of no cointegration because the computed F-statistic is much greater than the upper bound of the tabulated F-statistic. After finding the evidence of cointegration between the variables specified in equation(s) (5a and 5b), we have estimated the long-run and short-run relationships using Autoregressive Distributed Lag (ARDL) approach. Table 5 reports the long-run and short-run estimates for various types of aid-growth nexus. The estimated ARDL equations pass all the diagnostic tests including the CUSUM and CUSUMSQ tests of stability.[7] Overall, ARDL equations have a very high adjusted $\overline{R}^2$, F-statistics are significant and no estimation problem exists as suggested by Lagrange Multiplier test (LM), functional form (FF), normality (NO) and heteroscedasticity (Het) statistics. A more detailed interpretation of results is given below:

(A) Real Output and Aggregate Foreign Aid

The estimation of the equation with total aid (Table 5 case A) suggests that in the long-run foreign direct investment to GDP (*FDIY*), total investment to GDP (*INVY*), labour force (*L*) and real value of exports exert positive and significant impact on real GDP. The coefficient of foreign aid to GDP (*AIDY*) is insignificant with negative coefficient in the long-run as well as in the short-run. The negative and insignificant impact of foreign aid on output suggests that economic growth is independent of foreign aid in case of Pakistan. This raises many serious questions regarding its justification. The reason could be that in most developing countries including Pakistan foreign aid is fungible and is diverted to public consumption [Feyzioglu, *et al.* (1998)]. Another reason may be that foreign aid is channeled through the public sector and is utilised to finance non-development expenditures. Moreover, when foreign capital inflows into the public sector are increased, some resources are diverted from development projects to non-development projects. This diversion of resources may offset of positive impact of foreign aid on growth. This result suggests that the economic policies regarding aid utilisation are not appropriate or perhaps aid inflows have distorted macroeconomic incentives in Pakistan.

The results show that foreign direct investment and exports, domestic investment and labour force are the main determinants of real output in the long-run. The coefficient of the dummy variable (D), introduced to account for political instability, is negative and significant both in the long-run and short-run indicating that political instability adversely influenced economic growth.[8]

[7]The results are available from the authors.

[8]In Pakistan there are some misperceptions that the economic growth remains always high under the military regimes than that of democratic governments. These sentiments and thinking are very dangerous. It is true that the growth is reported to be higher under military governments. It is not a very plausible criterion to judge economic growth and performance of the governments. However, higher growth rate is meaningless when other micro and macroeconomic indicator are not influenced the economy positively [Bilquees (2004)]. The actual position in Pakistan is that the higher growth rate, poverty and unemployment are moving in the same directions not only in the democratic governments but also in the military regimes. Furthermore, during the military rule either in 1977 or in 1999 some international developments cause higher growth rates. However, saving to GDP ratio, domestic investment to GDP ratio remains low despite the inflows of reasonable foreign assistance for being front line state in the War against Russia and War against terrorism [for further detail see, Khan and Khan (2007)].

Table 5

Long-run and Short-run Estimates of Real Output and Foreign Aid

A. Real Output and Total Foreign Aid

Real Output with Total Aid: ARDL (1, 0, 2, 0, 2, 1) Based AIC

$$Y_t = 0.57\,Y_{t-1} + 0.03\,FDIY_t - 0.13\,INVY_t + 0.30\,INVY_{t-1} + 0.29\,INVY_{t-2} - 0.002\,AIDY_t - 0.18\,L_t + 0.31\,L_{t-1} + 0.34\,L_{t-2}$$
$$(8.77)^{*} \quad (2.33)^{**} \quad (-0.48) \quad (0.81) \quad (1.17) \quad (-1.71)^{**} \quad (-1.47) \quad (2.00)^{**} \quad (2.52)^{**}$$
$$+ 0.05\,X_t + 0.05\,X_{t-1} - 0.02\,D_t$$
$$(2.10)^{**} \quad (1.75)^{**} \quad (-4.13)^{*}$$

$\overline{R}^2 = 0.99$ $\quad F(11, 21) = 6167.2^{*}$ $\quad RSS = 0.002$

$LM - \chi^2(1) = 1.53$ $\quad FF - \chi^2(1) = 0.06$ $\quad NO - \chi^2(2) = 0.55$ $\quad Het - \chi^2(1) = 2.03$

Long-run Estimates

$$Y_t = 0.08\,FDIY_t + 1.09\,INVY_t - 0.005\,AIDY_t + 1.11\,L_t + 0.24\,X_t - 0.05\,D_t$$
$$(2.07)^{**} \quad (2.77)^{*} \quad (-1.64) \quad (32.26)^{*} \quad (8.10)^{*} \quad (-4.14)^{*}$$

Error-Correction Representation

$$\Delta Y_t = 0.03\,\Delta FDIY_t - 0.13\,\Delta INVY_t - 0.29\,INVY_{t-1} - 0.002\,\Delta AIDY_t - 0.18\,\Delta L_t - 0.34\,\Delta L_{t-1} + 0.06\,\Delta X_t - 0.02\,\Delta D_t - 0.43\,EC_{t-1}$$
$$(2.33)^{**} \quad (-0.48) \quad (-1.17) \quad (-1.71) \quad (-1.47) \quad (-2.52)^{**} \quad (2.10)^{**} \quad (-4.13)^{*} \quad (-6.59)^{*}$$

$\overline{R}^2 = 0.70$ $\quad F$-stat = 10.79 $\quad RSS = 0.002$ $\quad DW$-stat = 2.36

Continued—

Table 5—(*Continued*)

B. Real Output, Project Aid and Non-project Aid : ARDL (2, 2, 0, 0, 1, 2, 1) Based on AIC

$$Y_t = \underset{(1.62)}{0.32}\,Y_{t-1} + \underset{(1.53)}{0.34}\,Y_{t-2} + \underset{(3.00)^{*}}{0.05}\,FDIY_t + \underset{(0.21)}{0.004}\,FDIY_{t-1} + \underset{(2.16)^{**}}{0.04}\,FDIY_{t-2} - \underset{(-0.39)}{0.10}\,INVY_t + \underset{(1.68)}{0.008}\,PAIDY_t - \underset{(-2.12)^{**}}{0.005}\,NAIDY_t$$

$$- \underset{(-1.15)}{0.002}\,NAIDY_{t-1} - \underset{(-3.30)^{*}}{0.43}\,L_t + \underset{(3.00)^{*}}{0.46}\,L_{t-1} + \underset{(2.80)^{*}}{0.49}\,L_{t-2} + \underset{(0.80)}{0.02}\,X_t + \underset{(2.44)^{**}}{0.08}\,X_{t-1} - \underset{(-4.46)^{*}}{0.02}\,D_t$$

$\overline{R}^2 = 0.99$ $\quad F(11, 21) = 4986.3^{*}$ $\quad RSS = 0.002$

$LM - \chi^2(1) = 2.22$ $\quad FF - \chi^2(1) = 0.25$ $\quad NO - \chi^2(2) = 5.22$ $\quad Het - \chi^2(1) = 0.73$

Long-run Estimates

$$Y_t = \underset{(3.09)^{*}}{0.20}\,FDIY_t - \underset{(-0.39)}{0.22}\,INVY_t + \underset{(1.78)^{***}}{0.02}\,PAIDY_t - \underset{(-4.08)^{*}}{0.02}\,NAIDY_t + \underset{(34.10)^{*}}{1.18}\,L_t + \underset{(7.30)^{*}}{0.24}\,X_t - \underset{(-4.31)^{*}}{0.05}\,D_t$$

Error-Correction Representation

$$\Delta Y_t = \underset{(-1.53)}{-0.24}\,\Delta Y_{t-1} + \underset{(3.00)^{*}}{0.05}\,\Delta FDIY_t - \underset{(-2.16)^{**}}{0.04}\,\Delta FDIY_{t-1} - \underset{(-0.39)}{0.10}\,\Delta INVY_t + \underset{(1.68)}{0.009}\,\Delta PAIDY_t - \underset{(-2.12)^{**}}{0.005}\,\Delta NAIDY_t - \underset{(-3.30)^{*}}{0.45}\,\Delta L_t$$

$$- \underset{(-2.80)^{*}}{0.49}\,\Delta L_{t-1} + \underset{(0.80)}{0.02}\,\Delta X_t - \underset{(-4.45)^{*}}{0.02}\,\Delta D_t - \underset{(-6.54)^{*}}{0.44}\,EC_{t-1}$$

$\overline{R}^2 = 0.71$ $\quad F$-stat = 9.24 $\quad RSS = 0.002$ $\quad DW$-stat = 2.32

Continued—

Table 5—(*Continued*)

C. Real Output and Project Aid: ARDL (1, 0, 1, 0, 2, 0) Based on AIC

$$Y_t = 0.63\,Y_{t-1} + 0.04\,FDIY_t - 0.28\,INVY_t + 0.67\,INVY_{t-1} - 0.003\,PAIDY_t - 0.22\,L_t + 0.33\,L_{t-1} + 0.30\,L_{t-2} + 0.09\,X_t - 0.02\,D_t$$
$$(11.68)^{*} \quad (2.94)^{*} \quad (-1.10) \quad (3.01)^{*} \quad (-0.76) \quad (-1.96)^{***} \quad (2.04)^{**} \quad (2.20)^{**} \quad (4.16)^{*} \quad (-3.41)^{*}$$
$$\overline{R}^2 = 0.99 \qquad F(11, 21) = 6683.8^{*} \qquad RSS = 0.003$$
$$LM - \chi^2(1) = 3.68 \qquad FF - \chi^2(1) = 0.62 \qquad NO - \chi^2(2) = 1.61 \qquad Het - \chi^2(1) = 3.13$$

Long-run Estimates

$$Y_t = 0.11\,FDIY_t + 1.06\,INVY_t - 0.008\,PAIDY_t + 1.12\,L_t + 0.24\,X_t - 0.05\,D_t$$
$$(2.60)^{**} \quad (2.90)^{*} \quad (-0.76) \quad (35.38)^{*} \quad (6.57)^{*} \quad (-3.64)^{*}$$

Error-Correction Representation

$$\Delta Y_t = 0.04\,\Delta FDIY_t - 0.28\,\Delta INVY_t - 0.003\,\Delta PAIDY_t - 0.22\,\Delta L_t - 0.30\,\Delta L_{t-1} + 0.09\,\Delta X_t - 0.02\,\Delta D_t - 0.37\,EC_{t-1}$$
$$(2.94)^{*} \quad (-1.10) \quad (-0.76) \quad (-1.96)^{**} \quad (-2.20)^{**} \quad (4.16)^{*} \quad (-3.41)^{*} \quad (-6.82)^{*}$$
$$\overline{R}^2 = 0.66 \quad F\text{-stat} = 10.31 \quad RSS = 0.003 \quad DW\text{-stat} = 2.60$$

Continued—

Table 5—(*Continued*)

D. Real Output and Non-project Aid: ARDL (1, 0, 2, 0, 2, 1) Based on AIC

$$Y_t = 0.57\,Y_{t-1} + 0.03FDIY_t - 0.14INVY_t + 0.25INVY_{t-1} + -0.003NAIDY_t - 0.22L_t + 0.33L_{t-1} + 0.30L_{t-2} + 0.09X_t - 0.02D_t$$

$$(11.68)^{*} \quad (2.94)^{*} \quad (-1.10) \quad (3.01)^{*} \quad (-0.76) \quad (-1.96)^{**} \quad (2.04)^{**} \quad (2.20)^{**} \quad (4.16)^{*} \quad (-3.41)^{*}$$

$$\overline{R}^2 = 0.99 \qquad F(11, 21) = 6683.8^{*} \qquad RSS = 0.003$$

$$LM - \chi^2(1) = 3.68 \qquad FF - \chi^2(1) = 0.62 \qquad NO - \chi^2(2) = 1.61 \qquad Het - \chi^2(1) = 3.13$$

Long-run Estimates

$$Y_t = 0.07FDIY_t + 0.97INVY_t - 0.007\,NAIDY_t + 1.11L_t + 0.25\,X_t - 0.05D_t$$

$$(2.04)^{**} \quad (2.39)^{*} \quad (-1.89)^{***} \quad (33.58)^{*} \quad (10.25)^{*} \quad (-4.38)^{*}$$

Error-Correction Representation

$$\Delta Y_t = 0.03\Delta FDIY_t - 0.14\Delta INVY_t - 0.31\Delta INVY_{t-1} - 0.003\Delta NAIDY_t - 0.18\Delta L_t - 0.35\Delta L_{t-1} + 0.05\Delta X_t - 0.02\Delta D_t - 0.43\,EC_{t-1}$$

$$(2.28)^{*} \quad (-0.52) \quad (-1.45) \quad (-1.96)^{***} \quad (-1.50) \quad (-2.61)^{**} \quad (1.97)^{***} \quad (-4.32)^{*} \quad (-6.77)^{*}$$

$$\overline{R}^2 = 0.71 \qquad F\text{-stat} = 11.30 \qquad RSS = 0.002 \qquad DW\text{-stat} = 2.37$$

Note: t-values are given in parentheses. *, ** and *** indicate significant at the 1 percent, 5 percent and 10 percent level of significance respectively.

In short-run the coefficient of domestic investment is negative and insignificant. Given the dominant share of public investment in total investment, the inefficient and non-productive nature of public investment might have contributed to the overall negative impact of total investment on growth [Ghani and Din (2006)]. Moreover, political instability may also affect investment growth through the decline in total factor productivity [Gounder (2001)]. The over all contribution of labour force (ΔL) is negative and significant in the short-run. This may be due to the higher share of non-productive labour in total labour force. Another explanation for the negative coefficient on ΔL could be the presence of low quality and unskilled labour force. Brain drain could be yet another reason of the negative effect of labour force.

The inflows of foreign direct investment (FDI) and exports exert positive and significant impact on economic growth in long-run as well as short-run. This implies that instead of relying on foreign aid preference be given to attract FDI and boost exports. Both the FDI and exports are linked to capacity utilisation, research and development (R&D), increased market access and technological spillover. These benefits are expected to be more stable than the temporary benefits of foreign aid. Since the magnitude of exports is relatively larger than the magnitude of the FDI. Therefore, the authorities have paid much attention on the export growth and than on creating conducive environment for inflows of FDI. Finally, the adjustment coefficient possesses expected negative sign and is highly significant. This indicates that 41 percent of the previous period deviations are eliminated in the current period.

(B) Real Output, Project Aid and Non-project Aid

The results with project aid and non-project aid (Table 5 case B) show that project aid exerts positive and non-project aid exerts negative and significant impact on real output both in the long-run and short-run. However, the magnitude of both the variables is very small and negligible. This implies that project and non-project components of foreign aid may not effectively promote economic growth. The possible reason could be that the aid flows are in practiced translated into government consumption.[9]

The other variables such as labour, FDI and exports play significant role in enhancing real output in long-run as well as short-run. However, the overall impact of labour force growth in the short-run is negative and significant. The coefficient of total investment share is insignificant in both the long-run and short-run. Among exports and FDI, the relative impact of real exports is larger than FDI in the long-run. These results confirm the hypothesis that exports and FDI are the main external sources of growth rather than foreign aid. The dummy variable, introduced to capture political instability, is also negative and significant indicating the adverse effect on output both in the long-run and short-run. The error-correction term is negative and significant, indicates that about 34 percent of the previous period's deviations in real output is eliminated in the current period to keep real GDP at steady state level.

[9]This could be possible because due to the weak accountability non-project aid is not utilised as intended.

(C) Real Output and Project Aid

Table 5 (case C) indicates that the relationship between project aid and real output is negative and insignificant both in the long-run and short-run. This implies that in Pakistan project aid is fungible. The amounts of money granted for a particular project by the donors are transferred to finance social and other non-development expenditures.[10] Our result confirms the earlier findings by Iqbal (1997) that foreign capital inflows have negative impact on development expenditure. This strengthens the idea that some resources are transferred from development projects to non-development expenditures when foreign aid is increased. Hence, project aid exerts negative and insignificant impact on domestic productivity. Our results also confirm the results obtained by Chishti and Hasan (1992) that in case of Pakistan the project aid money is fungible and this may have been channeled to finance government consumption.

In long-run labour force, domestic investment, FDI and real exports exert positive and significant impact on real output. In short-run the external financial resources such as FDI and exports exerts positive and significant impact on domestic productivity. Domestic investment is insignificant while labour force exerts negative and significant impact on growth.[11] The relative effect of exports is larger than that of FDI. The findings imply that to reduce dependence on the foreign aid, the government may concentrate on boosting the exports sector and create enabling environment to attract foreign investment. The error-correction term is again negative and highly significant. The coefficient on the term indicates that around 41 percent of the past deviations are eliminated in the current period.

(D) Real Output and Non-project Aid

Table 5 (case D) suggest that non-project aid is significant and negatively related to real output in both the long-run and short-run. This finding suggests that non-project aid failed to produce any significant impact on economic growth. The size of the coefficient of non-project aid is very small indicating negligible effect on growth in the long-run and short-run. The reason could be the use of non-project aid to finance government consumption; therefore it does not contribute to growth. Other variables are significant and possess expected positive coefficients in the long-run. In the short-run, FDI and exports are positively correlated to growth, while domestic investment remains insignificant and labour force influences growth negatively. A positive coefficient of FDI and exports supports the argument that to reduce aid dependency on export sector and FDI may need special attention. The coefficient of dummy variable, introduced to account for political instability, is negative and significant indicating negative impact of political instability on growth in the long-run and short-run. The error-correction term is –0.43 and statistically significant which indicates that 43 percent of the past deviations are corrected in the current period.

Overall, the impact of foreign aid at aggregate and disaggregate level is negative and insignificant. These results support the hypothesis that aid is fungible in case of Pakistan and growth is independent of foreign aid. Our results confirms the view

[10]Iqbal (1997) argued that over-time development expenditure as percentage of total expenditure was reduced from 38.3 percent in 1975-76 to 18.2 percent in 1995-96 in Pakistan.

[11]Explanation of negative effect is given in case A.

expressed by Husain (2005) that net flows as percentage of gross national income have gradually declined from 4.3 percent in 1970 to 1.5 percent in 2003 and net transfers from 3.6 percent to 0.7 percent. The deduction from this evidence is quite obvious—Pakistan's dependence on foreign aid is so low and insignificant that it does not make much of a difference to our national economy.

Generally, there may be several reasons that undermine the impact of foreign aid on growth. For example, the projects funded by foreign donors may impose conditions including purchase of equipment, services and technical expertise from them. Consequently, a huge amount of money is drained out in the form of salaries and other payments. Moreover, foreign contractors are paid kickbacks on foreign added projects which encourage and promote the culture of corruption, weaken state institutions and increase the costs of projects. Alesina and Weder (2002) points out that foreign aid over-time increases government corruption. The evidence of this study is not much puzzling because many studies conclude that foreign aid exerts negative impact on growth [for example Gounder (2001); Burke, *et al.* (2006); Chishti and Hasan (1992); Khan (1997) and Ishfaq and Ahmed (2005)]. The findings of the study imply that foreign aid does not improve economic conditions. One reason could be poor governance. Many studies point out that foreign aid is extended for "strategic" reasons rather than real needs of a country.[12] Besides, foreign aid is highly volatile and its flows depend on the political ties between recipient and donor countries. So if the impact of foreign aid on growth is ambiguous or unpredictable, this should not be surprising.

Foreign direct investment and exports exerts positive and significant impact on growth. The positive and significant impact of exports on real output supports the argument that export sector is an engine of growth. Though FDI also exerts positive and significant impact on real output, however, the magnitude of exports is larger than that of FDI. These results demands for the expansion of export sector and encouragement of FDI inflows to reduce aid dependency. Finally, we conclude that domestic investment, labour, exports and FDI are important and significant contributors to economic growth as compared to foreign aid. These results are consistent with the earlier findings by Husain and Jun (1992) that exports performance contributed more in economic growth than aid.

This does not mean that foreign aid has no contribution in the economic development of Pakistan. During the 1950s, 1960s and 1970s foreign aid helped in laying down the physical infrastructure, which is pre-requisite for future economic development. Aid-financed investment in water, power and transport strengthened the infrastructure base. The construction of Terbela and Mangla dams, other irrigation-related projects, Steel Mills and Indus Super Highway are examples of the contribution of aid. Since 1990s, aid has helped in carrying out economic reforms. Moreover, during Afghan War and 2005 earthquake, non-project aid helped to overcome food shortages and balance of payments deficits.

Despite some positive contributions of aid, there are some negative aspects which are more serious. Public sector imbalances have worsened and non-wage component of

[12]Donor countries granted aid under different motivations. For example, Australia granted aid to promote economic and social progress and for political-strategic and commercial interests. Similarly, US granted aid for humanitarian relief and long-term economic and social development of low-income countries. US also provide aid to promote national security. In the context of Pakistan, US increased aid when Pakistan become front-line state against USSR during 1980s and after 9/11 war against terrorism.

recurrent expenditure is squeezing. Saving and investment rates remained low and the trade gap has widened. Official aid has declined their importance to rectify the economic conditions, while foreign investment and foreign assets of Pakistanis provide a much longer volume in the 1990s [Husain (1999)]. Khilji and Zampelli (1991) pointed out that US-aid is highly fungible and large proportion of aid has been diverted to meet defense expenditures. Similarly, large sums of aid were wasted in inefficient projects and controls over the international trade affected adversely the overall economic environment. Consequently, aid has become less productive and has put the country into a vicious circle of dependency. Inelastic revenue structure, large size of non-development expenditures, reduction in public investment, infrastructure deficiencies, and lack of social services are the main gifts of aid. To enhance aid effectiveness there is need to break the vicious circle of dependency and rehabilitate the economy through prudent macro-management policies.

To make aid more effective, Pakistan may rethink its macroeconomic policies, strengthen related institutions, improve governance and reduce corruption. At present economic growth in Pakistan is independent of foreign aid. For the economy, foreign aid is curse rather than blessing because reliance on aid further increases dependency. Hence further solicitation of foreign aid should be avoided and the authorities may focus on the encouragement of domestic investment, FDI and exports sector which are less volatile than foreign aid.

5. CONCLUSION AND POLICY IMPLICATIONS

Foreign aid effectiveness is a very critical and unsettled issue at the theoretical and empirical level. Pakistan has received about US$ 73.14 billions from 1960 to 2002, but its social indicators still seem to be very poor. Most of the foreign aid components diverted from development to non-development expenditures, have produced hardly any significant impact on economic growth. Based on theoretical literature we specify aid-exports-augmented neo-classical production function to examine aid-growth link. The model is estimated using ARDL approach to cointegration over the period 1972-2006 for Pakistan.

Result suggests that foreign aid neither at aggregate nor at disaggregate level influenced economic growth in Pakistan. These findings confirm the earlier findings by Gounder (2001), Burke, *et al*. (2006), Movrotas (2002), Chishti and Hasan (1992), Khan (1997) and Ishfaq and Ahmed (2005). The finding implies that foreign aid is not a blessing. Further the demerits of foreign aid that include but are not limited to; harsh covenants from donors that times even call for compromising the autonomy of the Nation, corruption within the government, fiscal imprudence and poor institutions turn foreign aid into a curse. Therefore, we can say that foreign aid is not a blessing but a curse for Pakistan.

Other variables such as, domestic investment, foreign direct investment and exports exerts positive and significant impact on economic growth at the aggregate and disaggregate level. These results confirm the earlier findings of Husain and Jun (1992). The results imply that domestic investment, labour force, exports and FDI inflows have made an important contribution to economic growth in Pakistan.

The most important policy implication derived from the results is that to reduce dependency to foreign aid and to improve the growth prospects in the country the authorities may provide enabling environment for domestic investment, expand export-oriented industries and encourage FDI inflows. Furthermore, Pakistan may focus on those external financing resources that are much stable, sustainable and have positive impacts on growth rather than depending on the volatile and unstable sources. Given the general characteristics of exports and FDI one can expect that these are more stable external resources relative to foreign aid. The two variables, i.e., exports and FDI have not only exerted positive impact on growth but also generate spillover effects. Hence, there is need to focus on these sectors.

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