

THE IMPACT OF FOREIGN AID ON PAKISTAN'S ECONOMY

Abdul Ghafoor Awan* · Muhammad Moeen-ud-Din**

*Institute of southern Punjab, Pakistan.

Email: ghafoor70@yahoo.com/drabdulghafoorawan@g.mail.com.

Cell # 0923136015051.

** Department of economics, Institute of southern Punjab, Pakistan.

Email: m.moeen555@gmail.com

Corresponding author Email: ghafoor70@yahoo.com. Cell #0313-6015051

ABSTRACT – *The objective of this research paper is to investigate the impact of foreign aid on Pakistan's economic growth. For this analysis we have taken growth rate of real GDP (gross domestic product) per capita as dependent variable while growth rate of capital stock, inflation, investment and official development assistance and aid received by country is taken as independent variables. A time series secondary data is taken from 1980 to 2012 from different sources like World Bank and world development indicators data base. In this research OLS (ordinary least square) method was used. To remove the problem of non-stationary auto-regressive (AR) and moving average (MA) were used. The evidence shows that foreign aid has not positive impact on the economy of Pakistan. Foreign aid has negative relationship with inflation and gross domestic product (GDP) while domestic investment has positive and significant impact on the growth rate in Pakistan. So instead of foreign aid Pakistan should increase domestic investment. Therefore policy makers should keep in mind that stable and sustainable source of external financing stimulate the economic growth like export and foreign direct investment (FDI). If policy makers act on these suggestions then desired results can be achieved.*

Kew Words: Foreign Aid, Capital Stock, GDP, FDI, Domestic Investment.

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. The traditional literature on economic growth emphasises the positive role of foreign aid in the process of economic development [1]. 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 such as Pakistan has heavily relied on foreign funding to finance its development projects. This strategy increased its dependency on external aid. Pakistan has received around US \$73.14 billion in the form of foreign aid from 1960 to 2002 [2], but the benefits of this foreign aid have not reached the whole society, which means that foreign aid is failed to improve the economic conditions in Pakistan. 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 cast doubts about the effectiveness of foreign aid as a tool for economic growth. [3]. The impact of foreign aid on economic development has always been a controversial issue. In 1950s, 1960s and 1970s rich countries used foreign aid to fill the gaps in resources, encouraging domestic investment and industrial growth under the belief that foreign aid could help developing countries to accelerate the “take-off” into self-sustained growth by generating new domestic investment [4]. Foreign aid helps to close the foreign exchange gap, provide access to modern technology and managerial skills and allow easier access to world markets [5, 6, 7, 8]. A positive relationship between foreign aid and economic growth for UK aided countries and negative for French and Scandinavian aided countries. Aid, however, could not improve the economic conditions in Bangladesh, India and countries like Korea, Malawi and

Kenya [9] Developing countries like Pakistan should reduce its dependence on foreign aid and mobilize financial resources from internal sources [10]. Foreign aid increases debt level and consequently weaken financial base of the country. Pakistan should learn lesson from Greece which borrowed beyond its paying capacity and ultimately was defaulted on IMF loans [11].

1.1. Research question

Our main research question is that “Does foreign aid affect Pakistan's economic growth and uplift the living standard of its people?”

1.2 Objective of the study

The main objectives of the study are given as under:

1. To study and explore the effect of foreign aid on economic growth in Pakistan.
2. To explore and investigate the factors of foreign aid that has less effect on economic growth in Pakistan.
3. To explore the effect of capital stock on economic growth.
4. To see the effect inflation on economic growth.

2. Literature review

Many studies confirmed the 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 [12]. State intervention in the economy generate negative impact on economic growth and makes the aid-growth relationship statistically insignificant [13]. Aid uncertainty also brings negative effect on economic growth. Particularly underdeveloped countries facing shortage of resources urgently needs foreign aid. If the source of aid is not reliable they cannot complete their planned projects well-in-time. Moreover, the impact of foreign aid on economic growth depends on the aid levels and the stability of aid flows [14]. The role of foreign aid is a debatable issue in promoting economic growth and it remains unsettled at both theoretical and empirical levels. The evidence shows negative and

insignificant effects from the foreign aid on the growth at the aggregate as well as the disaggregate level. One can suggest that, export growth, inflows of foreign direct investment and domestic investment are important contributors in enhancing economic growth in Pakistan [15]. Foreign aid does have some positive impact on growth, conditional on a stable macroeconomic policy environment. It can be provided through direct or indirect investment. Foreign aid can also be provided through physical or financial form [16]. However, aid should be taken only for productive purposes otherwise dependence on external aid may be counter-productive. Foreign direct investment in fixed assets and mobilization of resources are necessary for the countries like Pakistan. There is a need to devise policies to promote domestic saving, tax payment culture and use of resources for vital projects like energy and infrastructure [17]. When we studied the relationship between public debt and economic growth in Pakistan we would find that under certain circumstances external financing is significantly more expensive than domestic financing. Both external and internal debt have a negative effect on real per capita income. The policy maker should avoid both types of debt or should reduce their volume in the future. Debt should be taken only for productive purposes and should keep away from corrupt people while debt from the International Monetary Fund (IMF) should be avoided because its terms and conditions worsen the economy of the debtor nation [18]. There is a strong positive and significant relationship between total government expenditure and foreign aid and when foreign aid rises total government expenditure in Pakistan also rises. The empirical evidence shows that the relationship between government development expenditure and foreign project aid has also been found positive and significant. [19]. There is a negative correlation between foreign aid and GDP growth rate. Foreign aid has a negative effect on the economic growth of Pakistan and there is no improvement in GDP (gross domestic product) growth and an abnormal increase in inflation rate despite of foreign aid inflows. The impact of foreign capital inflow has a different impact on the economy in the short and long-term. The empirical results confirmed that there is a negative impact of these inflows on economic growth of the economy in the long run. In short run analysis unidirectional causality runs from debt services [20].

3. RESEARCH METHODOLOGY

Time series data from 1980 to 2012 is used to investigate the relationship between foreign aid and economic growth of Pakistan. The data is taken from different sources like World Bank, world development indicator database and various economic surveys of Pakistan. Following variables are selected for this research study.

3.1 Explanation of selected Variables

3.1.1 Gross Domestic Product (GDP)

Gross domestic product (GDP) is taken as the dependent variable because we want to see the effect of foreign aid on gross domestic product. GDP is the final value of goods and services produced in a country within a year. GDP measures the national income and output for a given country's economy. GDP is equal to the total expenditure for all final goods and services produced within the country in a

stipulated period of time. Generally it is calculated on an annual basis. GDP can be calculated by using two approaches: income approach and expenditure approach. By the income approach GDP is calculated by adding up total compensation to employees, gross profit of business firms and tax less any subsidies. The expenditure method is a more common approach and it is calculated by adding total consumption, investment, government spending and net export (export-import). GDP is one of the primary indicators that is used to gauge the health of a country's economy. It shows the total value of all goods and services produced over a specific period.

3.1.2 Foreign Aid (FAID)

As we know that foreign aid is a grant and loan that is taken from abroad. In this research, foreign aid is an independent variable that will be used in this model. After applying statistical techniques (OLS), we can know if there is one percent change in foreign aid, how much change will occur in gross domestic product. Pakistan receives foreign aid from several countries and international financial institutions. Since the start of war in Afghanistan the majority of aid comes from the United States in the form of coalition support fund which is reimbursement to Pakistan for expenses already incurred and compensation for facilities used by coalition forces. \$17.9 million received by Pakistan in 2010, \$75 million of US aid fund was transferred to bolster the Benazir income support program, a social development program run by the government of Pakistan. Another \$45 million given to the Higher Education Commission (HEC) to support centres of excellence at Pakistani universities. \$19.5 million went to support Fulbright scholarship programme and \$23.3 million for relief.

3.1.3 Growth rate of capital stock

In classical economics, capital is one of the three factors of production others are the land and labour. According to Adam Smith that part of men's stock which he expects to afford him revenue is called his capital. The data of investment is not available for Pakistan so we have taken (INV/GDP) which shows the gross fixed capital formation. In this research since investment/GDP ratio is used as a proxy for growth rate of capital stock. So the gross fixed capital formation is a share of GDP (gross domestic product) to represent investment/GDP ratio.

3.1.4 Inflation (INF) Rate

Inflation is an increase in the level of prices. We used inflation as an independent variable. Inflation has also an effect on GDP of a country because when inflation occurs the prices of goods and services also rise that causes an increase in GDP. Inflation is a sustained increase in the general price level of goods and services in the economy over the period of time. When the price level rises each unit of currency buys fewer goods and services. Consequently we can say that inflation reflects a reduction in purchasing power per unit of money. Inflation affects the economy in various ways both positive and negative. Negative effects of inflation include an increase in the opportunity cost of holding money and positive effects include ensuring that the central bank can adjust the real investment rate and encouraging investment in non-monetary capital projects. In this study we will examine whether inflation has a positive or negative effect on GDP during the period of 1990-2012.

3.1.5 Growth rate of real GDP per capita

Real GDP per capita is the measurement of total output of a country divided by total population. Real GDP per capita has three important concepts. First is the GDP that is the measurement of everything that a country produces in a year. Second concept is real GDP that removes the effect of price change. Real GDP is more accurate measurement of the actual output of a country because it measures the impact of inflation. Third concept is the per capita that means per person. Per capita allows us to compare economic indicators for countries with very different population size. As GDP cannot be interpreted normally so we converted GDP per capita, taking its log and then taking differences we turn it as growth rate of GDP per capita.

3.1.6 Econometric Model

We developed an econometric model and use Ordinary Least Square OLS method. After applying OLS If the strength of model is not good then we will use other estimation techniques like auto-regressive and moving average test to get good strength in the model. In our study we use following regression equation:-

$$GGDPc = \beta_0 + (\text{INV/GDP}) \text{it} + \beta_2 (\text{AID/GDP}) \text{it} + \beta_3 (\text{AID/GDP})^2 \text{it} + \beta_4 \ln(\text{GDP}) \text{it} + \beta_5 (\text{INF}) + U$$

Where

GGDP = growth rate of real GDP (gross domestic product) per capita

INV = investment of country

AID = official development assistance received by country

GDP = initial level of DGP (gross domestic product) of country

INV/GDP = growth rate of capital stock

INF = Inflation rate of country in year

U = Error term

3.1.7 Transformation of data

We collected data of different variables like GDP (gross domestic product), aid, investment (gross fixed capital formation) and inflation rate. We transformed our data because some data of variables cannot be interpreted normally. As we know that normally GDP in totality cannot be interpreted so we divided it into GDP per capita then we took its log and taking the difference we got GDP growth rate. The data of investment was not available so we took INV/GDP that represents gross fixed capital formation.

4. Empirical Analysis

4.1 Correlation

The measure of degree to which any two variables vary together is called correlation and these two variables are said to be correlated if they tend to simultaneously vary in the same direction. Two variables are said to be direct or positive if these variables tend to increase or decrease together and two variables are said to be negative or inverse when one variable tend to increase while other variable decreases. Through correlation we measure the strength of relationship between two or more than two variables. Correlation among different variables is shown in

Table 1. Table. 1: Correlation

	AID/G DP	(AID/G DP) ²	GGDPc	INF	INV/GDP
--	----------	-------------------------	-------	-----	---------

AID/GDP	1	0.9651	-0.0629	0.2068	-0.2883
(AID/GDP) ²	0.9651	1	-0.1964	0.1581	-0.2649
GGDPc	-0.0629	-0.1964	1	-0.0211	0.2146
INF	0.2068	0.1581	-0.0211	1	-0.3002
INV/GDP	-0.2883	-0.2649	0.2146	-0.3002	1

Table 1 shows that investment over GDP (capital stock) is positively correlated with GGDPc (growth rate of real GDP per capita). If there is 1 unit change in growth rate of capital stock (INV/GDP) it will cause increase in 0.2146 units in GDP. This Table also shows that inflation is negatively correlated with GGDPc, if there is 1 unit change in inflation rate there will cause 0.0211 units decrease in GDP. It is cleared from data that aid and square of aid have negative relationship with GDP. If there is 1 unit change in aid then there will be 0.0629 units decrease in GGDPc (growth rate of real GDP per capita). Negative correlation between square of aid over GDP and growth rate of real GDP per capita shows that 1 unit change in square of aid results 0.1964 units' decrease in growth in GDP per capita. From above discussion we can conclude that instead of capital stock all other variables are negatively correlated with GGDPc (growth rate of real GDP per capita).

4.2 Descriptive statistics

Normally we can apply descriptive statistics on a single variable at a time. Descriptive statistics tells the researcher about the data and central tendency of the variable. It helps the researcher of the meaning of average score of participation on given study measure. From descriptive statistics we cannot draw conclusion about the given data but it helps the researcher the frequency with which certain responses or scores arises on a given measure of study. So we can say that descriptive statistics tells us the nature of data but we cannot draw the conclusion about the given data. Descriptive statistics with results are given in Table 2.

Table 2 Descriptive Statistics

	AID/G DP	(AID/GDP) ²	GGD Pc	INF	INV/G DP
Mean	0.0555	0.0044	0.008	9.0369	16.2466
Median	0.0448	0.002	0.008	7.8443	19.9608
Maximum	0.1539	0.0237	0.0278	26.663	19.2354
Minimum	0.0116	0.00014	-0.0098	3.1483	11.4351
Std. Dev	0.0374	0.0057	0.0087	5.5153	1.8593
Skewness	0.9948	1.8597	-0.0553	1.6735	-0.9433
Kurtosis	3.175	5.8002	2.8252	5.6251	3.3172
Jarque-	5.4854	29.8032	0.058	24.877	5.0329

Bera			8	9	
Probability	0.0644	0.00000	0.9710	0.00004	0.0807
Observations	33	33	33	33	33

As we have discussed earlier that descriptive statistics do not give us solution but it also tells the nature of the data. Kurtosis also helps us to understand the nature of the data. From the table 2 the value of probability shows that independent variables such as inflation rate, investment and aid will give us significant results.

4.3 Regression Analysis

In regression analysis we draw null and alternative hypothesis and apply F-statistics to accept or reject null hypothesis. So $H_0 =$ foreign aid has positive impact on economy of Pakistan.

$H_1 =$ foreign aid has not positive impact on the economy of Pakistan.

By applying Ordinary least square (OLS) method we will calculate the value of f-statistics. If the value of f-statistics increases 0.1 then we accept our null hypotheses and our results will be insignificant and we will conclude that foreign aid has positive impact on the economy of Pakistan. But if F-statistics value is less than 0.1 then we will reject our null hypotheses and accept alternative hypotheses (H_1) and we will conclude that foreign aid has not positive impact on the economy of Pakistan. If F-statistics is less than 0.1 then our results will be significant. The time series (secondary) annual data is taken from the time period 1980-2012 from different sources such as World Bank, world development indicator data base etc. After collecting the data ordinary least square (OLS) method is used for estimating model. The major results that obtained through OLS method are given in the Table 3.

Table 3 Regression Results

Variables	Coefficients	Std. Error	t-statistics	probability
C	-0.0048	0.1253	-0.038	0.9699
AID/GDP	0.4303	0.2683	1.6037	0.1204
(AID/GDP) ²	-2.9775	1.2826	-2.3215	0.0280
INV/GDP	0.0011	0.0009	1.3248	0.1963
INF	-6.540	0.0003	-0.2436	0.8094
LNGDP	-0.0059	0.0453	-0.1304	0.8972

R-square=0.328

Durbin-Watson =2.1725

F-statistics =0.0457

Coefficient of determination (R-square) shows the strength of model means coefficient of determination tells the goodness of model. The value of coefficient of determination (R-Square =0.3281) is too less and strength of model can be improved by applying auto regressive and moving average test. We can say that the model is not good. It is cleared from above results that the value of Durbin-Watson is greater than 2 that show there is no autocorrelation in our Model. The value of F-statistics (F-State =0.0457) shows our results are significant. From these results we can improve our model by removing the problem of non-stationary if any variable contains and after that we will regress it again. After adjusting endpoints and applying auto-regressive (AR) and moving average (MA) test strength of model can be improved. The adjusted data has been shown in Table 4

Table 4 After Adjusting Endpoints Convergence Achieved After 20 Iterations

Variable	Coefficient	Std. Error	t-statistics	probability
C	-0.0551	0.0725	-0.7593	0.4551
AID/GDP	0.541	0.1391	3.8881	0.0007
(AID/GDP) ²	-2.9853	0.5918	-5.0445	0.00
INV/GDP	0.0006	0.0003	2.1892	0.0385
INF	-0.0004	0.998	-3.5442	0.0017
LNGDP	0.015	0.0262	0.5753	0.5705
MA(1)	-0.9896	0.0007	-1470.39	0.00
AR(1)	-0.1456	0.1801	-0.8084	0.4268

R-square =0.7619

F-statistics =0.000004

Durbin-Watson =2.1023

The above results shows that the strength of our model has improved to 0.7619 when we adjusted endpoints and applied auto-regressive and moving average test. By doing so we also overcome the problem stationary in time series data. The value of F-statistics is 0.000004 that shows that our results are highly significant because the value of F-statistics is less than 0.1 so we will reject our null hypothesis and accept alternative hypothesis that states that foreign aid has no positive impact on Pakistan’s economic growth. After adjusting endpoints and applying auto-regressive and moving average test we got the value of the Durbin-Watson 2.1023 that shows there is no autocorrelation among variables. The significance (goodness of fit) of our model have improved by applying auto-regressive AR (1) and moving average MA (1).

5. CONCLUSION

From above discussion we can conclude that foreign aid effectiveness is most critical and unsettled issue at both empirical and theoretical levels. Most of the components of foreign aid are diverted from development expenditure to non-development expenditure and that are produced hardly any significant impact on economic growth. We collected the data over the time period 1980-2012 and estimated the model by using ordinary least square (OLS) method. The results shows that foreign aid is not influenced the economic growth in Pakistan both at aggregate and disaggregate level. Instead of foreign aid domestic investment is positively related with economic growth in Pakistan. As we know that foreign aid is not properly used for development purpose. Therefore we can say that Pakistan should work for increasing its domestic savings and investment rates. Our findings shows that foreign aid is not a blessing for Pakistan. Moreover, harsh conditional ties are attached with foreign aid that usrupt sovereignty of the borrowing nation. Corruption and lack of governance turn foreign aid into a curse. Our other variables like investment has positive and significant impact on Pakistan’s economic growth both at aggregate and disaggregate levels.

Our empirical Results confirm that domestic investment has made an important contribution in the economic growth of Pakistan. If we talk about the negative side of aid it seems a substituted for domestic savings that increased debt burden. As we know many debt indicators shows that the debt burden of Pakistan has increased over a period of time and the country may face debt servicing problem in future. In short, we domestic investment has positive and significant impact on the economic growth. So instead of foreign aid Pakistan should increase its domestic saving and investment.

7. Policy Implications

Foreign aid effectiveness policies are very important because aid can be positive impact on the growth if effective monetary, fiscal and trade policies are used. But aid has not positive impact due to presence of poor policy framework in Pakistan. So we should make good and implement those policies which prevent corruption, mis-utilization and mismanagement of foreign aid. It is necessary to check the proper monitoring of aid utilizing projects. Thus, it is imperative that proper policy initiative should be taken to use foreign aid for economic development so that the people of Pakistan should reap its benefits. We should also take appropriate steps to keep the inflation low and reduce budget and trade deficit so that the need for foreign aid can be reduced. Policy makers should keep in mind that stable and sustainable sources of external financing such as export, foreign direct investment (FDI) and portfolio investment stimulate economic growth. So these three sources of financing should be focused.

REFERENCES

[1].Ali: "Foreign capital flows and economic growth in Pakistan. An empirical analysis." *World applied sciences journal*, 1372-1390:29. (2), 2014.
 [2]. Anwar, M., and K. Michaelowa : "The Political Economy of US Aid to Pakistan." *Review of Development Economics*, 195–209: 10(2), 2006.
 [3]. Awan, A.G. and Abdul Jabbar. "The Determinants of Capital Inflow in Developing Countries with special reference to Pakistan" *Developing Country Studies*, 159-189: 4(12), 2014.
 [4].Awan, A.G. "Role of Economic Policies in Economic Growth: A Case Study of China's Economic Growth" *Global Journal of Arts, Humanities, and Social Sciences*,45-64: 2(8),2014.

[5]. Rostow: "The Stages of Economic Growth" Cambridge: Cambridge University Press. *American Economic Review*, 679-733: 56(1), 1960.
 [6]. Papanek, G. F "Aid, Foreign Private Investment, Savings and Growth." *Journal of Political Economy*, 120—130: 81 (1), 1973.
 [7]. Islam, A. (1992). "Foreign Aid and Economic Growth: An Econometric Study of Bangladesh". *Applied Economics*, 541-544: 24 (1), 1992.
 [8]. Roemer, M.: "Macroeconomics of Counterpart Funds." *World Development*, 795–807:17, 1989.
 [9].Thirlwall, A. P. "Growth and Development, With Special Reference to Developing. Countries." London: Macmillan Press.1999.
 [10].Awan, A.G. "Changing World Economic Scenario: Advanced versus Aging Economies" LAP Publishing Academy, (2014).
 [11].Awan, A.G: "Shifting Global Economic Paradigm" *Asian Business Review*, 35-40: 4(3), 2014.
 [12]. Levy, V: The Saving Gap and the Productivity of Foreign Aid to a Developing Economy: Egypt." *Journal of Developing Areas*, 21-43: 78, 1984.
 [13]. Singh: "State Intervention, Foreign Economic Aid, Savings and Growth in LDCs: Some Recent Evidence." *Kyklos*, 216-232:38, 1985.
 [14]. Hansen, H. and F. Tarp: "Aid Effectiveness Disputed." *Journal of International Development*, 375-398: 12, 2001.
 [15].Khan and Ayaz: "Foreign Aid Blessing or Curse: Evidence from Pakistan." *The Pakistan Development Review*, 2015-240: 46(3),2007.
 [16].Randhawa: "Foreign Aid in Economic Development. International", *Journal of Computing & Business Research*. ISSN (Online): 2229-6166, 2012
 [17]. Sidra Fatima: "Comparative analysis of foreign capital inflows and domestic resources in the economic growth of Pakistan." *Journal of agriculture and social sciences*, 34-36: 8(1) 2012.
 [18]. Rais, Tanzeela: "Public debt and economic growth in Pakistan." *Academic research international*, 2, (1), 2012.
 19. Awan, A.G. "The Enigma of US Productivity Slowdown" *Journal of Economics and Sustainable Development*, 116-126: 5(13), 2014.
 20. Awan, A.G. "Diverging Trends of Human Capital" *International Journal of Asian Social Sciences*, 2195-2219: 2(12), 2012.