Impact of Foreign Aid on the Economic Growth of the Recipient Country: A Case Study of Pakistan

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Abstract

Developing countries often experience many economic complications such as sluggish growth in GDP, lower per capita GDP, poor balance of trade and lack of investment in the economy. Many developing and under-developed countries including Pakistan hence require funds in the form of Aid, Grant or Loans from developed nations, international financial institutions and consortiums. This paper investigates the effectiveness of foreign aid on economic growth of Pakistan approaching different economic indicators. It has been analyzed that foreign aid impacts economic performance of Pakistan through various channels of Investment and Government expenditures in short and long run while aid has a long run relationship with trade openness in Pakistan.

Keywords: Foreign Aid, Economic Growth

1. Introduction

Developing countries often experience many economic complications such as sluggish growth in GDP, high inflation, poor balance of trade and lack of investment in the economy. To get rid of these economic issues a vast amount of financial impetus is required to get the economy out of the slump. But these countries face a major obstacle when it comes to the availability of funds and the necessary capital to push-start the economy. Many developing and under-developed countries hence require funds in the form of Aid, Grant or Loans from developed nations, international financial institutions and consortiums. These resources are then used to build the economic institutions and infrastructure necessary for the developmental process.

Foreign Aid can thus be considered as a relocation of resources from a developed economy to a certain developing nation. Foreign Aid can either be bilateral; where there is one donor or multilateral; which include many nations. Often Aid programs are carried out via consortiums of various nations or financial institutions which get together to provide the developing nations with required financial help. Aid can be provided for various sectors of the economy, as it can be for the developmental purposes, or for balance of payment. Aid is also provided for military purposes when a developing nation is allied with a developed nation in a certain military expedition or a war. These economic assistance programs are considered vital to support and sustain the economic growth in the receiving country. Moreover, they have been venerated as a source of alleviation of poverty and a source of improvement in the economic performance of the receiving country. Hence many researches have been conducted in this regard to test this theory, results of which have more or less been mixed and somewhat conflicting. Most studies have concluded that Aid either has a negative impact on the economy of the receiving nation or the effect is negligible (Boone 1996). While some have concluded that it has a positive impact, however this beneficial effect is subject to some given conditions in the receiving country (Burnside and Dollar 2000). This conflict in theory and trial is a strange but interesting phenomenon which requires a deeper scrutiny to understand it better. As the results of economic assistance programs vary from country to country, it is vital to develop a sense of understanding regarding the effects of Aid on various economic indicators and their role in determining the success or failure of the Aid program.

Pakistan being a developing country has been subject to many Aid programs, both bilateral and multilateral for supporting its economy. But it remains to be seen whether or not these Aid programs have been effective in bringing about the needed improvements in its economy. Therefore we have carefully chosen this topic for our research to determine the effect of various assistance programs on the economic performance of Pakistan. We have analyzed its impact on various economic indicators such as: GDP per capita, Trade openness, Investment and Government Expenditures. The study is significant in terms that it focuses more on the macroeconomic indicators rather than oft-used variables of socio-economic development which represent the standard of living but not the overall economic performance of the recipient country. The objectives to be

achieved by this study aims at observing the effect of foreign aid on economic performance of Pakistan and analyzing the impact of foreign aid on key indicators of its economy.

2.Literature Review

Since long, economic aid programs have been considered as an essential tool to support the countries lagging behind in the course of development. Accordingly it has become a significant focus for research among economists. There has been an immense amount of inquiry and research work conducted regarding the role of foreign aid in the economic performance of the recipient countries. But most of the studies that have been conducted on this subject present contradictory results. Although some studies do strengthen the contemporary view by suggesting that the economic assistance programs are more or less beneficial for the recipient country, nevertheless majority of literature presents an opposite view and suggests that these aid programs are detrimental for the developing countries receiving the aid. Some of the research papers and articles that we came across during the course of our study regarding this subject are cited below.

De (2013) have developed a model for the distribution of foreign aid on a sub-national level. The article is based on the data pertaining to the living standards in Malawi. The study concludes that water aid and health aid have a considerably positive impact in improving the living standards, while education aid seems to have a slightly positive effect on the living standards. The results of the study indicate that the foreign aid that comes into various sectors of economy plays a vital role in the betterment of living standards and also helps in poverty alleviation.

Driffield and Jones (2013) have studied the effect of remittances, ODA and FDI on the economic development in the recipient nations. Moreover, they have also analyzed the role of institutions in economic growth and their interaction with other facets of economic development. They make an opinion that all kinds of foreign investments coming into the national economy tend to have a beneficial impact on the economy. Juselius, Møller et al. (2013) analyzed the impact of foreign aid on various economic indicators of thirty six countries from Africa. Data of major macroeconomic indicators from last five decades was examined. They concluded that in the long run, foreign aid has positive impact on the economy and it does not damage the economic performance of the recipient country.

Kumar (2013) has developed a model to examine two different policies. He argues that capital transfers have much larger effect on the capital outlay compared to the budgetary transfers of the country receiving the aid. This renders the financial reserves as a more appropriate option compared to capital investment. Nowak-Lehmann, Martínez-Zarzoso et al. (2013) examined the impact of ODA on the exports of the country receiving the aid. He studied the data of 123 countries and came to the conclusion that due to ride in the exchange rate, the effect of aid on the exports of the recipient country tends to be detrimental. He also suggests that the net effect of ODA on the country receiving the aid is not significant. His results are consistent with the earlier studies conducted on the topic.

Huang and Quibria (2013) studied the contribution of economic assistance programs in sustainable economic development in countries receiving the aid. They suggest that sustainable growth is expected to follow a certain "channel". They have named three channels which can lead such a process of sustainable development, namely: growth channel, technology channel and a channel of natural resource.

Layton and Nielson (2009) have studied the effects of economic assistance programs on the distribution of income in countries receiving the aid. They have postulated that aid, instead of improving the standard of living in the poor countries, essentially intensifies the income disparity. While, Djankov, Garcia-Montalvo et al. (2006) have studied the impact of economic assistance programs in various developing countries. They conclude that foreign aid does not help in democratization process of the recipient country and also suggest that aid raises the consumption of government.

Mavrotas (2005) studied the various attributes of aid and the effect they have on the financial sector of the developing countries who receive aid. He accomplishes his research that different forms and types of assistance programs effect different sectors of the economy. He found that the food assistance provided to Uganda along with the project aid has a negative impact on its economy as it shrinks government consumption as well as the investments included in public capital budgets. While the technical aid has the opposite effect i.e. it increases the government consumption and the investments included in public capital budgets. Shah, Ahmad et al. (2005) have studied the theoretical facets of aid. They have suggested that to attain the optimum utilization from economic assistance programs, aid should provide "maximum benefit in the current time period and create minimum liabilities for the future". They also emphasize the presence of a trickle-down effect in the socio-economic system of the developing country receiving the aid for the maximum utilization of economic assistance programs.

Kosack (2003) studied the effect of aid in the background of political systems and governing hierarchy of various recipient countries. He concluded that if the country receiving the aid is democratic, the chances of aid being effective are much higher whereas in an autocratic system of governance aid may not be helpful, in fact it

may even prove to detrimental in some cases. Guillaumont and Chauvet (2001) studied the impact of aid with respect to various environmental aspects prevalent in the country. They claim that the impact of aid would be much greater if the economic situation of the country is poor; hence it is prudent to provide aid to countries which are lagging behind economically. Burnside and Dollar (2000) have discussed the role of foreign aid in the perspective of policies related to trade, surplus in fiscal budget and inflation. Their findings suggest that foreign aid can a have beneficial impact on the economic growth of the recipient country given that it has a good set of trade, monetary and fiscal policies in place. In the absence of proper policies economic assistance programs will fail to support the economic growth in the developing countries. Their research also shows that economic assistance programs have no influence on determining these policies.

3.Data And Methodology

The main purpose of conducting this study is to check an empirical relationship between the foreign aid and economic performance of Pakistan. This study comprises of time series data of four decades ranging from 1971-2010. To estimate the required functions, multivariate analysis is conducted. For the purpose of estimation it is deemed necessary that the data available must be stationary. As a result, parameters like the variance and mean of the data also remain unchanged over time. If the data available is non-stationary then it is vital to convert it into stationary data. Hence our aim is to attain such a time series which is devoid of any variance and trend. This property of Stationarity is checked by Augmented Dickey Fuller Test (Dickey, Bell et al. 1986). It has been checked that some variables are stationary at level I (0) and others are stationary at order of integration I (1). Natural logs of the entire data set were taken in order to make them stationary at the same order of integration, It gives us the order of integration I(1) for all the variables which further allows us to analyze the long-run relationship between the various variables under scrutiny using Johansen Cointegration test (de Boef and Granato 1999)**. , it dictates the existence of long run equilibrium association between the two variables. Cointegration test was first introduced by (Engle and Granger 1987) and then it was modified by (Johansen 2000)**. The methodology used in this study is Johansen cointegration approach which permits for more than a single linear cointegrating relationship in the long run. The short run relation between both variables is analyzed in all models. The methodology employed is Error Correction Mechanism. It was first used by J.D Sargan in his paper "Wages and Prices in the United Kingdom, A study in Econometric Methodology" (Sargan 1964).

The variables used in this study include Gross domestic product, Foreign Aid, Investment, Government expenditures, Total Trade, Per capita Gdp, Gross domestic savings, and Exchange rate. The data set for all these variables has been taken from world development indicators of World Bank. All these variables have been put in different forms to estimate the impact of foreign aid on economic indicators of Pakistan. "Gross domestic product has been taken as a proxy for economic performance of Pakistan (Goossens 2009). Foreign aid refers to total official aid given to Pakistan. Trade openness is taken as the sum of imports and exports of Pakistan as a ratio of GDP; literature shows its positive impact on economic growth (Naveed and Shabbir 2006). Investment (Heim 2008) and government expenditure (Attaria and Javed 2013) both play a positive role in economic growth as narrated by previous literature.

The functional forms that have been analyzed in this study are given as following:

GDP= f (AID, INVESTMENT, GOVT EXPENDITURE, TOTAL TRADE) --------------------- (i)

INVESTMENT=f (AID, GDP, GROSS DOMESTIC SAVINGS) -------------------------------- (ii)

GOVT EXPENDITURE= f (AID, GDP) -- *(iii)*

TOTAL TRADE= f (AID, PER CAPITA GDP, EXCHANGE RATE) --------------------------- (iv)

4.Empirical Results

We estimated all above models to examine the effects of foreign aid on economic performance of Pakistan using time series data for the period 1970-2010. Our results are in line with (Juselius, Møller et al. 2013) who have proved that foreign aid has positive impact on the economy and it does not damage the economic performance of the recipient country. Johansen cointegration estimates of all above models are given by order:

Table 6: Johansen Cointegration Test Model 1

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.651971	105.1829	88.80380	0.0020
At most 1 *	0.559441	67.18606	63.87610	0.0257
At most 2	0.465692	37.67648	42.91525	0.1515
At most 3	0.250957	15.11230	25.87211	0.5652
At most 4	0.122630	4.709757	12.51798	0.6384

 * denotes rejection of the hypothesis at the 0.05 level

The test shows that there exist two cointegrating equations and the hypothesis (at most 2 are present) is

not rejected because the trace statistic value is less than the critical value at 5%, so there exists a long run relationship in model 1.

Table 7: Error Correction Mechanism Model 1

Error Correction:	EC(-1)	D(ODAAID)	D(GOVT CONSUMP)	D(TOTAL TRADE)	D(INVESTMENT)
CointEq1	-0.010908	0.111694	-0.068449	0.002146	-0.017399
	(0.00392)	(0.06048)	(0.01408)	(0.02009)	(0.01687)
	[-2.78014]	[1.84666]	[-4.86064]	[0.10683]	[-1.03109]

The above mentioned table shows that the coefficient of Error correction term is negative and less than 1 hence it is statistically significant but as the value of coefficient is very low so it shows a slow speed of adjustment towards equilibrium when there occurs disequilibrium in the economy. In addition to this trade openness show an insignificant relationship with GDP in short run and Government consumption and investment are convergent towards equilibrium. The effect of Foreign Aid on GDP in short run as shown by ECM is insignificant and it is divergent towards equilibrium in short run.

To carry out the analysis of our second model, which hypothesizes that there prevails a relationship between foreign aid and investment that indirectly affects economic growth in long run and short run, we conduct Johansen cointegration test because the order of integration is same in the whole series. Following are the results of Johansen cointegration for Model 2.

Table 8: Johansen Cointegration Test Model 2

Hypothesized No. of CE(s)	Eigenvalue	Trace Statisitic	0.05 Critical Value	Prob.**
None *	0.671346	113.1215	88.80380	0.0003
At most 1 *	0.629332	71.94979	63.87610	0.0090
At most 2	0.403256	35.22916	42.91525	0.2357
At most 3	0.261919	16.12728	25.87211	0.4824
At most 4	0.123808	4.890297	12.51798	0.6122

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

Now in next step we check the short run impact of aid on investment through error correction model. Application of Error Correction Model for Model 2 gives the following results:

Table 9: Error Correction Mechanism Model 2

Error Correction:	EC(-1)	D(GDS)	D(GDP)	D(EXCHANGERATE)	D(ODAAID)
CointEq1	-0.023398	-0.167843	-0.004277	-0.048430	-0.489718
	(0.03548)	(0.07774)	(0.00798)	(0.01872)	(0.10182)
	[-0.65954]	[-2.15916]	[-0.53594]	[-2.58774]	[-4.80962]

Above given table highlights the fact that error correction term is significant in the model and it corrects the error of previous periods at a lower speed of adjustment as the value of coefficient is negative and is 0.023. It tells us that 2.3% of error is corrected in each period after disequilibrium but our primary motive which was to check the short run relationship between Foreign Aid and investment yields a fact that official aid is affecting the investments in short run. Along with that gross domestic savings, GDP and exchange rates are convergent towards equilibrium. Our null hypothesis that foreign aid has a positive relationship with investment has been accepted here, which determines the positive effect of foreign aid on GDP through investment.

Same analysis has been done for the next model which yields a significant relationship between foreign aid and government expenditures. Running Johansen approach on data we are faced with following results:

Table 10: Johansen Cointegration Test Model 3

Hypothesized No. of CE(s)	Eigenvalue	Trace Statisitic	0.05 Critical Value	Prob.**
None *	0.487737	32.13710	29.79707	0.0264
At most 1	0.118274	7.387166	15.49471	0.5331
At most 2	0.071123	2.729823	3.841466	0.0985

Trace test indicates 1 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

The results of the Johansen cointegration test give us the evidence of one cointegrating equation involving a long run relation in the model that shows the existence of long run relationship in model.

Furthermore Error Correction Model has been put to examine the short run relation between aid and government

expenditures and it turns out to be was significant in the light of aforementioned results.

Table 11: Error Correction Mechanism Model 3

Error Correction:	EC(-1)	D(GDP)	D(ODAAID)
CointEq1	-0.066901	0.013247	-0.372260
	(0.02894)	(0.00735)	(0.11380)
	[-2.31139]	[1.80284]	[-3.27120]

ECM narrates the presence of a short run relationship between foreign aid and Government expenditures and error correction adjustment process in Model 4 because of the negativity of coefficient signs which also make them statistically significant. It also shows that the speed of adjustment after disequilibrium is around 6.6%. Apparently, result of Model 3 confirms the acceptance of our null hypothesis that states the positive relation of government expenditures and foreign aid.

In continuation of previous testing, we subject our last model of trade openness to analysis. Trade openness is considered as a significant tool to expand the economic activities of a country and as explained in the previous chapter, it can lead to increase in the national earnings and economic expansion.

In this model we have attempted to find out the impact of foreign aid on trade openness. To get a better estimation, a series of other indicators has also been employed.

Using Johansen cointegration to check the long run relation between the models, we get the following test results:

Table 12: Johansen Cointegration Test Model 4

Hypothesized No. of CE(s)	Eigenvalue	Trace Statisitic	0.05 Critical Value	Prob.**
None *	0.593417	84.64876	63.87610	0.0004
At most 1 *	0.549460	51.34995	42.91525	0.0058
At most 2	0.362218	21.84950	25.87211	0.1461
At most 3	0.131309	5.208419	12.51798	0.5667

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

Interpreting the p value we conclude that trace test indicates presence of two cointegrating equation among the model. Vector error correction estimates are compiled by the Error correction Mechanism. Application of Error Correction Model for Model 4 gives the following results:

Table 13: Error Correction Mechanism Model 4

Error Correction:	EC(-1)	D(ODAAID)	D(GDPPERCAPITA)	D(EXCHANGE RATE)
CointEq1	-0.094103	0.465090	-0.001018	0.038994
	(0.03502)	(0.11643)	(0.00782)	(0.02079)
	[-2.68690]	[3.99452]	[-0.13011]	[1.87575]

It shows that the variable returns to equilibrium at a slower speed of adjustment rather its value is less than one and is carrying negative sign but its coefficient is a bit low. Secondly it has been observed that trade openness carries no effect of foreign aid because it is divergent in this model, it has been estimated by ECM.

In case of trade openness, our hypothesis has not been accepted because results are insignificant and there prevail no substantial relationship among both variables in short run.

5. Conclusion

In order to look over the crux of entire analysis in a precise manner, it is clinched from this study that Foreign aid does have a positive impact on the Economic Performance of Pakistan. It has been assessed that Foreign Aid affects Investment, Government expenditures and trade openness in the long run which in turn pass this effect either through multiplier or by any indirect channel. While estimating the short run relationships, it has been observed that Foreign Aid influences Investments and Government expenditures significantly in the short and long run. Both of these variables boost economic growth through multiplier effect, provided that the other economic variables support the economic stability. On the other hand, Trade openness passes a little effect of Foreign Aid in the long run.

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