Foreign Aid, a Blessing in Disguise.
Evidence from Selected South Asian Economies

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Abstract:

   This study is an attempt to analyze the consequences of official development assistance on the economic growth of five south Asian economies namely Bangladesh, India, Nepal, Pakistan and Sri Lanka. A panel data covering the time period from 1996 to 2011 has been used in this study. Explained variable used is Gross domestic product and explanatory variables are: Net official development assistance and official aid received , Gross fixed capital formation, total labor force and rule of law.The results of hausman test reveals that panel fixed effect estimator is a better measure than random effect estimator and the results of panel fixed effect estimator reveals that there is nonlinear U shape relationship between net official development assistance and economic growth in the sample of countries being selected .

Key words: panel data, official development assistance, Hausman

test, fixed effect, random effect.

Introduction

After the end of the Second World War many countries especially underdeveloped countries highly appreciated the external assistance to boost investment and output growth. Domestic savings, government revenues and foreign direct investment are considered primary means for financing development. Initially developing countries has to imports intermediate capital goods for rapid industrialization and these countries face foreign exchange shortages for imports. Therefore, they rely on external sources to finance their imports. In future their exports increases and they become able to forego their debt obligations. If aid is used effectively and in accompanied with complementary reforms, it can in fact leverage the development of a country. Moreover, sustainability of growth will be achieved if aid projects are focused on creating and transmitting knowledge and capacity. In earlier periods, many developing countries remained successful in achieving their targets as they observed high level of growth by getting high level of external assistance. However, in the last two decades empirical research did not find a robust positive impact of foreign aid on economic development. This observation leads to some natural questions as why did even substantial aid flows frequently fail to push recipient countries on a steeper growth path and did not generate the desired results. Answering such questions will be crucial to the success of future aid efforts, as without a better knowledge of why aid did not work in the past, ambitious development targets such as the Millennium Development Goals (MDG) cannot be reached. South Asian countries like many other developing countries of the world also received a high level of foreign aid to strength their growth performance. Since these economies remained a capital deficient, therefore, they have been relying on external assistance to finance their saving-investment and balance of

payment gaps. Low level of saving in developing countries forced to look for foreign aid to undertake development programs. Moreover, the need of foreign aid became important also due to transfer of technology, capacity building and import financing. The issue of foreign aid regarding economic growth is inconclusive and this study is an attempt to further investigate this issue for the following south Asian countries: Bangladesh, India, Nepal, Pakistan and Sri Lanka. the rest of study is organized in such a way that section one reveals the existing literature ,section two building of hypothesis, section three reveals the data and methodology and section four estimation and interpretation and section five conclusion.

1. Literature Review

Literature on foreign aid is divided into two parts; some studies covered the positive impact of aid on economic growth and it proved more effective in case of good economic policies. On the other hand, some studies covered negative impact of aid on economic growth and it proved more harmful in case of bad economic policies.

1.1.   Growth is positively related to FA

Papanek (1973) in a cross-country regression analysis of 34 countries in the 1950s and 51 countries in the1960s, treating foreign aid, foreign investment, other flows and domestic savings as explanatory variables, finds that foreign aid has a substantially greater effect on growth than the other variables. He explains that "aid, unlike domestic savings, can fill the foreign exchange gap as well as the savings gap.

Fayissa and El-Kaissy (1999), in a study of 77 countries over sub-periods 1971-1980, 1981-1990 and 1971-1990, show that foreign aid positively affects economic growth in developing countries.

Mallick (2004) - The study found that both hypothesis

were not rejected and concluded that US-F.AID has positive correlation with GDP growth and more US-FAID will promote GDP and also found that US-foreign aid have significant impact on Pakistan's real GDP growth. This study is the example of bilateral aid i.e. ,resource flow from US government to Pakistan government and also suggested that this study can be extended for the period of 1947 to 2003 and more socio economic and monetary variables will be included to reduce stochastic error term.

Mohey-ud-Din (2005) analyzed the impact of foreign aid on GDP growth rate in Pakistan for period of 1960-2002.The study used quadratic regression model and used GDP as a dependent variable and ODA as an explanatory variable. The study found positive effect of aid on GDP in Pakistan but also showed with the increase in GDP the inflow of ODA also increases but at a decreasing rate.

Mohey-ud-Din (2006) observed the impact of foreign capital inflow (FCI) on GDP growth in Pakistan during 1975-04. The study examined that FCI have positive impact on GDP growth in Pakistan. It means that GDP increases as the of FCI (ODA + FDI) increases. So the overall impact of the aid on the economic development was positive.

1.2. Aid has effect on growth, only under some circumstances (conditional aid)

In this regard the work of David Dollar and Craig Burnside's work is appreciable. In year 2000 they analyze panel growth regressions for 56developing countries and six four-year periods (1970-93) and checked the effectiveness of aid on growth. they got robust result by trying a variety of specification that include or exclude middle income countries, outliers and treat policies as exogenous or endogenous. They in the end concluded that Aid has a positive impact on growth in developing countries with good fiscal, monetary, and trade policy

1.3.   Political Economy perspective of foreign aid

Anwar and Michaelowa (2006) gave alternative political economic explanation of giving aid by the donor country like US on the ground to strength of lobbies of any country in determining the allocation of aid to a recipient country like Pakistan instead of giving aid on economic and development grounds. The study considers Pakistan as well as Indian lobbies. For this purpose, two different hypotheses were tested: firstly, time series regressions of aid resources allotted to Pakistan for the period of 1980-02 and secondly logistic regressions represented outcome of votes for US congressional two amendments (the Pressler amendment in 1985 and the Brown amendment) on US aid to Pakistan. The study concluded that time series regressions and logistic regressions based on votes for the Pressler and the Brown Amendment confirms the significance of the political economic determinants. In case of the Pressler Amendment, the direct influence of population groups of Indian and Pakistan origins seem to have played a prominent role. In case of the Brown Amendment the role of the Ethnic Business Lobbies appears to have dominant effect. Furthermore time series analysis showed small impact of US business interests based on FDI and exports.

Anwar Mumtaz (2006) analyzes the determinants of multilateral aid from international financial institutions (IFIs) to Pakistan, focusing on the world three major IFIs, the World Bank, the IMF and the ADB Relevant political economic factor could be bureaucratic interests and major shareholders economic interests. Internal career structures and future prospects of obtaining better positions in their home countries governments provide an incentive to the bureaucrats working at multilateral financial institutions to disburse money to their home countries. major shareholder countries' economic and political interests and the respective countries' voting power at IFIs, are also considered as the major determinants of lending

to the developing countries IFIs provide both financial support and policy advice to Pakistan Stone (2004) notes that neither of the IMF's lending decisions had anything to do with Pakistan's domestic economic management, which continued to be poor. Barro and Lee (2002), observed Pakistan was among the five developing countries which had the highest number of professional staff at the IMF in 1999Pakistan joined World Bank in July 1950 and Pakistan is among the top ten recipients of World Bank lending The Asian Development Bank has been the second largest source of multilateral financing to Pakistan

1.4. Negative impact of aid on growth

Aid has no effect on growth or may even undermine it (Peter Bauer (1972) and Bill Easterly (2006) also supported this argument.

Knack (2000), in a cross-country analysis, indicates that higher aid levels erode the quality of governance indices, i.e. bureaucracy, corruption and the rule of law. He argues that "aid dependence can potentially undermine institutional quality, encouraging rent seeking and corruption

Svensson (1998) analyzed Large aid inflows do not necessarily result in general welfare gains and high expectation of aid may increase rent-seeking and reduce the expected public goods quality. Moreover, there is no evidence that donors take corruption into account seriously while providing aid

Khan and Ahmed (2007) tried to investigate if foreign aid is a blessing or a curse for Pakistan. The study analyzed the aid-growth relation at aggregate and dis-aggregate level and used auto regressive distributed lag (ARDL) co-integration technique for the period of 1972 to 2006. The study found negative and insignificant effect of foreign aid on growth at the aggregate level as well as dis-aggregate level. Hence foreign aid is not blessing but it is a curse for Pakistan.

With this mix literature, our emphasis is to investigate impact of foreign aid on GDP growth on south Asian economies.

1.5. The edge of positive growth or zero growth due to FA; reasons of contradiction?

1.5.1. The type of aid matters

New research has taken a different tack by exploring the idea that not all aid is alike in its impact on growth. Researcher are now observing both substance and timing in their empirical studies.In case of food and humanitarian aid and aid to build infrastructure, aid-growth effectiveness is different .Given the range of likely impacts of different kind of aid it is not surprising that some studies on aid and growth has shown a weak relationship.

1.5.2. The timing of aid matters

- Most cross-country growth research uses panel data, with each observation (usually) corresponding to four years, but then investigates aid flows that cannot possibly affect growth in that period.
- Aid to support education and health, for example, may stimulate growth, but the impact is likely to take decades.
- One option for researchers is to use a longer time period, but there is a trade-off: the longer the time period- the harder it is to isolate the impact of aid on growth from other influences. Only few studies have explored this idea

1.5.3. The method matters

How to ensure the basic model to be consistent with theory and evidence, for that we can see nonlinear verses linear relation and Control for a variety of other factors etc. How to test the results with a broad yet reasonable set of robustness checks

2. Hypothesis

On the basis of above discussion we may draw the hypothesis

that aid may have positive impact on economic growth.

3. Data and Methodology

 Data on rule of law is collected from worldwide governance indicators (WGI) and data on rest of the variables is collected from world development indicators (WDI) Following model is estimated by applying panel fixed effect estimator and random effect estimator and hausm.an test is applied to check whether fixed effect estimation is better or random effect estimation is more appropriate.

$$Y_{it} = \beta_0 + \beta_1 K_{it} + \beta_2 L_{it} + \beta_3 ODA_{it} + \beta_3 ODA^2_{it} + \beta_4 ROL_{it} + e_{it}$$

Where,
i = Cross section dimension of the variable.
t = Time series dimension of the variable.
Y_{it} = GDP (current us $) for i^{th} cross section in t th time period
K_{it} = Gross fixed capital formation (current us$) for i^{th} cross section in t th time period
 L_{it} = Labor force total for i^{th} cross section in t th time period
ODA_{it}= Net official development assistance and official aid received (current us $) for i^{th} cross section in t th time period
ROL^1 $_{it}$ = Rule of law for i^{th} cross section in t th time period.
 e_{it} = A random disturbance term.

ROL=Rule of law *Reflects perceptions of the extent to which agents have confidence in and abide by the rules of society, and in particular the quality of contract enforcement, property rights, the police, and the courts, as well as the likelihood of crime and violence.* Ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance (WGI 2012)

4. Estimation and interpretation of results

First of all the above model is estimated through both fixed effect estimator and random effect estimator and hausman

specification test is applied to check whether fixed effect or random effect is more appropriate measure of estimation and the result of hausman specification test is given as

	Coefficients			
	(b)	(B)	(b-B)	sqrt (diag (V_b-V_B))
	Fixed	random	Difference	S.E.
L	359.9057	425.8375	-65.93181	394.466
K	2.666201	2.650446	.0157545	.0785963
ROL	-3.46e+10	-5.32e+09	-2.93e+10	1.36e+10
ODA	-89.82588	-65.89668	-23.9292	8.147795
ODA^2	3.46e-08	3.05e-08	4.16e-09	1.40e-09

b = consistent under Ho and Ha; obtained from xtreg
B = inconsistent under Ha, efficient under Ho; obtained from xtreg

Test: Ho: difference in coefficients not systematic

$$Chi2 (1) = (b-B)'[(V\_b-V\_B)^{(-1)}] (b-B)$$
$$= 4.66$$
$$Prob>chi2 = 0.0308$$

As the results of Hausman test shows that the value of chi2 (4.66) is greater than probability (0.0308) and it is less than 5% level of significance so we can conclude that the fixed effect model estimation is more relevant but the results of both fixed effect model and random effect model are presented here:

Results of Fixed Effect Model

GDP	Coef.	Std. Err.	t	P>|t|
L	359.9057	396.7153	0.91	0.368
K	2.666201	.0928525	28.71	0.000***
ROL	-3.46e+10	1.54e+10	-2.24	0.029**
ODA	-89.82588	18.21303	-4.93	0.000***
ODA^2	3.46e-08	5.09e-09	6.80	0.000***
cons	4.48e+10	4.06e+10	1.10	0.275

R-sq: overall =0.9789   Prob > F = 0.0000
*** Significance at 1%, ** significance at 5%

The results panel fixed effect estimator shows that the coefficient of labor force bears a positive sign but this is statistically insignificant the might be due to the reason as the

sample countries are developing countries and their labor force is not as much productive to contribute significantly in economic growth, the coefficient of gross fixed capital formation (K) bears a positive sign and this is statistically highly significant which means that gross fixed capital formation is contributing significantly in economic growth of these countries, here surprisingly the relationship between rule of law and economic growth is found to be negative and statistically significant which needs further research. official development assistance and official aid shows U shape pattern as it is indicated by the signs of oda and oda^2 which means that at the initial level official development assistance and official aid hinders economic growth but later on it contribute in economic growth. Here one thing is worth mentioning that the coefficient of ODA is quite large in absolute terms while the coefficient of oda^2 is very small which means that negative effect is much stronger than that of positive effect.Intercept is found to be positive but statistically insignificant.

Results of random Effect Model

GDP	Coef.	Std. Err.	z	P>|z|
L	425.8375	42.18473	10.09	0.000***
K	2.650446	.0494389	53.61	0.000***
ROL	-5.32e+09	7.38e+09	-0.72	0.471
ODA	-65.89668	16.28889	-4.05	0.000***
ODA^2	3.05e-08	4.90e-09	6.22	0.000***
_cons	3.02e+10	8.76e+09	3.44	0.001***

R-sq overall= 0.9789   Prob > chi2 = 0.0000

***level of significance at 1%

Here are the results of panel random effect model although hausman test revealed that fixed effect model for estimation is more appropriate but we have presented the results of random effect model for comparison purposes here the main variable i.e official development assistance and official aid bears the same sign and statistically highly significant along with gross fixed capital formation. Total labor force also have same sign but now it is highly significant same is the case for intercept term, rule

of law has negative sign again but now it is statistically insignificant.

5. Conclusion

The results shows that the total labor force is statistically insignificant which means that their labor force is not as much productive to contribute significantly in economic growth, the gross fixed capital formation (K) bears a positive sign and this is statistically highly significant which means that gross fixed capital formation is contributing significantly in economic growth of these countries, the relationship between rule of law and economic growth is found to be negative and statistically significant which is quite surprising and needs further research. official development assistance and official aid shows U shape pattern as the signs of oda is negative and oda^2 is positive which means that at the initial level official development assistance and official aid hinders economic growth but later on it contribute in economic growth but in this regard one thing is worth mentioning that the coefficient of ODA is quite large in absolute terms while the coefficient of oda^2 is very small which means that negative effect is much stronger than that of positive effect. So authorities should carefully design the policies while dealing with foreign aid.

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