

INTERDEPENDENCE OF FOREIGN AID AND MACRO-ECONOMIC VARIABLES IN PAKISTAN

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ABSTRACT:

The study investigated the impact of foreign aid on macroeconomic variables by using time series data for the period 1988-2013 in Pakistan. Various time series properties were tested like Augmented Dickey-fuller test for stationary, Akaike information criterion test for lag length and Johansen co-integration test to check the long run relationship between variables and found three co-integrating vectors in the long run. Vector Error correction term showed a high speed of adjustment towards equilibrium in the short-run. The public expenditure and unemployment results were significant whereas the poverty variable found insignificant. Foreign aid may be helpful under the effective fiscal, monetary, and trade policies. Therefore, it is recommended that the government and donors should improve the co-ordination for better outcomes to their aid projects by concentrating on conditional aid.

INTRODUCTION:

Every developing country requires foreign aid because developing countries are dealing with many socio-economic challenges including poverty, unemployment, illiteracy, low per capita Income, trade deficit and deficit in BOP etc. These problems arise due to the scarcity of economic resources. In these countries the demand for investment cannot be met from

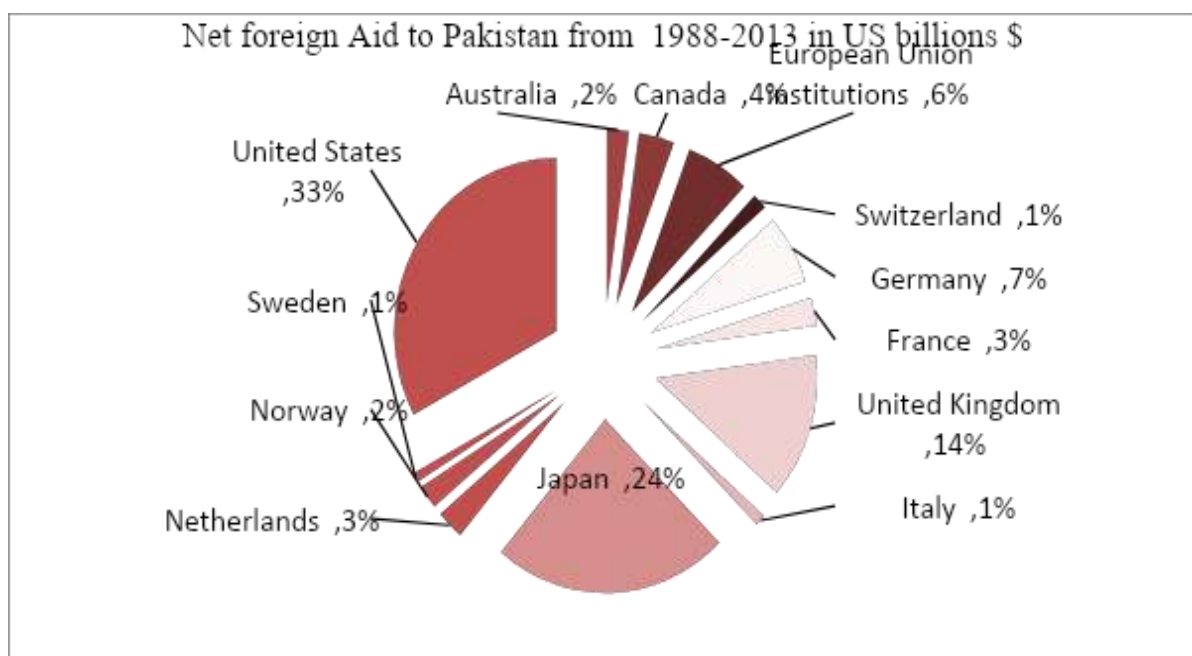
domestic savings and insufficient exports earning to finance imports, to meet their challenges they require sufficient amounts of foreign assistance.

Foreign aid can be defined as the transfer of public and private resources internationally, in the form of grants and loans from donors to recipient nations. The rationale for foreign aid for Pakistan has been justified on the following grounds. Pakistan is an agro-based country. It has many social economic challenges such as poverty, unemployment, income inequality, terrorism, law and order situation, corruption and inflation.

In previous history aid inflow to Pakistan has a strong link with political interest of donors. Pakistan aid inflow increased during the 1960s due to signing of mutual defense assistance agreements (MDAA) with the US. Aid inflow during the 1980s continued due to Afghan war. In 1990, Pakistan was cut off by the US and other donors, when the Afghan war ended. Pakistan's financial assistant was further cut off after the nuclear tests in May 1998. (Mohey-ud-din 2006). Most of the studies have found negative and insignificant relationships between foreign aid and economic growth (Ishfaq and Eatjaz, 2005; Khan and Ahmed, 2007; Khan, 1997, Khan and Rahim 1993, Javid and Qayyum 2011).

There are many international donors, but the following leading agencies are in the world, The IMF, ADB and World Bank. The main function of the IMF is to provide financial support to remove the deficit in external payments and receipts. Pakistan entered into different agreements with the IMF. It manages the exchange rate between members' nations and also imposed conditions on loans. The World Bank plays an important role in various sectors in Pakistan, a number of projects performed under the supervision of the World Bank in different areas in Pakistan, Especially education, healthcare, poverty and physical infrastructure.

Pakistan also received foreign aid for military assistance and economics from other nations such as China, Saudi Arabia, UK, and Gulf States.



Source: World Development Indicators by (World Bank)

Most of the foreign aid used to pay-off previous debts. In an estimation Pakistan from 1961 to 2009 returned 45 billion dollar 57% of total aid as the payment of debts to donors. Most of the donors-imposed conditions to fulfill their economic and strategic interests in the country.

In 2013 current-account gap increased more than its expected remittances and fall foreign-exchange reserve. That is why deficits increased and devalued currency. The amount of 25 million dollars is illegally taken abroad in every single day (State bank of Pakistan).

It is generally said that poverty reduction is the prime objective of foreign aid programs, the literature of foreign aid focused on evaluating the impact of aid on economic growth. There are two basic points. First, economic growth plays a key role in poverty reduction. Second, there is very limited data to measure poverty. The focus of the recent aid research is that aid is an effective source for economic growth and development, therefore poverty is reduced by association in recipient countries (Feeny, 2005).

Pakistan's economy has faced economic crises since independence. Despite receiving large amounts of foreign-aid from IMF and other international financial institutions like the World Bank and ADB, Pakistan still remains in the same position and even more aid dependent. The outcome of financial assistance to Pakistan is still under question; whether the aid received by Pakistan is beneficial or harmful, in the interest of the country. Why has aid not produced a self-sustainable economic development in Pakistan? Why has aid not maintained macroeconomic stability in the economy?

Terrorism means to employ violent behavior to fright citizens for political determination. Pakistan gave lot of lives in this fight of terrorism, army and also public. Today, bomb blast or suicide bombing is normal thing for the citizens of Pakistan. Many Pakistanis are dying these blasts but they are facing it by bravery. But the whole world is continuously pointing to us as a terrorist state. A huge amount is spent to overcome the terrorism in Pakistan.

Pakistan is one of the developing countries that are plagued with poverty, where more than 32 per population live below the poverty line. Poverty is indeed the most serious challenge, as it is the basic reason for hunger, disease, ill-health, extremism, crimes and other social malaises.

The study explores the impact of foreign aid on macroeconomic variables in Pakistan.

Every successive government in Pakistan depended on foreign aid to finance investment and sustainable economic growth. Pakistan dependence on foreign aid is due to low incomes, decreased saving ratios, resulting in low investment. At the same time, due to low income the tax-paying capacity falls, government earnings decreases. In such situations, the under-developing countries have to face deficit saving investment as well as BOP. There are many forms of foreign capital inflows to Pakistan, which include the grants, loans, FDI, export credit, project assistance, technical assistance and emergency relief etc.

Mehmood et al. (2015) explored that foreign assistance had a significant relationship with govt. spending and investment in short and long-run. Investment and govt. spending boosted economic-growth through multiplier effects if the others macro-economic variables were stable. Fatima (2014) estimated the foreign aid was not influenced at any level on economic-growth in Pakistan. Ali and Ahmad (2013) confirmed the negative impact of economic growth on income inequality whereas other variables concluded to increase inequality impacts. The result was statistically significant. Chheang et al. (2009) showed that the relationship between foreign aid and growth is not statistically significant. Ekanayake and Dasha (2008) analyzed the effects of foreign assistance on economic growth in developing countries. The result declared that foreign aid had a mixed impact on economic growth in developing nations. The researcher suggested further research is needed in this area. Chong et al. (2006) explored that foreign aid had not a significant impact on income in-equality and the reduction in poverty. Njeru (2003) estimated that aid freezing was negative and the aid effects on the government. Expenditures were strong in short-run. The overall outcome

revealed a positive and significant relationship between foreign aid and the government. Expenditure. Durbarry et al. (1999) showed that foreign aid had some positive and significant impact on growth, if the stable macroeconomic policy applied in the nations.

DATA AND METHODOLOGY:

This study evaluates the impact of foreign assistants on macro- economic variables in Pakistan by using time series data period from 1988 to 2013. The data is collected from different sources such as the World Bank, World Development Indicators, Ministry of Finance Pakistan and different Economic Survey of Pakistan. Data about poverty ratio collected from Pakistan Poverty Alleviation Fund and Pakistan Bureau of Statistics. The number of killed persons in terrorism gets from CIA Fact book and South Asia Terrorism Portal Pakistan Assessment 2015. Data about public expenditure, foreign aid and unemployment has been taken from World Development Indicators by the World Bank.

The following variables are used in this analysis.

Foreign Aid (FA), Poverty Ratio (PR), Terrorism (T), Unemployment rate (UR) and Public expenditure (PE)

$$FA_t = \alpha + \beta_1 PR_t + \beta_2 T_t + \beta_3 UR_t + \beta_4 PE_t + \mu_t$$

(FA_t) Foreign Aid in (US Billion \$) in period t,

(PR) Poverty Headcount Ratio % of total of population) ,

(T) Terrorism (numbers of killed persons)

(UR) Unemployment rate (% of total labor force, by ILO estimate),

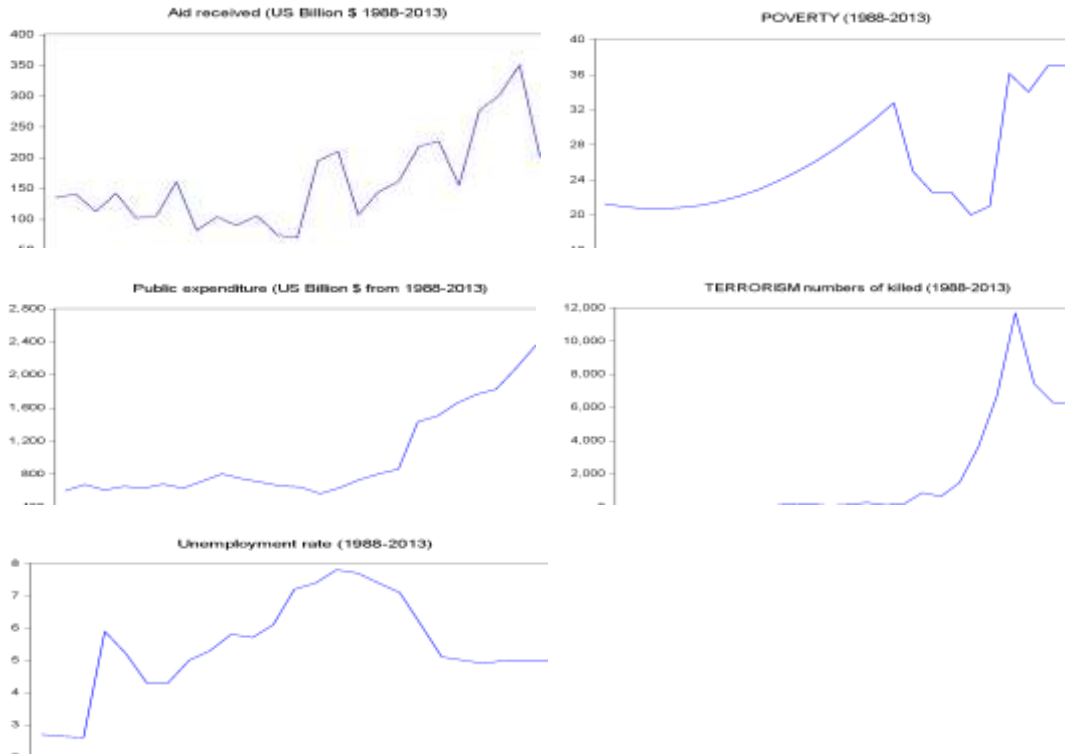
(PE) Public expenditure in (US Billion \$),

Time series data required is to check the stationary, if the data are non-stationary then there will be a problem in economic interpretation. In unit root an Augmented Dickey-fuller test (ADF) applies. For Estimation of the Multivariate co-integration, I require number of optimum lags to run Johansen Co-integration Tests for long-run equation. For optimum lags, VAR Lag Order Selection Criteria use.

In order to examine the short run, I estimated the Vector Error Correction Model (VECM) which shows the speed of adjustment towards equilibrium.

RESULTS AND DISCUSSIONS:

A result (also called upshot) is the final consequence of a sequence of actions or events expressed qualitatively or quantitatively. Possible results include advantage, disadvantage. There may be a range of possible outcomes associated with an event depending on the point of view, historical distance or relevance. Reaching no result can mean that actions are inefficient, meaningless or flawed. Today countries help Pakistan because they expect that doing so will advance their interests, not necessarily those of Pakistan and its citizenry. Pakistan will not free itself of manipulative outsiders unless it raises its own revenue from domestic resources, exerts control over its own territory, takes care of its citizens, and becomes a responsible partner in managing-rather than undermining- regional and international security.



Graphs show that all the variables including the public expenditure show rising trends. But foreign aid in 2003 and 2012 and the unemployment movement after 2002 shows a falling trend. Terrorism graph shows a huge increase in the numbers of killed persons during 2008-09.

ADF test result with Trend and intercept:		
Variables	ADF test statistic at level	ADF test statistic at first difference
FA(AID_RECEIVED)	-3.380148**	-4.285310*
PR(POVERTY)	-1.363847**	-6.217218*
T(TERRORISM)	-3.487811**	-3.982978*
UR(UNEMPLOYMENT_RATE)	-1.927844**	-4.924431*
PE(PUBLIC_EXPENDITURE)	0.034484**	-5.114016*

* Stationary at 5% level of significant, ** non-stationary at 1% and 5% level of significant

The Augmented Dickey-fuller (ADF) test result shows that all variables are non-stationary at level but stationary at first difference at 5 % level of significant, when there is trend and intercept included.

Johansen co-integration technique with assumption of linear deterministic trend in data.

Johansen Co-integration Tests result at 2 optimum lags				
Hypothesized No. of CE(s)	Statistic		Critical Values at (5%)	
	Trace	Max-Eigen	Trace	Max-Eigen
r = 0	191.8363*	91.41004*	69.81889	33.87687
r ≤ 1	100.4262*	52.69498*	47.85613	27.58434
r ≤ 2	47.73124*	36.46052*	29.79707i	21.13162
r ≤ 3	11.27072	11.17548	15.49471	14.26460
r ≤ 4	0.095239	0.095239	3.841466	3.841466

Trace test and max-eigenvalue test indicates 3 co-integrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

The result shows that both the Trace test and Max-Eigen test are statistically significant to reject the null hypothesis of at 5% significance level. There are three (3) long-run co-integration relationships between foreign aid (FA) and its determinants. The coefficients in the co-integrating equation represent long-run relationships among the variables.

With more than one co-integration vectors in the trace and max-eigen tests, Johansen and Juselius selected the first Eigenvectors. The co-integration vector represents the largest Eigenvalue to be the most useful. (Tarun and Naka, 1995).

Long-run co-integration equation result

FA_t	=	18.79PR_t	+ 0.01T_t	- 49.43UR_t	- 0.13PE_t
s.e	(0.70638)	(0.00238)	(0.00238)	(0.01401)	
t-stat	[-26.4675]	[-5.75338]	[-5.75338]	[9.44760]	

The Johansen co-integration test results suggest that poverty ratio, terrorism and foreign aid move together in the long-run. The result also declared that unemployment rate and public expenditure has an inverse effect on foreign aid in the long-run. The result concludes that poverty ratio positively affects foreign aid, if the poverty ratio is higher, more aid will move to Pakistan over the long run period, One unit change in FA, 18.79 unit change in poverty ratio in long-run. Foreign aid also positively related to terrorism as terrorism increase more aid inflow to Pakistan in the long-run. The coefficient of terrorism shows 0.01 unit change in response of one unit of foreign aid.

Foreign aid and poverty shows insignificant relationships in the long-run. The result relates with previous studies, Chong et al (2006) revealed that foreign aid had not a significant impact on income in-equality and the reduction in poverty. Connors (2012) argued the reductions in poverty due to changes in economic freedom were not facilitated by foreign aid.

Foreign aid is given to countries because they are poor, there is no indication that poverty declines in those nations.

Foreign aid is negatively related to the unemployment rate, as FA increases, unemployment reduces in the long-run. The coefficient shows as one unit increase in foreign aid -49.43 units of unemployment decreases in the long-run in Pakistan. Public expenditure is also inversely related to foreign aid as aid increases public expenditure is reduced. One unit increase in FA, -0.13 unit of public expenditure reduces in the long-run as (Khan and Ahmed (2007), Ishfaq and Eatzaz (2005), Khan and Rahim (1993), Khan (1997) conclude that foreign aid has a negative relationship with domestic Govt. expenditure and has no significant impact on economic growth.

Foreign aid shows a significant impact in reducing the un-employment and negative impact on public expenditure it means the increase in public saving. According to economic theory the increase in saving will help to increase in investment levels which increase the productive capacity of the economy and reduce the un-employment level in the long run.

Vector Error Correction Model results

Error Correction:	EC(-1)	D(PR)	D(PE)	D(T)	D(UR)
CointEq1	-0.132900	0.038340	-0.809885	27.00570	-0.018516
s.e	(0.45863)	(0.03856)	(1.03884)	(8.95811)	(0.00612)
t.-stat	[-0.28978]	[0.99418]	[-0.77960]	[3.01467]	[-3.02751]

The above table shows that the coefficient of Error correction term is negative , it is statistically significant but the value of coefficient shows a high speed of adjustment towards equilibrium when there occurs disequilibrium. The value of coefficient is 0.133. It tells us that 13.3% of error is corrected in each period after disequilibrium in the short-run. In addition to the terrorism and poverty ratio show an insignificant relationship with foreign aid because these variables divergent to equilibrium in short run. The public expenditure and unemployment rate shows a significant relationship with foreign aid and convergent to equilibrium in the short-run.

CONCLUSION AND POLICY IMPLICATIONS:

The study revealed the impact of foreign aid on macroeconomic variables in Pakistan by using the time series data period from 1988 to 2013. Foreign aid used as dependent and public expenditure, poverty ratio, terrorism and un-employment rate as explanatory variables. In unit root an ADF test used for stationary purpose. The data was not stationary at level when trend and intercept included but all variables were stationary at first difference I(1), for optimum lags AIC (Akaike information criterion) used which show two optimum lags.

Johansen co-integration test applied to check the long run relationship between variables, co-integration test also revealed three co-integration vectors in the modal in the long-run. Test results suggested that poverty ratio, terrorism and foreign aid move together in the long-run and unemployment rate and public expenditure has inverse affected in the long-run. Poverty showed insignificant relationship with foreign aid. Un-employment and public expenditure showed a significant relationship with foreign aid. Vector Error Correction Model (VECM) used to check the short run relation-ship between variables. Error correction term showed a

high speed of adjustment towards equilibrium in short-run. The terrorism and poverty ratio divergent to equilibrium in short run. The public expenditure and unemployment rate convergence to equilibrium in the short run.

Historically, the savings rate has been low in Pakistan and the country depends on foreign inflows to finance its development needs. It is evident in empirical literature that the financial inflow received as foreign aid has not been used for required purposes because these funds may have been side-tracked to un-productive activities. So Pakistan's economy has faced the Problem of macro-economic instability. Unfavorable global economic environment and unstable domestic policies has adversely affected the economy.

- Corruption and terrorism are basic problems in economy of Pakistan. A large portion of foreign aid track-out in the form of corruption as Mesquita and Root, (2002) argued that “some corrupt governments receiving a large portion of their budget revenue from foreign aid have no incentive to promote economic growth, and pay no attention to the well-being of their people and build their institutional capability”
- Pakistan also faced a heavy burden of expenditure to overcome the terrorism and to maintain law and order situation in the country.
- Budget deficit is another problem of Pakistan economy, that is why Govt. take loans domestically and internationally to fulfill third expenditure. A portion of aid goes to the interest payment and re-payment of loans.
- Donors imposed conditions on aid according to their interest therefore the recipient nation is bound in consumption.

The government of Pakistan requires a sound macro-economic policy which enhances domestic saving to finance investment and reduce the saving-investment gap in the long-run. Private investment is needed to encourage.

The government should focus on efficient utilization of aid revenue in productive activities, such as infrastructural facilities, institutional quality, political stability, governance issues. Foreign aid may be helpful under the affective fiscal, monetary, and trade policies. The govt. and donors should improve the co-ordination for batter outcome to their aid projects. There are many issues that still require further research.

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