FOREIGN AID:

RELATIONSHIP OF AID AND ECONOMIC GROWTH IN NEPAL

By

Gautam Gurung

THESIS

Submitted to

KDI School of Public Policy and Management

in partial fulfillment of the requirements

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ABSTRACT

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This academic paper submits the relationship between foreign aid and economic growth of Nepal with the dataset from the year 1950 to 2012. The results displays that there is a negative relationship between aid and economic growth of the country. The question need to be asked is even though country has free flow of foreign aid since 1950 to till 2012, the impact of growth has not shown positive, which counter the argument of different literature that there is positive relationship between two of them. Thus, the further research is needed to find the reason behind their negative relationship.

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Lastly, I would put my acknowledgment note to an end by giving sincere thanks to KDI family for accepting me as Global Ambassador Scholarship student and to my Gurung family who till the end supported me to put my vision forward and live up to it.

ABBREVIATIONS

GDP: Gross Domestic Product

GNI: Gross National Income

UN: United Nations

OLS: Ordinary Least Square

GLS: Generalized Least Square

OVB: Omitted Variable Biasness

ODA: Official Development Assistance

DW Test: Durbin Watson Test

RGDPL: Real Gross Domestic Price Level

TABLE OF CONTENTS

THE PURPOSE OF THE STUDY

This research will focus on the foreign aid influx that has economic relationships for the development of the country. The evidence shows that Nepal, after joining the Colombo Plan for Cooperative, Economic and Social Development in Asia Pacific in 1952[1] started receiving and still receiving foreign aid in millions and millions of dollars that occurred with the notion of restructuring the nation. According to Y.P. Chaulagain, "[aid] plays an important role in Nepal's socioeconomic development, representing 26 percent of the national budget and 60 percent of the development budget [of 2010/11]."[2] But despite of aid support, the country's socio-economic status is poor. As a result overall growth of the country is slow compare to other developing nations. So, this research aims to assess relationship whether it has positive or negative relationship between foreign aid and economic growth. And then to find what are the factors that distort the objectives of foreign aid in Nepal. The research carried the assumptions that like aid fungibility and corruption is the two major factors responsible for not achieving the expected objectives of the aid.

The contribution of the foreign aid in Nepal's fiscal budget policy is the major source of revenues and for public investment in development of the country. Economic rationale for foreign aid for development can be outlined by two gap model introduced by Chenery and Strout in 1966. Insufficient savings (budget deficit) and foreign exchange gap (requisite of importing

[1]Environmental News, "Nepal: FOREIGN AID, NEPAL," (September, 1991), accessed on http://www.mongabay.com.

[2]Yam P. Chaulagain, "Official Development Assistance in Nepal: A Development Perspective," *Notes: e- International Relations (June 23, 2012), a*ccessed on August 28 2012, http:// http://www.e-ir.info.

goods) for developing nation are two models. Thus functions of foreign aid are to "boost" a financial investment by reducing saving deficit and/or foreign exchange gap.[3]

Nepal with the launch of its First Five-Year Plan (1956-61) joined the league of aid-recipient countries for its development financing. A substantial portion of development expenditure, averaging about 55% per year, has since been financed through foreign aid[4] Time and again; the donor countries are concerned with effect of aid on the development status of Nepal. With the notion of ethical responsibility of the developed nation to support developing nations, Nepal received even more. In 1976, a Nepal aid group was formed under the World Bank's initiation. By 1987 the number included six nations along with sixteen other international agencies. From the end of 1980s, Nepal started receiving share of aid from the group[5] and is still receiving it. There is a requirement of an inquisitive study on this topic.

SIGNIFICANCE OF THE STUDY

This study focuses on Times Series study of Nepal because it focuses on single specific country where there will be no problem of differences in culture, social, economical and political as compare to Cross Country study. Specifically study is focused in Nepal because most of the study is cross country study which shows different relationship between aid and economic growth i.e. some say positive where other says negative. Thus arguments are based basically

[3] Badri P. Bhattarai, "Foreign Aid and Government's Fiscal Behavior in Nepal: An Empirical Analysis," *Notes: Economic Analysis & Policy* 37, no. 1 (University of Western Sydney: Australia, March, 2007) 42, accessed on http://www.eap-journal.com/archive/v37_i1_3.pdf.

[4] Yam P. Chaulagain, "Official Development Assistance in Nepal: A Development Perspective," *Notes: e- International Relations (June 23, 2012), a*ccessed on August 28 2012, http:// http://www.e-ir.info.

[5] Yam P. Chaulagain, "Official Development Assistance in Nepal: A Development Perspective," *Notes: e- International Relations (June 23, 2012), a*ccessed on August 28 2012, http:// http://www.e-ir.info.

more on cross countries study. It is assumed that once the foreign aid is delivered to the recipient government, growth statistics should show the impact. Foreign aid has a significant role in the country's overall development. Only concerned is its effectiveness in allocation and factors that affect the objectives of aid. How efficiently aid is implemented in ground level to meet its objectives. For any recipient country like Nepal, foreign aid is a source for supplementing the government's fiscal budget. History and current statistics of the government budget demonstrate this. But in the context of Nepal, after decades of being an aid recipient country, the government of Nepal intentionally or unintentionally is indifferent to the low socio-economic condition of the country. That is proven by $ 540 GNI per capita income of 2011 according to World Development Indicator[6] which is far below that of developed nations. Since the donor government's declaration of spending 0.7 % of Gross National Income (GNI) in 1970, for development assistance at the UN General Assembly[7], many aid recipient countries failed to get better results from foreign aid including Nepal.

HYPOTHESIS

The study emphasize that foreign Aid has positive impact on Economic growth. If aid has a negative relationship, then research will conjecture the most possible causes behind Nepal's lagging economic growth that could be aid fungibility, corruption, or others. Despite of receiving foreign aid, Nepal is not able to display meaningful economic growth of the country. Among other South Asian countries, Nepal significantly has not experienced economic improvement despite receiving Official Development Assistance. Thus poor result indicates poor governments'

[6] World Bank, "World Development Indicators 2011," accessed on http://databank.worldbank.org/data/views/reports/tableview.aspx?isshared=true&ispopular=series&pid=4.

[7] World Bank, "World Development Indicators 2011," accessed on http://databank.worldbank.org/data/views/reports/tableview.aspx?isshared=true&ispopular=series&pid=4.

performance or implies that either existence of institutional gap in resource mobilization.[8] Ultimately, certain reasons that impede the mechanism of aid effectiveness need to be addressed to understand the repercussions of decades' long underdevelopment of the nation.

METHODOLOGY:

The methodology employed in the research is given below:

- Time Series Data from 1950 to 2012 (World Bank, Barro Lee Data Set; Penn World Table)
- OLS Regression Model
- Controlled variables are (independent variable) Net Official Development Assistance, Population, Openness for Investment, Trade and Secondary Education pass population where dependent variable is Economic growth (GDP)

The research paper will test the hypothesis whether increased aid has resulted in rise in public investment and economic growth in Nepal during the period 1950 to 2012 or not. The research will collect secondary data as well as primary data simultaneously. Secondary data includes the journals, articles, books, magazines or internet based materials where primary data covers the data and statistics from World Bank; Penn World Table and Barro Lee Data. The secondary data will provide rationale behind the research and primary data will support the evidence or claims emerged from findings. With the help of Time Series data it will help to quantify the research questions because benefit of government expenditure in development sector is not expected to be shown in short term. It needs some time to show its impact on growth.

[8] Yam P. Chaulagain, "Official Development Assistance in Nepal: A Development Perspective," *Notes: e- International Relations (June 23, 2012), a*ccessed on August 28 2012, http:// http://www.e-ir.info.

Finally test research hypothesis by Regression model where foreign aid is independent variables and any other independent variables which will has positive or negative impact on GDP growth.

LITERATURE REVIEW

Since 1952 Nepal has experienced the influxes of foreign aid in millions and millions of dollars, tied to donors' notion of restructuring the nation. The contribution of foreign aid to Nepal's fiscal budget policy now and then is a major source of revenues and for the public investment intended to stimulate growth of the country. In the country's development policy, the foreign aid supports a significant portion of several socioeconomic sectors. Despite receiving considerable foreign aid Nepal has not been able to display much growth with significant achievement. Even with the increase in Official Development Assistance, "Nepal is [the] only country in South Asia that has not experienced any significant improvement in micro and macroeconomic aspects."[9] In fact, this paper will argue that foreign aid does not serve its intended purpose.

The argument, here, emerges from data derived from studies of several notable problems in Nepal's economic governance. Meanwhile, the purpose of the literature review is to find some weaknesses or shortcomings of the body of literature because the issue of impact of aid on economic growth is "controversial" with different relationship i.e. positive, negative or no impact or with certain conditional scenario. In Hussein and Lee's article, many Scholars insist that for the development of the country sustained economy is necessary. But only the different is the role of foreign aid.

According to literature, theoretically an argument is that aid creates conducive environment for maintaining foreign exchange, saving and improving fiscal constraints. However, the results of different research show the mixed interpretation of effectiveness of aid on developing countries economy. Thus literatures have shown the different effects of the aids in economic growth of the

[9] Yam P. Chaulagain, "Official Development Assistance in Nepal: A Development Perspective," *Notes: e- International Relations (June 23, 2012), a*ccessed on August 28 2012, http:// http://www.e-ir.info.

country which are discussed below as well as different methodology they employed to get the results:

A. Positive effect only with certain conditions

Burnside & Dollar (2003):

Aid is effective for growth only in countries with sound policies and institutions (governance or management). Besides, Burnside and Dollar insisted that bilateral aid are more used for government consumption purpose which ultimately explains the reason clearly showing aid has no positive impact on growth. But, impact of aid results positive if aid is conditioned systematically with developing countries quality policies. The reason is because their data analysis shows the trend that is the sample mean of the policy index reached lowest point of 1.0 in the period 1982-1985 and rise to 1.8 in short period of time 1990-1993. Thus OLS conclude that the effectiveness of the aid is positive with policy level of 2.4 by 1990-1993. Out of 40 poor countries 15 manage to reach the level.

Hussen and Lee (2012):

Aid has positive impact on per capita GDP growth which does not depend on macroeconomic policy conditionality rather depends on the peculiar social, political and economic period that considered in Ethiopia (specific country). Thus, the growth is much better in socialist regime than in democratic regime represented via dummy variables for different time period from 1975-1990 and 1991-2010 i.e. military & social economic regime and democratic & market economic regime respectively. Social, political and economical aspects were much better than during democracy. The argument behind is because the policy interacted with aid (P*A) results a negative sign. Hence it specifies that aid is ineffective even in existence of macro-policies (though effective) and proves that the effectiveness of foreign aid does not rely on sound macroeconomic policies in Ethiopia.

B. **Positive effect with no condition**

Hansen & Tarp (2001):

According to Hansen & Tarp there is likelihood of increase in economic growth rate through aid where "good policy" is not conditioned in result. The argument is aid-policy interaction term is not included while using fair degree of growth model. The model studies non-linear effects between growth and aid with the support of empirical condition and substantial data.

However, the result displays the diminishing marginal returns to aid obtained through squared aid in the investment regression. Still there is certain level of dependence of investment in the growth relation because of the purposeful condition of the relationship between growth and investment. Thus, according Hansen and Tarp, level of aid and level of the regressors in the investment function are two specifications for aid-growth relationships which it depends upon.

C. **Negative effect of aid on economic growth**

Easterly (1998) mentioned:

There is weaker link between investment (from foreign aid) and economic growth. Because it may substitute domestic resources, may affect exchange rate and therefore bring a lower level of domestic investment and undesirable results. Beside, various internal and external issues like aid fungibility and corruption may break the link.

D. **Methodological aspect:**

Burnside & Dollar and Hansen & Tarp

From methodological point of view, Burnside & Dollar and Hansen & Tarp did the Cross Country study considering short span of time which could be comparable with country to country but could be give country specific empirical analysis.

Whereas,

Hussen and Lee:

Hussen and Lee employed Time Series study on one specific country i.e. Ethiopia to find the country specific results which is unlikely to cross country study and more authentic with respect to empirical data and model.

Thus, according to Hussen and Lee, the findings from different methodological aspect of different country are of typical circumstances concerning aid and growth relationship. From different literatures analysis, aid and growth has prominent relationship in long run, thus conducting time series data analysis gives the authentic results with having supportive data and empirical model at the same time.

Since the research paper expects that there is positive relationship between foreign aid and economic growth of Nepal. But at the same point, different literatures have concluded in opposite i.e. positive results with certain conditions or not any specific conditions where Easterly research paper said there is negative relationship. In context of country Nepal, the country has come over with many regimes from 1950 to 2012 i.e. monarchy regime, democratic regime and now republic regime. Different bilateral as well as multilateral aids influx after fulfilling certain government aid policies from time again is still in action. Thus, the literature helps the research paper to confine its scope to know other empirical analysis of different methodologies as well as its findings related with aid and economic growth of countries. Also based on different research's loopholes on Cross country studies, this research employed the single country study because Cross Country studies generalized the study in whole and compared the result among the countries where it fails to show the result of single specific country. Thus literature endures to concretize the result analysis which particularly relates with country Nepal receiving aid since 1950 after establishment of democracy.

EMPIRICAL ANALYSIS:

The hypothesis that the research paper says: Foreign aid has a positive effect in economic growth of Nepal. The hypothesis is very controversial issue in itself; the literature review has shown different findings that oppose the research hypothesis. To find the empirical result, following OLS regression equation is formed. Based on Hussen and Lee empirical analysis, the research followed the aid –growth equation.

$$\mathbf{Lgdp_{it} = b_0 + b1lgdpI_i + b_2\, loda_{it} + b_3\, lpop_{it} + b_4\, trade_{it} + b_5\, sec_{it} + b_6\, lopen_{it} + e_i + u_t + v_{it}}$$

Where,

lgdp: Log of Initial GDP as a dependent variable in constant value of 2005

And,

Independent variables are as follows:

loda: Log of Net official development assistance constant value of 2011

lpop: Log of population

ltrade: Log of trade % of GDP (which means a share of total trade in annual GDP) definition: "exports plus import divided by Real Gross Domestic Product Level (RGDPL). This is constant price…of the total trade as a percentage of GDP."[10]

Sec: proportion of secondary school passed population out of total population

lopen: Log of openness (at constant price of 2005)Openness in constant means. It is proxy to Foreign Direct Investment in Nepal from different time period. The source for the variable is from Penn World Table. It basically discuss about the foreign direct investment that is employed in Nepal.

[10] University of Pennsylvania-Center for International Comparisons, "Pen World Table," *Study Documentation,* December 12, 2008, p. 10.

Since the research focus on displaying the relationship between Gross Domestic Product (GDP) and Foreign aid where GDP growth is dependent variable and main independent variable is Foreign aid introduced since 1950 to 2012 in Nepal. GDP growth has impact not only from foreign aid but also their other independent variables which have direct or indirect relation on outcome of GDP growth. Thus, the other independent variables cannot be omitted from the analysis without which there would be misleading form of results. In econometrics term, to minimize the Omitted Variable Biasness (OVB), the regression analysis has considered as many variables as possible with feasibility of dataset availability.

Particularly, data of GDP (constant value of 2005) and Net official Development Assistance constant value of 2011 are taken because to not to have an effect of monetary exchange fluctuations on dollar value in different years which have a time effect. Log of the variables i.e. GDP, ODA, Population, Trade, and Openness for Investment are employed in regression because to normalize distribution curves which are in numeric form as well as in monetary form.

Since this research employs a time-series analysis, the research which itself bring different challenges in analyzing the neutral impact on GDP from different independent variables. The challenges like auto correlation among the variables. Thus, to find the autocorrelation existence, Durbin Watson is employed and to nullify this problem Generalized Least Square method is employed.

Data Sources:

Data of GDP, Net Official Development Assistance, and Population are derived from World Bank Dataset; data of secondary school passed population derived from Barro Lee data set whereas Openness is retrieved from Penn World Table.

Regression process

The Generalized Least Square method is employed to do the empirical analysis. Since the research is based on time series data, the stationary of data needs to be checked for which different test is done i.e Dicky Fuller Test. After Dickey Fuller Test some of the variables are found to stationary at first lag i.e. GDP and Population.

Now, lagged variables are used for further analysis. In time series data there is higher probability of auto correlation. Thus to find whether there is auto correlation or not, Durbin Watson test is employed.

```
estat dwatson
Durbin-Watson d-statistic ( 6, 50) =  2.537125
```

The DW Test resulted that since the value 2.537 is greater than 1.96 it shows that there is auto correlation.

Finally to nullify or to minimize the effect of auto correlation Generalized Least Square method is employed to get significant results for this in stata.

```
prais d.lgdp l.lgdp seccp1 l.lpop lopen loda d.ltrade
```

Prais-Winsten AR(1) regression -- iterated estimates

Source	SS	df	MS
Model	.017105459	6	.00285091
Residual	.01307292	38	.000344024
Total	.030178379	44	.000685872

Number of obs =	45
F(6, 38) =	8.29
Prob > F =	0.0000
R-squared =	0.5668
Adj R-squared =	0.4984
Root MSE =	.01855

D.lgdp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lgdp						
L1.	-.6885391	.1222935	-5.63	0.000	-.9361093	-.4409688
seccpl	.0782134	.0144004	5.43	0.000	.0490614	.1073655
lpop						
L1.	.6587814	.1680182	3.92	0.000	.3186463	.9989164
lopen	.0908948	.0218263	4.16	0.000	.0467098	.1350798
loda	-.0445703	.0124295	-3.59	0.001	-.0697326	-.019408
ltrade						
D1.	-.0943097	.0267215	-3.53	0.001	-.1484046	-.0402148
_cons	7.449656	1.619277	4.60	0.000	4.171601	10.72771
rho	-.1800999					

Durbin-Watson statistic (original) 2.271113
Durbin-Watson statistic (transformed) 2.108840

Fig. Generalized Least Square Method

From the Generalized Least Square method, we can derive that every variables are significant at 5 % level. Only the different is some of them have positive relationship and negative relationship. As the research is focused on the relationship between aid and growth in GDP, the table shows that there is a negative relationship between them. It means that 1% change in ODA results in a reduction of GDP by 0.0445% in natural log GDP at5 % level of significance. The trade variable has also a negative relationship with economic growth, which is derived as 1% change in trade results in -0.094% change in natural log GDP.

In other side, population; Secondary school passed population and openness has a positive relationship with economic growthwhere 1 % change in population results in .658% change in natural log GDP; 1% change in .078% change in natural log GDP; and 1% change in openness results in .090% change in natural log GDP.

Thus, the research employed the hypothesis that there is a positive relationship between aid and economic growth but the empirical analysis suggests that there is a negative relationship with aid and economic growth. This means, research hypothesis is rejected and the possible conjecture of being negative relationship is discussed in conclusion.

CONCLUSION

Different scholars made different arguments in effectiveness of the aid. Thus according to Hussen and Lee, the question mark is on the research done particularly in cross-country models which failed in giving clear consent on their research findings predominantly on impact of aid on any countries' economic growth. Thus the research employed the Time Series data of single country Nepal to find out the statistics results of the effectiveness of the foreign aid influx in different time duration.

Based on empirical analysis, all the controlled variables show they have a significant impact on economic growth (dependent variable) of the country. However, ODA has a negative relation with GDP, i.e. 1% point change in log ODA results in -0.0445% change in log GDP. According to Easterly whose research paper showed a negative relationship is well supported through this research. Based on different literature's they insisted that there might be possible unidentified reasons behind i.e. aid fungibility, corruption, issue of ineffective governance; lack of good national policy where government of Nepal needs to consider. Also may be because of malfunction of the aid i.e. higher consumption rather than investment. The concrete conclusion based on this empirical research analysis could show the other impacts from different unseen variables thus further empirical study need to be conducted in future for finding the "reason" behind the negative relationship between ODA and economic growth.

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ANNEX 1

Summary of Variables

```
. summ d.lgdp l.lgdp seccp1 l.lpop lopen loda d.ltrade
```

Variable	Obs	Mean	Std. Dev.	Min	Max
lgdp					
D1.	52	.0359128	.0266516	-.0302277	.092411
L1.	52	26.16628	.5693845	25.36649	27.18867
seccp1	61	2.315902	2.079928	.3	7.29
lpop					
L1.	52	16.61182	.3330971	16.07152	17.11712
lopen	51	3.341391	.4949639	2.430978	4.153242
loda	52	19.56611	.8553681	17.78543	20.57792
ltrade					
D1.	47	.0142527	.1197869	-.4094579	.3306904