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What kind of impact does foreign aid have in the economic growth of Nepal?

Submitted by

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Dedication

In loving memory of my dearest father, Kishore Shakya, to my dearest mother, Leela Shakya and love of my life, Manu.

Abstract

Despite of continuous foreign aid flow for decades in Nepal, it still remains one of the poorest country in the region. Any keen observer can understand that foreign aid has not been very effective in Nepal. The student felt the necessity to understand what issues are making aid ineffective and whether aid has any impact in the economic growth in Nepal.

Previous studies on the impact of foreign aid in economic growth had produced many conflicting results which created confusion and is a hot debate topic still to this date. There were very few empirical studies which incorporated important variables and analysed the relationship but none of them were in context of Nepal. Hence, this study tries to fill the gap by including physical capital, human capital, policy and institutional quality as independent variables to understand the impact of foreign aid on economic growth in Nepal over a period of 10 years between 2008-2017 using factor analysis and regression analysis to examine the dynamic nature of economic growth.

The study revealed that savings-aid factor has inverse relationship with each other, where aid is crippling savings which eventually inflict negative impact on economic growth. On the other hand, economic policy factor and governance factor have positive relationship with economic growth whereas quality of life has negative relationship.

However, recent reports from donor community indicate that aid financed projects from both bilateral and multilateral sources are generating good results in social development sectors such as education and health but not in economic sector. This study found that ineffective policy, weak institution and administrative capacity and corruption to be some major problems that is inhibiting Nepal from utilizing aid to promote economic growth.

Keywords: Foreign Aid, GDP growth, economic growth, Nepal, policy, institutional quality, human capital, savings.

List of Acronyms

ADB - Asian Development Bank

CIDA- Canadian International Development Agency

CORC - Control of corruption

DAC - Development Assistance Committee

DANIDA - Danish International Development Agency

DCP -Development Cooperation Policy

DFID - Department for International Development

DFID- Department for International Development

DPC- Development Policy Credit

EDPs - External Development Partners

EU - European Union

FDI - Foreign Direct Investment

FY- Fiscal Year

GDI - Gross Domestic Investment

GDP - Gross Domestic Product

GNI- Gross National Income

GoN- Government of Nepal

GOVEFF- Government Effectiveness

GOVEX - Government expenditure % of GDP

HC - Human Capital

IBRD- International Bank for Reconstruction and Development

INFL - Inflation Rate

INGO- International Non-Governmental Organization

LXP - Life expectancy rate

MoF -Ministry of Finance

NAG - Nepal Aid Group

NETODA - Net ODA as % of GDP

NGO- Non-Governmental Organization

ODA - Official Development Assistance

OECD - Organization for Economic Cooperation and Development

OLS- Ordinary Least Squares

POLS - Political stability and Absence of Violence/ Terrorism

REGQ - Regulatory Quality

REM - Personal remittances, received (% of GDP)

RUL - Rule of law

SAV - Gross domestic savings % of GDP

SCH - School enrolment, secondary (% gross)

SSA- Sub-Saharan Africa

TRD -Trade percentage of GDP

UN- United Nations

UNDP - United Nations Development Program

UNICEF- The United Nations Children's Fund

UNSC - United Nations Security Council

USAID- United States Agency for International Development

VAT - Value Added Tax

VOA - Voice and Accountability

WGI - Worldwide Governance Indicators

FDI - Foreign direct investment, net inflows (% of GDP)

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Chapter 1. Introduction

According to Organization for Economic Cooperation and Development (OECD), Foreign aid is an official development assistance consisting grants and loans, are provided by any government or multilateral organisations to another country in order to promote development and welfare (Jhingan, 2004). Many empirical studies have confirmed that economic growth is one important measure of the impact of foreign aid for achieving a sustainable economic development and reducing poverty (Dollar and Kraay, 2002). The fact that the economic growth is essential for any country to survive is undisputed, but the idea of foreign aid needed to promote growth in poor countries is still controversial (Snowdon, 2009).

Foreign aids are transmitted by a well-developed country to least developed or developing countries for economic, political or humanitarian purposes in general. These developing economies have insufficient domestic saving rates so the they cannot provide adequate resources to meet the required level of investments (Hansen et al. 2001). The foreign exchange collected from export is also not enough to finance the imports (ibid). These countries cannot achieve their growth targets due to the economic constraints as such. Hence, capital inflows such as foreign aid help them fill the gaps and achieve their desired growth rate. The aid is used by the government of recipient country to finance investments, to mobilize and utilize internal resources and import capital goods. If we look at history, rich countries such as United Kingdom and United States had borrowed when their economy was starting to take off (Akhand & Gupta, 2002). The United Kingdom had borrowed most of their finance from the Dutch in the 18th century for their development and by the next century had established herself as a lender. Similarly, in 1948, US foreign aid contributed significantly to the restructuration of Europe-Marshall Plan (Grant, 1979). These countries utilized such external inflows and invested in developing infrastructures to boost their economy.

These are few perfect examples that the aid can be beneficial if it is used efficiently. The least developed countries mostly face three issues regarding growth: low investment due to low savings, insufficient resources to import capital and investment goods and inadequate revenue for investments. Aid is beneficial to alleviate these constraints by adding to revenues and financing imports and domestic investments. But it does not mean that the aid does not have any negative aspects. Several important cross-country studies found that aid, in fact, had a negative impact on growth (Griffin and Enos, 1970; Easterly, 1999). We can find various

criticisms regarding foreign aid and the negative consequences of it. We will discuss about it thoroughly in chapters later.

When we look at the literatures related to the topic, we can find that there is no specific concrete rule that applies to all countries. However, the studies do suggest that the aid can have significant impact under specific circumstances, since aid is conditional on certain factors. Hence a huge number of studies are carried out to find out the environment where aid can be most effective.

Various scholars have tried to assess the effectiveness of foreign aid in economic growth by including variables related to it such as policy, institutional quality, human capital, Foreign Direct Investments, Inflation and other factors as well etc. Harrod-Domar model was simple since the underlying idea of that model is based only on growth and investment in physical capital. Gupta (1970) studied about the effect of foreign capital inflows on domestic savings. Papanek carried out his study but using foreign aid, FDI, domestic savings. Mosley et al (1987, 1992) expanded the Papanek's model and added literacy rate and changes in export value. Burnside and Dollar (1997) did it by using economic policies, included institutional quality (2000) whereas Tobin and Kosack (2006); Hamoudi (2016) focused on FDI specifically. Recent studies have been carried out to focus on human capital by scholars such as Lawal et al, (2017); Fang and Chang (2016); Schündeln and Playforth (2014) etc.

Only few studies have been carried out by including all important and relevant variables whether its single country case or cross-country case. Most single country studies have focused on aid and economic growth with less emphasis on other variables. This study tends to fill the gap in the literature by examining on policies, institutional quality, human capital, FDI, Savings and foreign aid on economic growth since it remains unexplored till now. It is important to extend the study by including these necessary variables to explore the subject in further detail. The earlier studies such as Harrod-Domar growth model and the Chenery and Strout two-gap model assumed that higher the physical capital stock of a country, higher the economic growth. However, as mentioned earlier, recent development in growth theories suggest that growth process depends on different interdependent factors. Therefore, the earlier growth theories and models are ineffective if they do not include all the factors that is related. Hence in this paper, the case of Burnside and Dollar (2000) has been used as a reference for the model and in order to overcome its criticism for not including other explanatory variables, having added

institutional quality data and Human capital as well. This paper will focus on Nepal, a developing country where foreign aid has been provided for more than four decades, but visible economic growth has not been observed in general. This paper will also try to investigate whether the economic growth has been generated by foreign aid or not.

We can already see different signs of donor fatigue in context of Nepal, many donors' countries and organisations decreasing their aid and the volume of loan higher than grant or technical assistance. The volume of aid disbursement from INGOs has significantly decreased, from US$ 186.5 million in FY 2016/17 to US$ 110.3 million in FY 2017/18. Of the total amount disbursed in FY 2017/18, the contribution of loans was US$ 819.1 million (50.5%), grants US$ 570.3 million (35.1%), and technical assistance US$ 233.3 million (14.4%). Loan disbursement increased significantly compared to the previous fiscal year, grant disbursement was almost constant, and technical assistance has declined slightly (Development Cooperation Report, 2018).

Therefore, we can see the necessity to study the impact of foreign aid in our economic growth and to know if all these constant pouring of aid in this country is really making any difference in the economic development. Endogenous growth model has been chosen for this research with some changes in it.

Statement of the Problem

Nepal is a small landlocked country situated between two rising superpowers, China and India. Despite both the neighbouring countries have high economic growth, Nepal is still struggling for development, having an average economic growth of about 4.19% since 2000 till 2017 (World bank, 2018). Nepal is still facing many socio-economic issues such as huge unemployment rate, high population growth rate, low per capital income, low GDP growth rate and low capital structure. Despite of decades of significant inflow of aid and involvement of External Development Partners (EDPs), Nepal could not show significant progress in economic development (Pandey, 1999). The impact of aid could be seen in the capital investment and the economic growth of the country. Many bilateral and multilateral sources have contributed in Nepal over a long period of time (Bhattarai, 2007). Foreign aid covers a large portion of the governmental expenditure of Nepal. The inflow of aid has been increasing rapidly year by year so, the expenditure is also increasing along with it. About 25.79% of the

government expenditure was covered by Official Development Assistance (ODA) /Foreign aid during fiscal year of 2017 (World Bank, 2018)

Year	Grant	Loan	Technical	Total
2010/2011	618.17	262.02	199.52	1079.71
2011/2012	630.9	254.7	159.5	1045.1
2012/2013	582.9	177.9	199.03	959.83
2013/2014	688.5	185.7	162.31	1036.51
2014/2015	587.9	247.9	184.8	1020.6
2015/2016	533.19	374.75	166.11	1074.05
2016/2017	582.39	548.85	263.36	1394.6
2017/2018	570.3	819.1	233.3	1622.7

Table 1. Composition of Disbursement by Type of Assistance

Source: Development Cooperation Report, Nepal 2018. In millions, USD.

But the problem is that despite of the increasing aid in Nepal, it is still not able to make the economic growth jump as it should have. The government has always failed to meet the growth target. Regardless of the continuous inflow of foreign aid and developmental activities, Nepal is still one of the poorest countries in the world (Bhattarai, 2007). The macroeconomic indicators have not shown satisfactory output as excepted. So, the question arises. “Does aid work?”. In order to fully utilize the aid, it is necessary to understand about foreign aid, the motives and purposes of foreign assistance, what type, volume, pattern of aid are provided to Nepal and what is the impact of aid in the economic growth of Nepal and why is it not generating the expected output.

Purpose of the Research

The purpose of this research is to identify the contribution of foreign aid in GDP growth and examine the impact of aid on economic growth of Nepal. This paper will try to dig into the literatures and theories relevant to the topic and carry out a quantitative calculation to understand the impact of aid in economy. When we look at the literature, we can find fewer individual country-case studies than cross country studies regarding the impact of foreign aid in the academic literature and fewer studies have been carried out in context of Nepal. So, this paper will try to fill the gap by carrying out country case study of Nepal on this topic and will examine and analyse the importance and effect of foreign aid in economic growth. The latest data will be used for this study as it will freshen up the related literature collection.

Objective of the Research

Despite of large amount of aid inflow for decades, Nepal still remains one of poorest country in Asia. During the start of foreign aid trend, Nepal was offered with many developmental projects through means of foreign aid. In FY2016/17, the total disbursement of official development assistance reached 1622.8 million USD which financed 30.89 % of total government expenditure. Yet, the economic gowth is very slow and 21% of total population still live under poverty line (ADB, 2018). Hence, there needs to be a serious analysis on the use and impact of aid in Nepal. When we look at the surface, we can see that aid has not worked effectively so, there needs to be an academic study on the issue. So, the general objective of the study is to examine if aid has any impact in the economic growth of Nepal. However, the specified objectives are as follows:

- To review the history and to examine the trend and the structure of foreign aid to Nepal.
- To review all relevant literatures and theories for a theoretical framework for the study.
- To analyse the economic impact of foreign aid and to investigate the factors that influence the economic effectiveness of aid in Nepal

Structure of the Research

The structure of the paper will be organised as follows. Chapter 1 is the Introduction chapter which will cover the background of the research, problem statement, purpose and objective of the study. Chapter 2 will cover the literature review, theories, models and empirical literatures relevant to the topic. Chapter 3 is about the research methodology. It will also include research questions, variables, research design and model specification. Chapter 4 will be about the economy and foreign aid of Nepal. Chapter 5 will cover the regression result and discussion. Chapter 6 will be the last chapter and it will cover the conclusion and recommendation.

Research Questions

This study will try to find answers to questions.

- What kind of relationship does foreign aid have with economic growth in Nepal?
- What kind of impact does foreign aid make in the economy of Nepal?
- Why could not aid generate the expected result in Nepal?

This study will be performed through the analysis of economic growth rate and foreign aid in Nepal since 2008 to 2017. Gross domestic product (GDP) and foreign aid, in every form (grants, loan, bilateral, multilateral, tied, untied) will be analysed to search the answers of those research questions.

Chapter 2. Literature Review

There have been numerous amounts of studies to examine the impact of foreign aid inflow in the economic development of developing countries. We can find many literatures about foreign aid and economic growth in both theoretical and empirical studies. There is still ongoing debate in empirical literatures whether foreign aid is helpful to boost economic growth or not. The results are different based on the time period of study, methodology, data structure and variables.

Theoretical and literature review

In this section, a review of literatures related to this paper will be carried out. It consists of theoretical base that conceptualizes the importance of foreign assistance in economic development, the empirical evidences available and a short review of the methodology for the research.

At first, the earlier literatures considered foreign aid as a significant force in economic growth via the accumulation of capital in the receiving country. The economic growth model developed by Harrod-Domar is one of the most popular theory that explains the aid-growth relationship. It signifies that the investment is the only factor that determines growth in a country. It assumes that investment comes from saving hence the poor countries have low economic growth because of the saving gap which emerges when savings are not enough to finance the necessary investment for economic growth. Hence, it referred that foreign aid can play an important role to enable growth by boosting the savings and fulfilling the gap (Hjertholm et al, 1998).

Since the beginning, this model was used to find the amount needed to fill in the gap between savings and required investment to generate targeted growth (Easterly, 1999). In order to achieve the targeted growth rate, the government need to increase savings or increase the capital productivity. Generally, in least development countries, savings are too low for investment hence foreign aid can raise the savings which raises the investment leading to high economic growth (McGillivray et al. 2005). But there are many criticisms about this model. Most important ones are that it ignores factors such as labour productivity, technology and it

only emphasizes on savings. But there are examples of countries like Thailand where GDP growth rate was declining even though savings was high (Pootrakool et al., 2005)

Many other models have been formulated to eliminate those drawbacks and more literature has been added on the topic of impact of foreign aid on economic growth. The Solow–Swan model, also considered as an alternative to the Harrod Domar model, is developed within neoclassical framework and asserts that capital and labour are substitutable. This model explains that once the economy reaches a steady state, the growth stalls. Hence, increasing savings, reducing population growth rate & capital depreciation rate and the continuous rise in capital investment only promotes growth temporarily. The model also explains that total saving is the determinant of the increment of investment, which obviously spurs economic growth (Moroianu & Moroianu, 2012).

As the model suggest, the only way to increase the economic growth in long run is through continuous technological development so that countries need to improve their input (factors of production) to output (goods and services) process. Accordingly, the emphasis was shifted from the link aid-saving to linkages between investment, foreign aid and growth.
Nonetheless, this model also has a weak point. It does not attribute to any permanent causal relationship between growth and investment (Easterly, 2003), hence this restricts the adoption of this model to study the effect of aid in growth over long period of time.

Endogenous growth model, which is developed from the shortcomings of neoclassical model of economic growth, considers not only physical capital but also various inputs such as human resources, technology, social and organizational capital, organisational design, etc as causal factors for economic growth (Easterly, 2003). Endogenous growth model has been used in various aid and growth-related studies as a theoretical framework because it is better than neoclassical growth model since it doesn't have the limitations of it instead it adds more explanatory power and has more empirical relevance (Sakyi, 2011). This model makes an assumption of a nonlinear relationship between growth and investment on contrary to neo classical growth model. Hence, the concept of examining the quality of aid and investment arises (Easterly, 2003). Also, it emphasizes the key role of human capital in the growth hence it gives ground for assessing foreign aid to develop human capital in aid recipient country. This paper uses endogenous growth model primary because it incorporates human capital as a

significant factor in determining growth rate of output possibly because it is direct input in to research or its positive externality (Rivera-Batiz and Romer 1991).

This model has some criticisms too. Endogenous growth model uses variables such as intellectual capital, political, social and economic institutions, human capital etc which are difficult to measure. It deals with some subjective and intangible variables therefore it is hard to measure empirically. Data for those variables can be found in various sources such as World bank, Freedom house, Fraser Institute etc but measuring them empirically is still a challenge (Klenow & Rodriguez-Clare, 1997). Next, to find a suitable proxy for those variables is also a huge challenge. For instance, human capital; Levine & Renelt (1992) argued that even though it is important to invest in human capital, the proxies that are generally used such as school enrolment or years of schooling etc do not consider the quality of education and also investing in human capital is not just schooling.

Despite of its drawbacks, it is widely used model in aid related literatures and it is also very suitable for this research paper. Hence, this model has been chosen for this paper considering the weaknesses.

There has been a massive debate regarding the effectiveness of foreign aid in economic growth in recent few decades based on the above-mentioned growth theories. As a result, there is abundant amount of empirical studies on aid-growth relationship, but this paper will limit the review just to cover the impacts of foreign aid in economic growth of a country including variables such as Human capital, policy, institutional quality and saving-investment factors.
The overall empirical literature that have been studied for this paper can be categorized based on 6 important features. This categorization has been done by the researcher.

1. **Positive and significant relationship between foreign aid and economic growth**

Hansen and Tarp (2001) found that aid could boost economic growth through its positive impact on investment despite of decreasing returns. They did regression analysis using investment and human capital to analyse the impact of aid on growth through those parameters. They found that when Gross domestic investment (GDI) and human capital were controlled, aid had significant positive effect on GDI and aid despite of decreasing returns. McGillivray (2005) investigated the aid in African countries and he found that aid not only increased the

growth but also reduced poverty. Similarly, Karras (2006) examined the correlation between foreign aid and economic growth where he concluded that foreign aid had positive, long term and statistically significant effect on economic growth without considering the effects of policy. Gomanee et al (2005) tried to find the ultimate transmission mechanism via which aid could have most impact in the growth. They found that foreign aid had significant and positive effect on economic growth and identified investment as the most crucial transmission mechanism.

2. Negative Impact of Aid

Boone (1996) used regression analysis to find the relation between aid effectiveness to political regimes. He found that aid does not increase investments significantly nor the human development improves. Moreover, he also found that the aid increased the size of government as government consumption rose by three quarter of the total aid. Griffin and Enos (1970) used cross-country regression of 27 developing countries and posited that aid had not accelerated growth nor it had encouraged democratic political regimes. They argued that aid may have had retarded the development by leading low domestic savings, by blocking the emergence of local entrepreneurial class. Hence, they claimed that aid had counterproductive effect on economic growth. Similarly, Mosley et al (1987) also confirmed Boone's findings from their study based on Harrod Domar Model which concluded that aid is used to fit government's constraints instead of promoting growth and development.

Mihaly (1966) chose Nepal as a case study and he found that foreign economic aid had done more harm than good so far as long-term prospects of economic growth and political stability were concerned. He attributed this result partially to the intensity of cold war competition which resulted high stress on short term goals based on the interest of donors but mostly he blamed the ineffective governance; the lack of absorptive capacity in administrative and political spectrum.

Knack (2001) used indexes for bureaucratic quality, corruption and rule of law and found that more aid to developing countries can degrade the effectiveness and efficiency of social and political institutions. He also stressed that higher level of aid can increase corruption and dependency.

Bauer (1976) also argued foreign aid donors may not be well informed about the appropriate investment suitable for a country which may lead the aid to be poured in bad projects, also known as white elephants. This can lead to failure of aid to boost economic growth and also prevent the human and other resources from being misallocated.

3. Controversy on the impact of aid.

The conclusion that scholars have drawn regarding the impact of foreign aid on economic growth seems quite controversial. Large number of studies have found that the aid indeed promotes economic growth of the recipient country whereas some studies found the impact to be statistically insignificant. Some even concluded that aid was negatively significant. Ekarayake and Chatrna (1996) studied about the effects of foreign aid on economic growth in developing countries in Asian, African, Latin American and Caribbean countries. They used panel data from 1980 to 2007 and found the mixed effect of foreign aid in those countries with positive and negative impacts as well. They have used real GDP per capita as a dependent and aid, population growth, investment and inflation as independent variables.

According to Juselius et al (2014), this kind of disparity is caused by various factors such as differences in frameworks, variables, assumptions and methodology etc. Lehman et al (2012) had used data from 131 countries covering period of 1960-2006 found negative and statistically insignificant long run effect of foreign aid in income whereas using the same data set and timeframe but different econometric model, Lof et al (2013) found opposite result. Griffin and Enos(1970) study suggest that foreign aid hampers savings. They used Harold Domar model and found that domestic savings are discouraged when there is high flow of aid in public sector which further undermines the government's capacity to collect tax and revenues. They argued about the donor interest being major intention instead of development, so they emphasized that aid cannot guarantee economic growth in poor countries.

Similarly, Rajan and Subramanian (2008) carried out analysis to examine the effect of aid on growth and found no robust evidence of positive relationship between foreign aid inflow and economic growth, a result contrary to findings of Burnside & Dollar (2000), Dalgaard & Hansen (2001). They disaggregated aid into different components such as budget support aid or project aid and instrumented institutional quality and geography of the country and found no evidence that aid worked better or even in better policy or geographical environment.

4. Conditional relationship between aid and growth

Second feature is that there is a debate regarding the conditional relationship between aid and economic growth in the literature. The studies show that aid work in some conditions but not in others and depends on the characteristics of the aid receiving country i.e. Nature of policy, economic fragility, geographical feature, political environment etc. Study conducted by Burnside and Dollar (2000) was quite popular in the academics since it explained the relationship of aid and growth with a new variable, policy. They concluded that foreign aid works positively and significantly only if the country has good policy environment. However, in spite of huge popularity, they also received quite amount of criticisms regarding their methodological approach and many challenged their conclusion and result. Scholars such as Hansen & Tarp (2000) found in their studies that aid and growth relationship is significantly positive even if the policy environment is unfavourable. In addition, Easterly et al (2004) conducted similar study using the same variable constraints as Burnside & Dollar (2000) but with updated the data set and they found that the policy was insignificant factor in aid-growth relationship.

Interestingly, Dalgaard et al (2004) used the same data used by Easterly et al (2004) but different econometric model and found that aid had a significant positive impact on productivity, and it could stimulate the process of economic growth but also asserted that aid could not be used as a means to poverty reduction. An important finding from their study was that the impact of foreign aid was effective to stimulate growth, but the level of impact depends on climate related circumstances of any country. Aid seemed to have been far less effective in some location (tropical areas) compared to others.

Similarly, Guillaumont & Laajaj (2001) based on their study on aid effectiveness concluded that foreign aid can be successful because it reduces the negative effects of economic instability and that the aid effectiveness depended on recipient country's degree of economic vulnerability, political instability and policy.

Fayissa & El-Kaissy (1999) conducted cross country regression where they found positive correlation between aid, domestic capital, human capital, exports and economic growth.

Young (2014) carried out study where he relates aid flows to institutional quality representing both political and economic institutions. They found that only economic institutions are positively and significantly correlated with growth.

Scholars such as Headey (2008); Girod (2008); Cashel- Cordo and Craig (1990) found that aid could be more effective in economic growth when it is provided by multilateral sources rather than bilateral sources. They claim that the reason for this is due to the absence of political interest while giving the aid.

5. Emphasis on long run growth

In recent years, many studies have been conducted to analyse the long run cumulative effect of foreign aid on economic growth. The aid studies are now more inclined towards the determinants of long run growth such as education, environment, health, climate change, politics etc. instead of direct economic effects. These determinants could not generate immediate economic growth but could significantly contribute in long run. Dietrich & Wright (2012) found that economic aid indeed increased the prospects of democracy and governance in SSA countries. Similarly, Pickbourn & Ndikumana (2013) made few important conclusions: increased allocation of aid to health sector improved overall health outcomes, more importantly, gender specific health outcomes. The maternal mortality rate declined significantly as more aid was allocated to health sector. They also found that increased aid allocation to the education sector reduced the gender gap in youth literacy. They suggested that aid allocated to education and health not only improves overall human development but also promotes social development.

Furthermore, Arndt et al (2013) concluded that in long run, foreign aid reduced poverty but without significant impact on inequality. Aid could contribute to modernization of industry sector and had positive and significant effects on investment, government spending and revenues and social outcomes. They linked aid with growth by suggesting that investment in physical capital and improvement in human capital through health and education, could ultimately stimulate growth. However, they also warned that aid should not be considered as a "silver bullet" to stimulate growth and development.

6. More Cross-Country Research than single country

A huge number of aid-growth literature has been carried out as cross-country research hence has been criticized for not being useful for single country research purposes. This may be due to the large aid flow in African countries. Most of the studies carried in the foreign aid literature can be found for African countries. The impact of aid on growth are not same in countries with different aid profiles and may encounter contrasting outcomes over time (Tarp, 2009). Cross-country approach has a drawback that the findings from this kind of research does not necessarily be applicable to an individual country case since countries are heterogenous (Kargbo, 2012). Therefore, individual country case study needs to be carried out where the particular country's capacity, need and circumstances would be considered and thoroughly studied.

Literatures related to Nepal

Nepal has been aid-dependent country since a long time but only few researches has been carried out empirically to investigate the issue of aid effectiveness in Nepal. Early studies from scholars such as Mihaly (1965) and Stiller and Yadav (1979) found that aid had not been utilized effectively due to political and administrative weaknesses. They argued that aid could not be used efficiently because of the poor absorptive capacity and ineffective policies of the recipient country

They claimed that the aid could not be used efficiently due to the poor absorptive capability led by poor policies. Mihaly (2002) after four decades still maintained his claim that aid has not been effective due to lack of political will and administrative capacity. He also recognized the donor interest as one of the highly influential factor in context of Nepal.

Poudyal (1983) conducted correlation and regression analysis to find the relationship between foreign aid and savings. His major finds from the study was a. the foreign aid was more concentrated on infrastructure development than other sectors, b. The positive effect of aid was more on savings than on consumption, c. Domestic savings, GDP and consumption were stable function of foreign aid, d. the elasticity between GDP and savings were higher than elasticity between GDP and foreign aid. He further claimed that aid disbursed on infrastructures could only generate economic growth if complementary development programs are conducted together i.e. if aid is spent on road construction then industry sector and agriculture sector also

need to be developed together in order to reap the benefits from the road construction. Poudyal (1988) conducted the first econometric study (OLS) of aid-growth relationship in Nepal which examined the relationship between foreign aid, economic growth and savings and found that foreign aid had positive and significant effect on GDP by substituting domestic savings.

Khadka (1991) claimed that aid had not been effective in poverty alleviation in context of Nepal because it did not reach the rural area and people where it was most necessary and had caused social disparity between rural and urban areas and between haves and haves not. He stated that aid had some contribution in creating physical capacity but had failed to create necessary environment to eliminate barriers of development. He concluded that aid could not improve the level of income, domestic savings and investment significantly despite the country being heavily dependent on foreign aid. He acknowledged the political and institutional factors as important factors for aid effectiveness. Conversely, Khadka (1997) conducted OLS regression and found positive impact of aid in GDP growth when he only used bilateral aid and excluded multilateral aid. This contradictory result could be because of the data impartiality.

Singh (1996) and Dhakal et al (1996) both came to a conclusion that the foreign aid did not have any significant impact on economic growth. Dhakal (1996) identified political corruption as one of the major cause to divert the import of capital goods to consumer goods. Similarly, Singh (1996) found that only small group of people (Politicians, real state owners, contractors, top level bureaucrats etc) got benefit from aid in Nepal.

Acharya (1998) also confirmed that foreign aid did not contribute significantly on economic development of Nepal, but he emphasised the importance of aid to Nepal since the country does not capacity to mobilize their domestic resources to generate revenue for saving and investment.

Sigdel (2010) adopted non-linear regression model and found significant relationship between foreign aid and resource gap. He found that flow of foreign aid was faster than the increment in resource gap and it filled more than 60 percent of total resource gap whereas the remaining 40 percent were covered by remittances and foreign earnings from tourism. Hence, he highly stressed the importance of foreign aid.

Basnet (2013) examined the effectiveness of foreign aid on economic growth and domestic savings in five south Asian countries and found positive and significant impact on growth whereas aid had negative relationship with domestic savings. This indicated a policy issue that the positive effect of aid could be counteracted by the negative effect on savings.

Therefore, after analysing the literature, it can be concluded that there is a gap in the literature about study on an individual country case analysis to examine the aid-growth relationship by incorporating important variables such as savings, investment, policy, institutional quality, remittance and human capital altogether. Hence, this paper will try to fill the gap and make a small contribution in the literature.

Donor interest in Foreign aid

Almost all donor countries state their major purpose of providing assistance as to alleviate poverty in the poor countries. Development aid focuses on the major sectors like Health, Education, Agriculture, Infrastructure, Governmental policies and others. The purpose of these aids is to improve the overall economic status of the recipient developing countries. But on the contrary, Foreign aid is also used as a tool for policymakers to promote their foreign policy goals. Foreign aid allows the donors to have access and influence in the internal affairs of the recipient countries (Apodaca, 2006).

Recently more literatures are concerned on donor motives, rather than recipients, to show that donor motives matter when it comes to effectiveness of aid. Burnside and Dollar (2000) also noted in their result that aid flow are motivated by donor's strategic interest and not by the quality of policies in the recipient country. Aid provided for socio-economic development is more effective than aid provided for other reasons (Dreher et al, 2011). The interest of donors for providing foreign aids to various countries may not simply to provide financial assistance to those countries. Regardless, it is like an iceberg phenomenon. There could be some hidden truths of such interests of donors. If the aid is motived by the donor's self-interest, then such aid may fail to promote growth or alleviate poverty despite of all the suitable environment. Dudley and Montmarquette (1976) had described the three donor interests. The first interest is all about political influence, the second interest is for trade or economic interest and the third interest is to improve the living standard of people of recipient countries.

Political alliance is one of the major donor interests. Politically motivated aid maybe allocated in low quality projects in favoured countries instead of promising projects in other needy countries. Dreher et al (2011) conducted a study to compare the growth effects of aid to a country before and after it was a temporary member of United Nations Security Council (UNSC). They found that aid provided for geopolitical purposes is significantly less effective compared to aid provided for other purposes.

The example of a country to have such interest is found to be United States. Tarnoff and Lawson (2016) reported that US government view foreign assistance as an important tool of US foreign Policy and has been increasingly used for national security policy. Looking in the past, to gain the support from rest of the world for controlling Soviet Union, US had kept providing continuous foreign aids to most of the countries (ibid). Aid can be used as a complementary tool for military intervention. Kisangani and Pickering (2015)'s study found that military interventions of the donor country have a significant effect on the allocation of the country's foreign aid. They found that aid to the target country increases significantly during and after military intervention which means that aid is used as a tool to supplement the activities of military force to ensure that the policy goal is met in the target country.

For example, US had provided foreign aids to Iraq for the development in education, health, shelter etc. But it has been argued that a major part has been supported in military and securities propose including training to armed forces, raising taxes and so on. The internal motive of US was claimed to be different than the developmental areas. Hence, their aid may not generate the result that should have been generated if the motive were poverty alleviation or development.

Some studies claim that former colonies often receive more aid from the colonial countries. Alesina and Dollar (2000); Berthélemy and Tichit (2004) found that former colonial links have huge impact on aid flow. Neumayer (2003) observed former colony biasness in bilateral aid as well as multilateral aid. He claimed that countries having longer colonial experience received more aid that others. Major donor countries like UK, Germany, France and Netherlands have history of colonial bond with aid recipient countries like India, Turkey, Cameroon and many African countries as well. Such history has created a space in forming political alliance in the global world. The donor countries may be using foreign aid as a tool to still maintain their grip in the internal affairs of those ex-colonial countries.

One more important information is that many scholars such as Riddel et al (1995); Milner and Tingley (2013); Findley et al (2016) have found that multilateral donors and NGO's are expected to be better donors than bilateral donors. Aid decisions by multilateral donors are less by political oriented and more poverty alleviation oriented hence they can achieve the ultimate goal of helping a country out of poverty and pushing them towards development. Although there are evidences of political interest also present in multilateral aid (Dreher et al, 2009) but it seems less prevalent on multilateral sector than in bilateral sector.

Similarly, Foreign aid can also be used for economic interest of donor nation. Foreign aid is regarded as the base process. Global trade, also known as commercial interest, could be the ultimate aim of it. According to Berthélemy and Tichit (2004), donors are more leaned towards to the countries with whom they could make a significant connection for global trades. It has been analysed that the trend of exporting goods and services from respective donor countries to the respective recipient countries is high. Countries like Australia, France, Italy and United Kingdom fall under this category of donor countries with high trade interest. It will ultimately open the boundary for importing and exporting goods and influence to develop international trade policies within such countries with some considerations in prices and taxes. Along with trades, establishing markets in the recipient countries are taken as the golden opportunity. The best example would be the making deals of reconstruction works after any conflicts by USAID.

Further, donor countries tend to be highly influenced by media consideration. The image of nation/agency as the sole humanitarian to support countries has become double standard. The immediate aids reach to the place where there is high media focus. The areas where its result tends years to come are highly overlooked by donor countries but the distributions of materials/products during flood/famine are quick in action.

The interest of donors on providing foreign aids has never been crystal clear. No matter millions and billions dollars are granted around the globe as aids, most of the recipient countries have failed to utilise it fully and significantly. Unclear and hidden strategic interest of the donor countries may be one of the reasons.

This paper will not consider the strategic interest of donor in the analysis although few scholars such as Burnside and Dollar (1997) have included in their study of aid-growth relationship as

donor interest variable where they found that donor interest has no significance in the relationship between aid and growth . But since it is an important issue regarding aid, it has been briefly discussed. The reason to exclude this variable from the study is that the literature claim that it has more influence on the aid allocation rather than on aid effectiveness.

Chapter 3. Overview of Foreign aid in Nepal

Foreign aid is not a new concept for Nepal. It has six decades long history in Nepal. It started as study grant to Nepalese student under Colombo Plan during 1950 for abroad study purpose. Eventually Nepal started to receive grants on sectors like education, transport, health, infrastructure, agriculture and hydropower. It was the beginning of multilateral development support in Nepal. During 1960, Nepal began to receive bilateral grant and foreign aid for the development projects in which Japan provided most of the grant (MoF, 2018). They provided assistance to infrastructural development to social sectors. United States of America, China and India were other significant donors. The multilateral assistance provided by the World Bank and Asian Development Bank were the most important ones during 1970.

In 1976, Nepal Aid Group (NAG) was formed by World Bank after which the number of multilateral and bilateral donors to Nepal increased drastically. As a consequence, the amount of aid increased to Rs. 5.6 billion from Rs. 1.5 billion in 1987(MoF, 2018). These foreign aids were focused into four major areas. The first area was on the projects of infrastructure development such as road, hydroelectricity and irrigation projects. The second area was on commodity grant focusing on food aid program and agriculture. The third one was on technical assistance where aids were utilized on knowledge management and skill manpower development. And the fourth area was on the social and human capital development. The contribution of foreign aid during early 1980s reached up to 75% of the expenditure on development (MoF, 2018). Due to lack of infrastructures, technical knowledge and resources, Nepal has been depending on the foreign aids which were received in the form of loan, grant, humanitarian aid and technical assistance. This clearly shows that foreign aid is one of the major contributors in the economic development of Nepal since the time it started to receive.

At present, all the foreign aids have been mobilized under Development Cooperation Policy (DCP) 2014 with the aim of fulfilling resource gaps in the nation. Government of Nepal (GoN) and the Development Partners (DPs) have the general formal agreement for the foreign aid. The Ministry of Finance (MoF) plays the key role in coordinating with DPs and facilitate, plan and mobilize the aids in the country. The major multilateral and bilateral donors of Nepal are as shown in the following table:

Bilateral DPs	Disbursement in USD (in millions	% of Total disbursement
United Kingdom	123.8	7.6
USAID	117.8	7.3
Japan	106.2	6.5
China	58.7	3.6
India	56.8	3.5

Table 2. Top Bilateral DPs by Disbursement FY 2017/2018

Bilateral DPs	Disbursement in USD (in millions	% of Total disbursement
World Bank Group	533.5	32.9
Asian Development Bank	291.7	18
European Union	116.2	7.2
UN Country Team	65.6	4
IFAD	15.8	1

Table 3. Top Multilateral DPs by Disbursement FY 2017/2018

Source: Development Cooperation Report 2017-18

Top five highest disbursing Development Partners

a. World Bank has been development partner to Nepal since last four decades to provide finance, technical assistance for development. It has the highest disbursement of USD 533.5 million in FY 2017/18 which was 54% increase from last FY 2016/17. The biggest disbursement of the aid was provided for economic reform (206.4 million USD). The highest disbursement project funded by the World Bank were First Programmatic Fiscal and Public Finance Management Development Policy Credit Project, the Earthquake Housing Reconstruction Project, the School Sector Development Program, Strengthening National Rural Transport Programme and Nepal Health Sector Management Reform Program for Results (MoF 2018).

b. Asian Development Bank has provided sovereign and non-sovereign assistance since 1966. ADB has 36 projects and 18 technical assistance projects currently working in Nepal. ADB is the second highest disbursing development partner providing 291.7 million USD in 2017/18. 95% of the assistance was on-budget contributing to various development sectors such as urban and local development, Energy sector, Drinking water, transportation, agriculture, education etc. The highest disbursement project funded by the ADB were Earthquake Emergency Assistance Project, South Asia Sub Regional Economic Cooperation Power System Expansion Project, Kathmandu Valley Water Supply Improvement Project, and School Sector Development Program. ADB had highest commitment for the South Asia Sub Regional Economic Cooperation Power System Expansion Project (MoF, 2018)

c. United Kingdom remains one of the biggest bilateral DP for Nepal. UK has made significant amount of contribution in various sectors such as local development, health sector, earthquake reconstruction, internal affairs, financial services etc. The highest disbursement project funded by the UK were Nepal Health Sector Program Phase III, Post Earthquake Reconstruction Program in Nepal, Local Governance and Community Development Program Phase II, Integrated Program for Strengthening Security and Justice, and Rural Access Program Phase III (MoF, 2018)

d. USAID is the lead government agency of USA which has been supporting the Government of Nepal for 64 years. For FY2017/18, USAID was second highest bilateral development partners. The highest aid receiving sector was health sector and the highest disbursement projects funded by USAID were Suaahara II, Early Grade Reading Program in Nepal, Hariyo Ban Program II, Promoting Agriculture, Health and Alternative Livelihoods and Health System Strengthening (MoF, 2018).

e. European Union (European Commission) has been giving assistance to Nepal since 1977. European Union was the third highest (116.2 million USD) disbursing multilateral development partner of Nepal in FY2017/18 which is 38% more than that of last year (83.9 million USD). The highest disbursement projects funded by EU are The Nepal - EU Action for Recovery and Reconstruction, School Sector Development Program, Partnership for Improved Nutrition Poshanka Lagi Hatemalo in Nepal, Disaster Recovery for Flood Affected Children and their Families in Banke and Sarlahi

District, and Water, Energy, Agriculture: Village Livelihood Enhancement in the mid-west and far-west (MoF, 2018).

Nearly one third of the national budget comes from the foreign aid. This foreign aid is directly provided to the government and further this fund is planned and allocated to the relevant and prioritized areas of the national programmes. The bar graph below shows the allocation of foreign aid in national budget over 8 years. It clearly demonstrates that the allocation of foreign aid is below 30% which is still a significant share. The latest data of 2017/18 shows that there has been decline of 7% from last year which was 29% to 22% which means that the use of foreign aid for government expenditure is decreased which is good sign because the domestic resources have been mobilized for government expenditure instead of foreign aid, which can be used for other development projects.

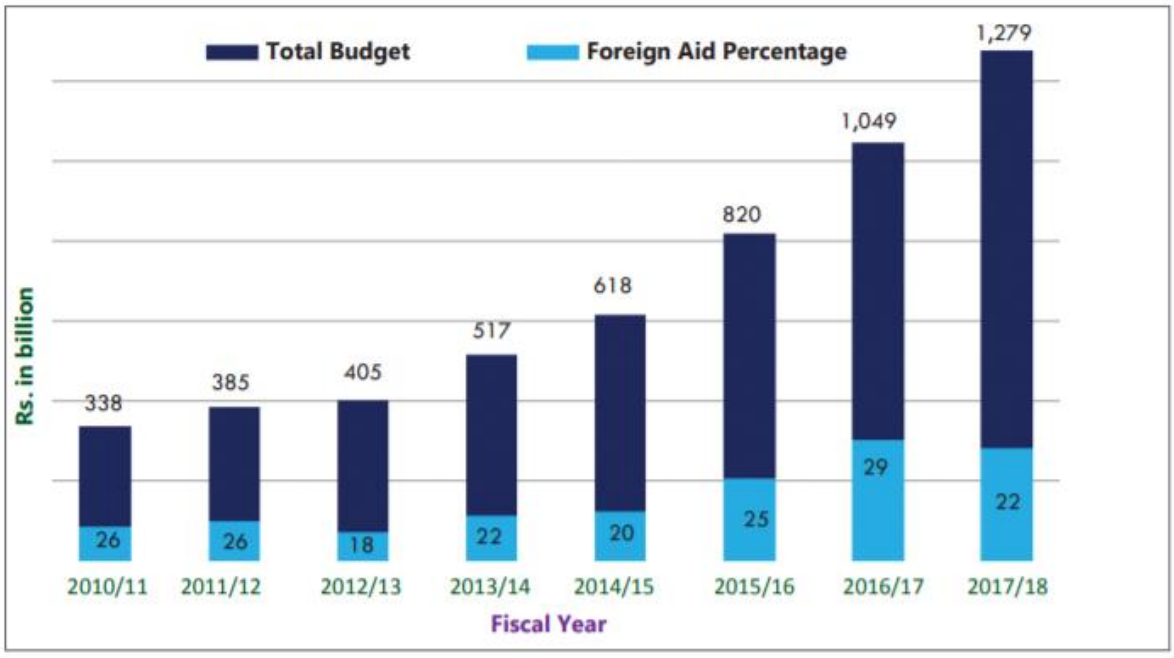

Figure 1. The allocation of foreign aid in national budget over 8 years.

Source: Development Cooperation Report 2017-18

The trend of Official Development Assistance (ODA) precisely shows that the foreign aid has continuously rising upward direction in Nepal over decades from millions to billions. From 1990 to 2005 it seemed to be constant but from 2006 onwards, there was gradual increase every year. The latest ODA in FY2017/18 reached 1622.8 million USD which is the highest amount ever received by Nepal out of which 819.1 million USD (50.5%) was contributed as loans, 570.3 million USD (35.1%) as grant and 233.3 million USD (14.4%) as technical assistance.

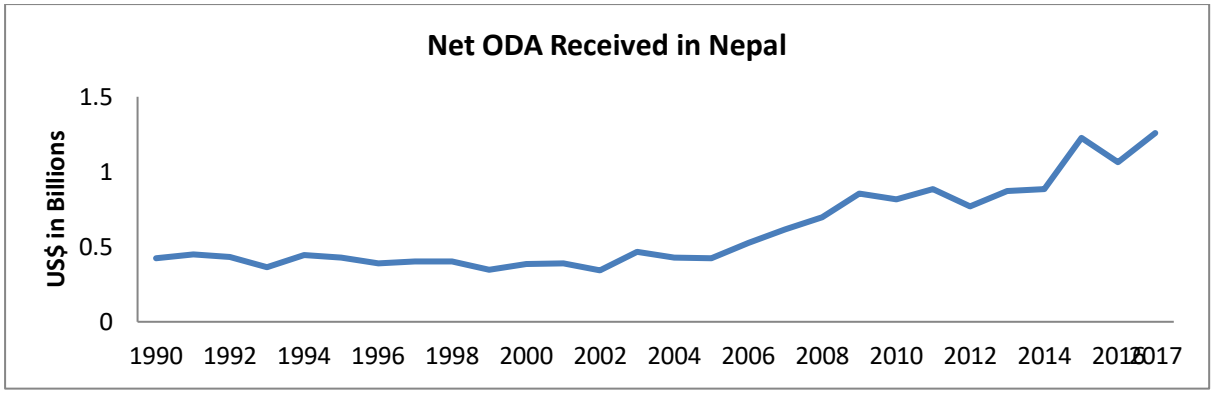

Figure 2. Net ODA Received in Billion USD

Source: Development Cooperation Report 2017-18

Over the period of time, Nepal is being able to mobilize, manage and improve internal resources in some extent due to which rate of foreign aid in Gross Net Income has been gradually decreased. The dependency on foreign aid has reduced which indicates that Nepal has shown the progress in the development sectors. There are lots of improvement in education, health, hydropower, agriculture, skilled manpower generation and others. The major contribution for such improvement was shared by the foreign aid.

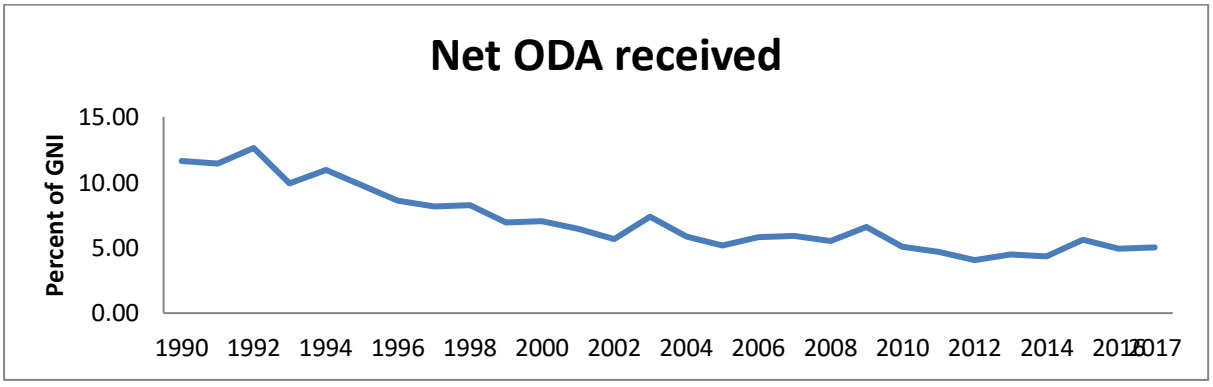

Figure 3. Net ODA Received in % of GNI.

Source: Development Cooperation Report 2017-18

Although a major part of national budget comes from foreign aid, but the budget expenditure is not as promised. As it is shown in the bar graph, the trend of expenditure is decreasing. The recent data of FY 2016/17 shows the expenditure was only 30.89% which was the least in last 8 years. There were various underlying reasons for not being able to utilize up to the mark. For not being able to use the aid is also one of the major reasons for the gap in ODA commitment and disbursement.

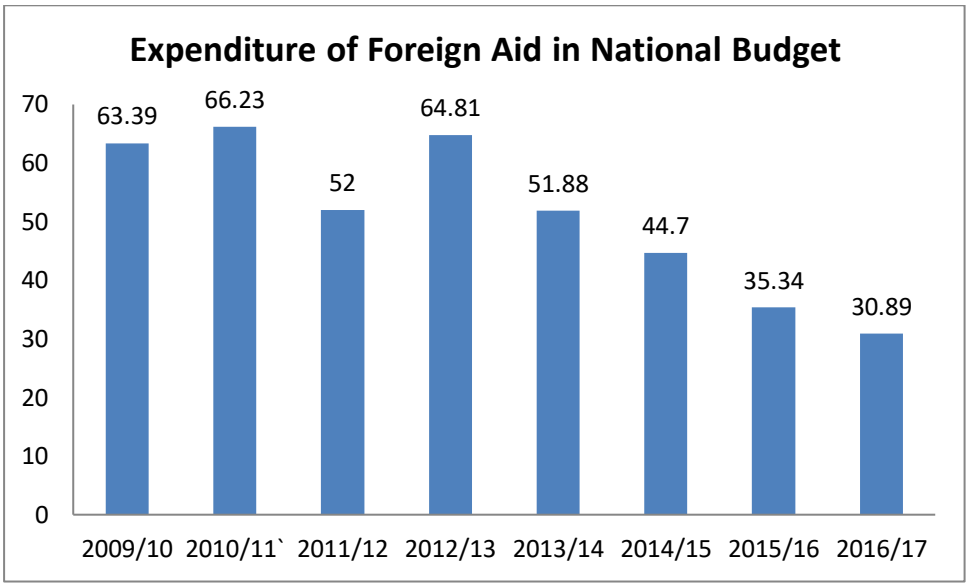

Figure 4. Expenditure of Foreign Aid in National Budget.

Source: Development Cooperation Report 2017-18

The disbursement pattern of foreign aid in Nepal is not up to the mark. Instead the gap between commitment and disbursement has increased over decades. There are various reasons behind this gap. Some of them were scattered allocation, inefficient capacity to allocate, no proper monitoring and evaluation of the projects, lack of project readiness etc.

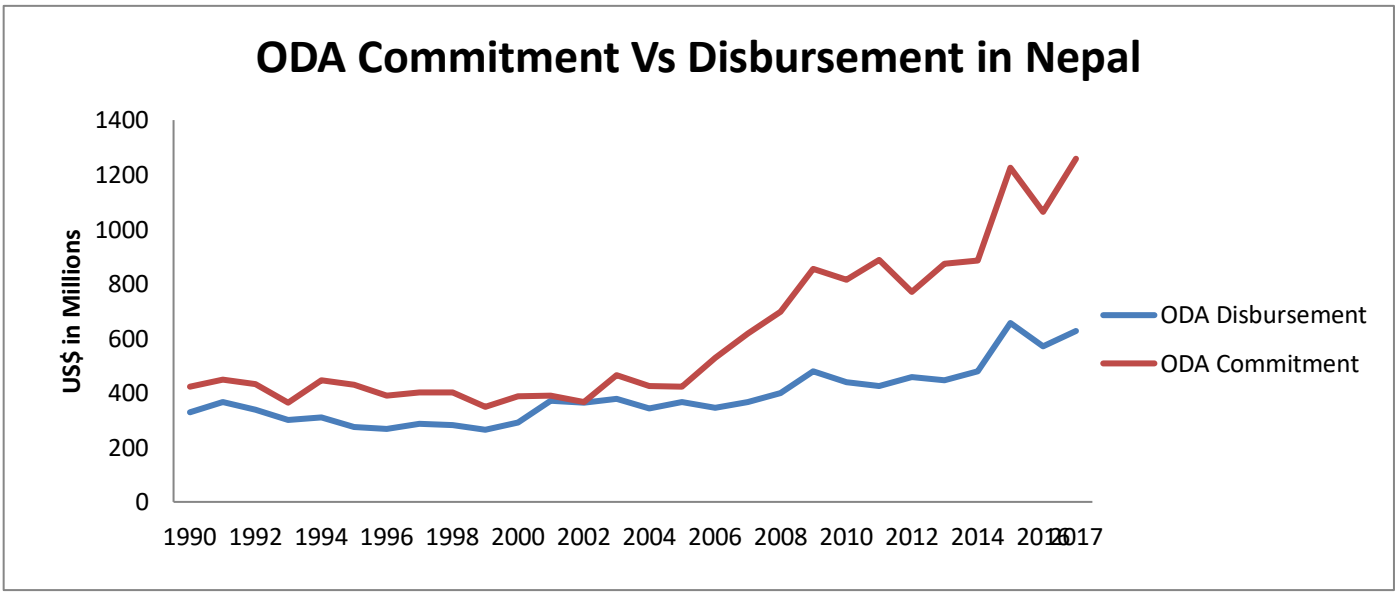

Figure 5. ODA Commitment vs Disbursement in Nepal

Source: Development Cooperation Report 2017-18

Modalities of Development Assistance in Nepal

1. **Program Support**: It is the support given to programs that are prepared by Government of Nepal and requires more than one agency to plan and implement. It clearly discourages the standalone projects. Ministry of Finance coordinates with development partners which may be bilateral or multilateral partners and allocates the resources accordingly.
2. **Project Support:** This modality includes the support to projects that are designed by the line ministries. The support of funding is analysed by MoF accordingly and performs necessary dialogue to relevant development partners.
3. **Sector wide Approach:** As mentioned in name, it is focused in the specific sectors i.e. health, education, agriculture, irrigation and others. Such sector-wide programs are planned and implemented in the common support of government and DPs. The top five sectors by ODA Disbursements in FY 2017/18 were as follows:
4.

Top 5 Sectors	% of total disbursement
Economic Reform	9.1%
Education	8.8%
Housing	8.0%
Urban Development	7.9%
Local Development	7.3%

Table 4. Top five sectors by ODA Disbursements in FY 2017/18

5. **Humanitarian Assistance:** Humanitarian assistance aid or fund is required during the emergency situations like natural disasters or conflicts to save and rescue the lives of people.
6. **Budget Support:** This modality refers to the funds provided by DPs to the government which later will be allocated in the national budget and prioritized by the government itself.
7. **Other support:** Policy based support and support from I/NGOs are the other required development assistance that are present in Nepal.

Based on these modalities, ODA disbursement in FY 2017/18 in Nepal is given in the following pie-chart.

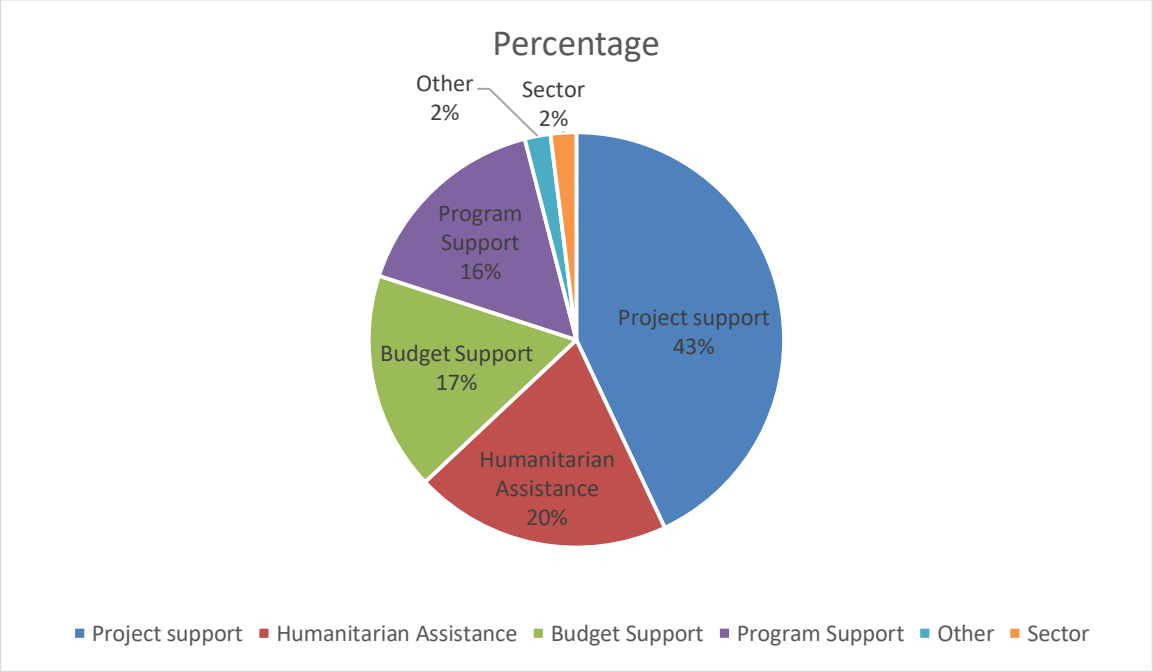

Figure 6. ODA disbursement in FY 2017/18 in Nepal

Source: Development Cooperation Report 2017-18

In the FY 2017/18, the highest percentage of ODA Disbursement based on the modalities of development assistance was on project support followed by humanitarian support which was 43% and 20% respectively.

The foreign aid has always been an important aspect in the economic development of Nepal. Since 1960 to present date, both multilateral and bilateral donors are continuously providing aids in various development sectors. The progress can be seen and analysed. Although the dependency has been gradually decreased over decades, the country has come up with its own plan to mobilize its own internal resources. It is a significant impact of foreign aid in Nepal. One-third of the national budget comes from foreign aid, but the full utilization of this allocated budget has not been done yet which puts the remark for further improvement.

Factors responsible for aid ineffectiveness

Lohani (2017) describes three countries: Nepal, India and South Korea who started at zero growth but different aid status and how other countries improved their condition and how Nepal still remained in the same spot after many decades.

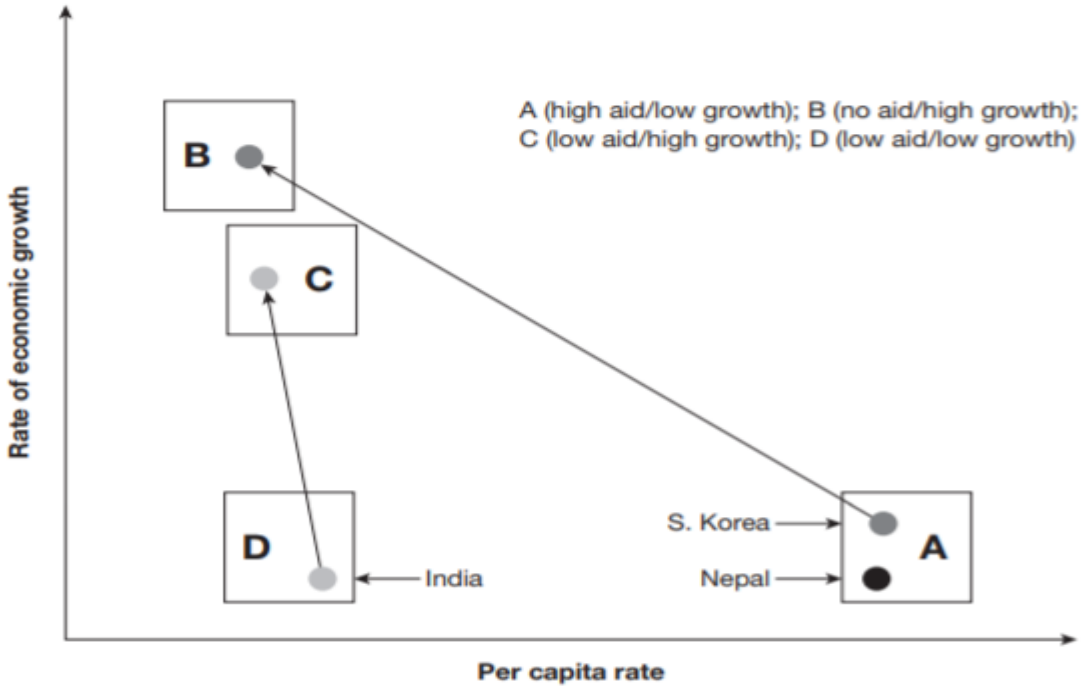

Figure 7. National Progressive shift

Source: Aid, Technology and Development, 2017

As the figure shows, Nepal, India and South Korea all were in zero growth. Spot A represents high aid/ low growth, Spot B represents no aid / high growth, Spot C represents low aid / high growth whereas D represents low aid/ Low growth. Nepal and South Korea both were in Spot A where the growth rate was low but both countries received high aid. South Korea started to move from A to B and thus it ended all its bilateral aid by early 70s. India started off from Spot D where the growth rate and aid was low, and it remained in the spot until the early 80s. Though India receives some aid from UK, its growth is beyond the help of aid since it is now a nuclear power and have their own space programs, India managed to change its position from Spot D to C. Unfortunately, Nepal still is on the Spot A since all those times. It still is stuck in high per capita aid but low growth rate and now has moved from aid-dependence to aid-addiction

(Lohani, 2017). There are many reasons for this to happen. Few important factors that could be seen will be discussed below.

Concept of Aid

First of all, when we talk about effectiveness of aid, the most important things to consider is the size of aid, terms of aid, nature of aid and the absorptive capacity of the recipient country. In Nepal, the volume of aid is increasing every year, but the GDP growth is not taking place with respect to the flow of aid.

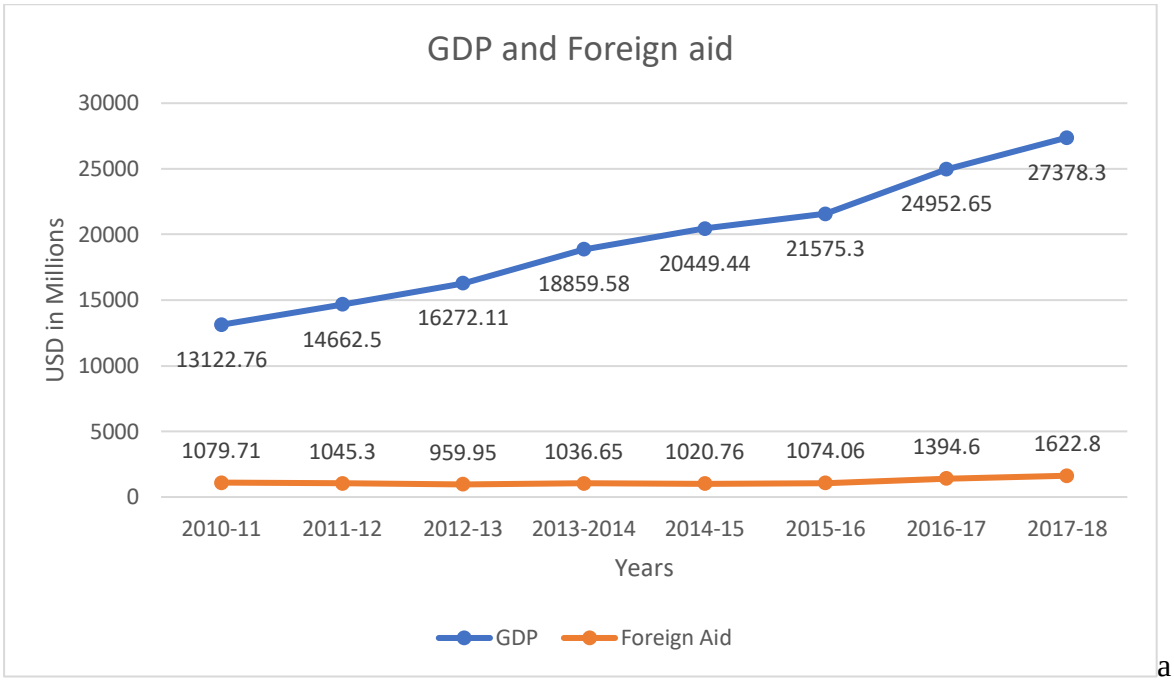

Figure 8. Comparative graph of GDP growth and Foreign aid

Source: Development Cooperation Report, 2018

This can happen when the nature of aid and the utilizing capacity of the country is not considered. In recent years the concept of development has changed, and we can see it in the terms and nature of aid. With the intention for development, project aid was established three decades ago. Now it has been changed into program (programme) aid because the donors felt that government policies needed to be improved from economic reform (Lohani, 2017).

According to some literatures, Nepal could not utilize the aid properly because of ineffective economic policy. As a result, there was a shocking increase in economic reform sector making

it the sector to receive highest aid disbursement in FY2017/18 as we can see in figure. World bank funded First Programmatic Fiscal and Public Finance Management Development Policy Credit which caused the increase in disbursement.

We discussed in the literature review chapter where most of the model and studies define purpose of foreign aid to close the gap of savings and foreign exchange so that the country could promote investment and thus accelerate economic growth. Now the paradigm of aid has slowly shifted from savings-investment to policy reform in Nepal.

Donor and Recipient Relationship

Coordination between donor country and recipient country is key to foreign aid. The success of aid utilization depends on the level of consensus between donor and recipient regarding its objective. Both donor and recipient should have same perspective on utilization of the aid and joint agreement on which projects the aid is going to be disbursed. The core objectives of any aid are : survival and sustainability, contribution in national development and complement national development efforts. For Nepal, Aid has helped in survival after the civil war and natural disaster (earthquake), in reconstructing and restoration of infrastructures. But when it comes to development, there may be not congruency between donor and recipient regarding the meaning and process of development and the willingness among them. There may be coordination and harmonization problems due to strategical differences. Hence, in the indecisive situation, aid may be utilized in some other purpose such as financing government consumption rather than for intended purposes. This ultimately may lead to aid dependency and even addiction and reaches to a point where the donor is needed even for minor projects. This is an unfortunate situation because aid ought to be used as temporary solution to national deficit until it can be recovered by the government after certain time.

Utilization of Aid

In Nepal, the proper utilization of aid is more complicated than actually getting aid. Number of projects are increasing but there have not been visible changes in the country (Panday, 1999). The most important primary sectors that receive foreign aid in Nepal are education, local development, transportation, health etc. For example, we can take a look at education sector and health sector where aid has been allocated constantly for every year since the start of

official development aid to Nepal. The major projects for education were Primary Education Project (1984), Public Primary Education Project (I, 1991–1998 and II, 1999–2003), Education for All (2003–2009), and Community School Support Program (2003–2009) and the latest project was School Sector Reform Plan (2009–2015) which received 624 million USD in the 5-year period. The involved development partners also contributed in national education policy making (Bhatta, 2011) but due to lack of involvement of stakeholders in those reform projects, the effort could not succeed (Winther, 2011). Edwards(2011) blames the negligence from local level and lack of effort from parents and community.

The projects have helped to construct many school infrastructures and even raised the student enrolment rate in rural areas of the country. Despite of all the aid poured in infrastructure development and policy reform regarding education in Nepal, the quality of education has not improved (Thapa, 2013). As a result, the number of students passing from a public school is very low compared to private schools. The recent data from Secondary Education Examination 2019 shows the disparity between the education offered at public and private schools. Out of 459275 students who participated in the exam, 325330 (70.84%) were public school students and 133945 (29.16%) and only 2792 (0.8%) of public-school student scored 3.60 GPA or above whereas that score was obtained by 14788 (11%) of private school students. 85.5% of public-school students scored less than 2.80 GPA (National Examination Board, 2019). Majority of Nepalese students' study in public schools and only few in urban cities study in private schools. Similarly, the gender gap is also improving significantly due to education and awareness.

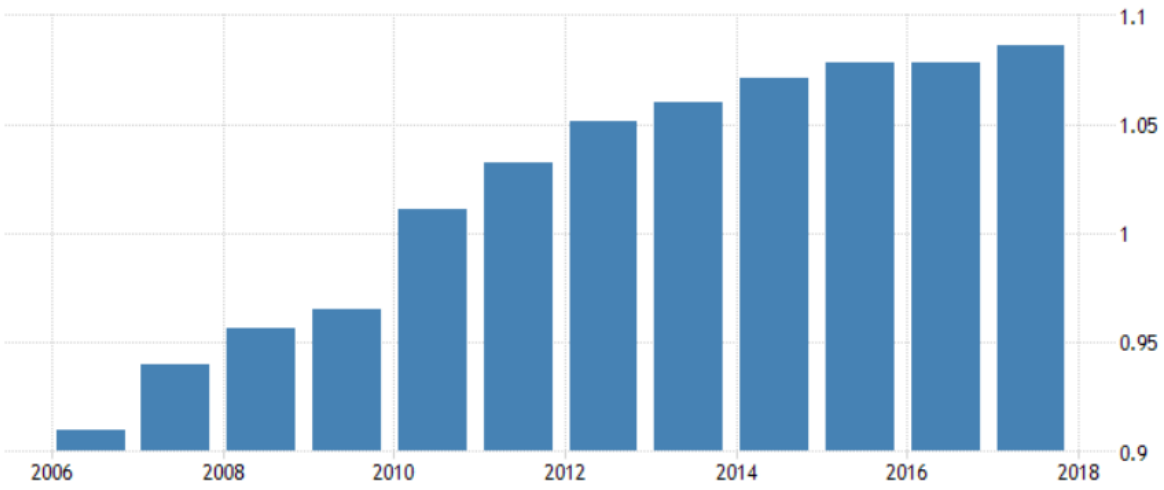

Figure 9. Ratio of girls to boys in primary and secondary education

Source. World Bank 2018

As we can see in the figure above, the ratio of girls to boy in education (both primary and secondary) shows the steady growth reaching up to 1.0861 % in 2017. Quality education is still out of reach for the population in Nepal despite of huge disbursement in education. But there is no doubt that visible improvement in education sector from aid induced projects and programmes can be observed.

Health sector also has received significant amount of aid from development partners. Nepal received 145.2 million USD for health sector in FY2017/18 (MoF, 2019). The new policy of "New Nepal: Healthy Nepal" that started in 2009 initiated a provision of providing free essential health care kit to people (Giri et al. 2013). This was a very good move but there were many challenges when it had to be implemented by utilizing the aid effectively due to lack of health workers, lack of necessary infrastructures and access of health care, corruption, politicization etc (Sharma, 2011).

The recent data of FY2017/18 shows that out of pocket expenditure in health sector is over 55% which can be disastrous for poor families since it can perpetuate their poverty and fall in ill-health trap forever. But there is very good improvement in maternal and child mortality rate which is resulted from Safe Motherhood Program. Many development partners have been involved in Safe Motherhood Program where they provide necessary equipment and materials, assistance in technical and policy sector. The major partner for this project is United States Agency for International Development (USAID) and the Department for International Development (DFID). Nepal even achieved its Millennium Development Goal 2015 of reducing maternal mortality rate by three quarters (UNDP, 2015). However, health sector is predominantly influenced by social and political factors which has not been changed by the health reforms as well as by the projects (Karkee & Jha, 2010).

Institutional ability

The institution of the country has a major role in utilizing the available aid resources since it is responsible for delivery, absorptive capacity and monitoring and controlling of the aid (Lohani, 2017). If the government is inefficient and corrupted, the state may not function well which can lead to the disconnection between the country and donor as we discussed earlier. In Nepal, the government is not stable and there are many issues about corruption in government that are

currently being discussed in the parliament as well as in public. The aid may have fallen in the hands of "iron triangle" (Kanel and Kandel 2004)- which consists politicians, businessmen and bureaucrats. The politicians can approve the projects that are favourable for them to extract rent and capital, like large scale projects where major construction works and imports are carried out from where the businessmen and the state delivery system- bureaucrats can take advantage (Lohani, 2017). Hence, the aid cannot make any significant impact if the state and institutions do not play their role in directing, implementing ,monitoring and controlling projects funded by foreign aid. Furthermore, when there is overabundance of aid by many donors, the situation gets worse (Easterly, 2006). Looking at the input and output regarding aid and development, it can be concluded that this is what could have happened in Nepal. There is weak accountability from government and other stakeholders regarding aid hence there is high probability that the aid resource is being used to finance consumption or fund projects only beneficial for elites. Therefore, foreign aid is likely to be productive only when the government and institutions of the recipient country can interact with donors about necessities and priorities and they need to set up clear and honest intention about utilizing the aid.

Relationship between Foreign aid and variables

When we try to understand the rationale of aid, we can find that the two-gap model describes it the best. The two-gap model describes the gaps of the savings-investment and the export – import which could be filled by domestic or foreign borrowing. Both borrowings could be generated from commercial (non-official) or foreign aid (official) sources. Borrowing from commercial sources do not have much impact in developing countries like Nepal. On the other hand, foreign aid, the official source has much larger and significant impact. Hence, foreign aid remains the major source of borrowing for filling both the savings- investment gap and import-export gap. Let's take a look at the relationship between foreign aid and savings-investment

Foreign aid and Saving-investment

The general concept of providing foreign aid to least developed countries is to fill the gap of savings and foreign exchange. For economic growth of any country, investment is necessary and for investment, savings is necessary. The pro aid scholars argue that the major deficit of

growth and development in poor countries are the lack of capital, technical knowledge, foreign exchange hence, they cannot generate the necessary resources in their initial phase of development. When a country does not have enough savings, it cannot invest and generate revenue to fund its expenditures and that is when foreign aid can finance the investment projects. Whereas anti-aid scholars argue that despite of savings and foreign exchange constraints, the aid recipient countries still may not utilize the foreign resources due to poor macroeconomic policies and institutional quality. According to Harrod-Domar growth model theory that we discussed in earlier chapter, considers investment equal to savings and the Solow- Swan model, which also considers savings as a determinant factor to increase investment for economic growth.

According to the growth literature, foreign aid can affect economic growth by financing investment through savings or income. But the aid may also be utilized to finance reverse flows such as debt payment, reserve accumulation, interest payment etc instead of investment and savings (Serieux, 2011). Basnet (2013) found that foreign aid displaces domestic savings and eventually have negative impact on growth in long run even though the growth rate may increase. Despite of increase in growth rate, this effect may be overshadowed by the negative effect of aid on savings. Scholars such as Loxley & Sackey (2008), Eregha and Irugha (2009), Gyimah-Brempong & Racine (2010) and Balde (2011) argue that foreign aid has significant and positive impact on savings and investment.

When we look at the numbers in the statistics (World Bank, 2018), we can see that the resource gap of savings-investment is almost positive in years except in 2009/10, 2010/11 and in recent years in 2016/17, 2017/18 and aid was enough to fill those gaps in those years but not enough in years where the resource gap was positive. When the gaps are larger than the foreign aid, in those cases the commercial borrowings could be utilized.

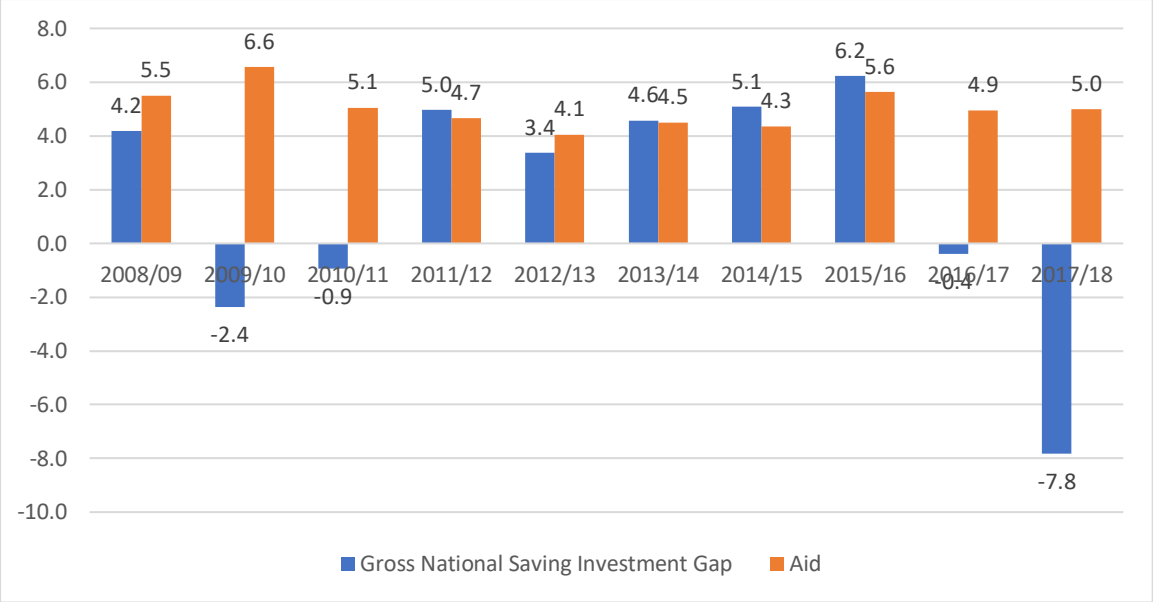

Figure 10. Gross National Saving Investment Gap (% of GDP)

Source: Nepal Rastra Bank 2018

Next, the gap between import and export is also called Foreign exchange gap. It is generally the deficit in trade account. In Nepal, this deficit had been gradually increasing over decades. On the other hand, aid had also been increasing which financed that gap. However, since 1990s this need to finance these gaps by foreign aid has decreased due to new income from remittance (Khatiwada, 2003).

In addition to these two gaps, it is found that government budget deficit is also being financed by the foreign aid. Thus, the importance of foreign aid has found to be major since decades before in Nepal. It has been continuously financing these major gaps of the nation. It is the major source of income from this aspect of development expenditure. We will look at our analysis to know if the aid has any impact on economic growth through inflow in savings-investment gap.

Foreign aid and Human Capital

Generally, aid is directed towards saving-investment gap so very low attention is given to human capital development. Scholars have found that foreign aid can improve economic growth by investing in education and health expenditure, most widely used proxies for human capital. As discussed in previous chapter, constant foreign aid has been allocated to education

and health in Nepal. About 12.5% of total volume of ODA was allocated to education sector whereas 9% goes to health sector (MoF, 2018). Nepal has been getting foreign assistance in education and health sector since the country started to receive foreign aid. Entire amount of aid used to be in form of grants in earlier period, but it has started to change in recent years. In FY2017/18, only 40 % of the total disbursement of aid in education was in form of grant whereas 45 % was on loan and 15% was in form of technical assistance. Similarly, in heath sector, only 39% of total disbursement was in form of grant, 18% was on loan and 43% was in form of technical assistance.

The school enrolment ratio in secondary level has increased from 51.79 % in 2008 to 71.20 % in 2017 whereas in 2017, school enrolment in primary level was 94.69 % (World Bank Data, 2019). There was increase in literacy rate of people aged between 15 and 24 from 70.1% in 2000 to 84.75% in 2015, a significant improvement for 15 years period.

The aid disbursed for program, policy and infrastructure development of maternal health resulted in significant decrease in maternal mortality rate from 539 per 100000 live births in 1996 to 239 in 2016 (World Bank Data, 2019). Also, the births attended by skilled health staff was 36 % 2011 whereas that number increased up to 55.6% in 2014 and 58% in 2016. The mortality rate of infant has been reduced to 27.8 per 1,000 live births in 2017 from 41.1 per 1,000 live births in 2008. Nepal has reduced its under-five mortality rate by more than half, down to 40 per 1,000 live births. Life expectancy at birth has increased from 67.03 in 2008 to 70.60 years in 2017(World Bank Data, 2019).

The infrastructure development in education and health sector carried out by aid projects have a significant role in the improvement in health and education sector, especially the technical assistance has favourable impact on education and health. Foreign donors such as International Bank for Reconstruction and Development (IBRD), United States Agency for International Development (USAID), Canadian International Development Agency (CIDA) have conducted programmes to evaluate the aid in education sector in Nepal. They found that majority of projects met their target and have generated favourable output in terms of construction of infrastructures, number of school enrolment. The study conducted by IBRD concluded that the base of education sector in Nepal has been covered by foreign assistance and now only the management of the education system must be strengthened and reformed to improve the quality of education.

Foreign aid and policy

The literature on aid has suggested that successful utilization of foreign aid can be conditional on policy of the recipient country. Many studies on foreign aid in Nepal concluded that due to ineffective and weak policy, the aid could not generate the target growth. Hence, World Bank has started First Programmatic Fiscal and Public Finance Management Development Policy Credit in Nepal which has proposed two pillars; to establish a framework to step towards fiscal federalism and to improve the policy framework for public financial management (World Bank Document, 2019). This project is comprised of 93% loan, 6% grant and 1% technical assistance. This might be a policy of World Bank to make the country more responsible since majority of the aid is loan and the government needs to spend it without misusing it.

One of the major purposes of this policy project is to reduce political instability by supporting federal state in Nepal. In past 10 years, the country had 9 governments. In federal system, the funds, functions and responsibilities are shifted to state and local governments, so the aid flow could be easier than before. The Development Policy Credit (DPC) will cooperate with government to establish effective public institution.

The result has yet to be seen since it is recently adopted policy but there is high anticipation with the new government system and this policy reform in Nepal.

Factors that determine the aid effectiveness

Aid Conditionality and country ownership

The purpose of Foreign aid is solely for the benefit the recipient countries, but the conditionality of aid plays more crucial role in its effectiveness. As discussed in chapter above, major donors such as World Bank and IMF started conditional lending and grants for policy reform and structural adjustment. The donors realized that the aid was not working due to the weak policy and structure hence, they changed the approach from aid driven investment to aid induced policy reforms so that the aid inflows would be used for the intended purpose for the development of recipient country.

However, many criticisms were made regarding this conditionality (Sachs, 1997; Leandro et al. 1999). Critics argued that the need of conditionality arose because of the lack of commitment from the recipient country and this could not be solution to this problem because if the country is not committed to impose effective policy reforms then they may agree to reform when they seek donor assistance and after the situation gets settled, they may ignore it again. (Drazen, 200). This could happen due to lack of country ownership which is exactly what is happening in Nepal and this was also pointed out in Nepal Development Forum meeting in 2000 (Foreign aid policy, 2002).

Due to lack of country ownership, other reform requirements that need to be fulfilled within a specific period of time such as macroeconomic reforms like reduction of government budget deficit, devaluation as well as other structural conditions such as reduction of trade barriers, removing controlled prices, privatisation of public enterprises and so on, could also fail.
Although it is believed that conditionality induced policy reforms can profit the country in long run, in context of Nepal, the aid conditionality did not yield positive impact in short run. For example, the privatization of public enterprises had increased the rate of unemployment in Nepal. Similarly reducing the subsidies in fertiliser had greatly affected the market of agriculture. And increasing rates of VAT had direct negative impact on the Nepalese business market. These policy reforms initially forced to accelerate political and economic instability of the country. In overall analysis, it has been found that the reforms laid out by the donors in terms of aid conditionality backfired hence it could not generate the benefits that was anticipated but instead it had negative impact on agriculture and business sector (IMF report, 2003)

Fungibility of aid

Fungibility of aid is a widely discussed term in aid community which is used often to describe aid ineffectiveness. In simple terms, aid fungibility happens when aid which is intended for a project or sector is a) substituted for government spending b) used to reduce taxes c) used for other purposes than intended (Tamura, 2005). When aid is fungible, the impact it can make on economic growth and development of the recipient country becomes ineffective. Hence, aid fungibility is often considered as a highly probable factor which can derail the aid effectiveness. When foreign aid tends to be a fungible resource, the recipient countries invest the aid on projects or areas where donors did not intend. The government sometimes, due to many

political reasons, may approve projects which are not related to socio-economic development. Those projects are generally capital-intensive projects which do not have significant contribution in employment generation or poverty reduction. Instead, it may encourage corruption by various non-transparent procedures and tender system. Yano & Nugent (1999) in their studies found that in Nepal, significant amount of aid financed non-traded sector which may have hindered the economic growth.

Absorptive Capacity

One of the determinants of aid effectiveness is absorptive capacity of recipient. In general terms, absorptive capacity refers to the capacity of the recipient country to absorb aid so that it achieves intended objective.

The utilization of aid in effective way depends upon the capability of the recipient country. The country needs to have sufficient structural and institutional capacity in order to absorb huge amounts of aid inflow and allocate them to the most needed sectors. There are various factors that determine this absorptive capacity of the country such as the quality of governance, infrastructure, capacity of bureaucracy, stability of government, policy environment etc. If the recipient country has poor policy and poor governance, then the country will not be able to efficiently utilize aid to achieve its goals. The lack of adequate infrastructure, prolonged bureaucratic procedures for approving and finalizing projects, ineffective administration, instable government and high level of corruption, all counts as complications that hinder in the absorptive capacity of Nepal. Nepal is one of such countries with not so much improved absorptive capacity (Pandey, 2017). It still lacks proper and effective institutional framework and appropriate policies to handle the flow of aid.

Foreign aid policy

In absence of effective foreign aid policy, Nepal has been driven by donors' motives and perceptions for about five decades.

Due to lack of appropriate the governmental policy, Nepal had to pay a high price being an aid dependent country. All issues discussed earlier i.e. absorptive capacity, fungibility of aid aid conditionality are result of poor aid policy. The donor aid projects were planned and carried out without proper supervision by the concerned authorities of government. Nepal had to face

so many obstacles and had no proper plan for the efficient utilization of funds. After the efforts of concerned authorities and with the realization of need of national policy, Foreign Aid Policy 2002 was formulated and endorsed by Ministry of Finance in Nepal.

Foreign Aid Policy 2002 has critically analysed past performances of foreign aid and many aid issues faced by the country. It tries to identify the problems and prospects of the aid to encourage effective and efficient outputs. For proper utilization of aid, new guidelines, polices and strategies have been introduced which appeals the donors to have better coordination and understanding about the objective of aid and to understand the characteristics of Nepal (population, geography, culture and social status). The policy 2002 clearly admits that Nepal had failed to utilize the foreign assistance and reap maximum benefits. The policy has clearly set up guiding principles and objectives, the priorities for short term and long term, the major polices, strategies, agendas and instruments (Foreign Aid Policy, 2002).

After seventeen years of the policy, Nepal still is struggling with same issues. With the rate of increment in foreign aid, the overall economy has not improved despite of huge sum of capital flow. We can understand that formulating policy is not the only solution, an appropriate environment is also necessary for the policy to be implemented effectively.

Advantages and Disadvantages of Foreign aid

Foreign aid is generally provided as project aid, programme aid, technical assistance, and humanitarian aid. The ultimate objective of the foreign aid is to reduce poverty by contributing in projects that accelerate economic growth in least developed countries. But different forms of foreign aid have different effect on the recipient country depending on its macroeconomic variables.

Advantages of Foreign Aid

As discussed in several instance in this paper, the primary advantage of foreign aid is that it helps in capital formation which can be used to finance large investments for infrastructures and to finance imports of capital goods. When both expenses are covered by foreign aid, then the country could utilize the infrastructure and capital goods to improve its productivity and be

self-sufficient on its own after a certain period of time. When we look at it this way, foreign aid is a very beneficial tool which can help increase investment and thus growth. But in recent years, aid is also expected to help in investments, government expenditure, poverty reduction as well.

Foreign aid in form of project aid promote investment and rehabilitation, which generates higher output and also help in improving social indicators. Aid in form of programme aid focuses in balance of payment and budget support. This kind of aid helps the recipient country to meet its development expenditure hence it contributes in economic growth and development since the aid is used for investing in infrastructures, health and education. Programme aid also supports import of capital goods for public enterprises, which generates higher output and thus result in economic growth.

Foreign aid can also be used to pay debts which can help in foreign exchange and thus give more attention to investment and imports. Foreign aid is also very important for humanitarian cause such as war, natural disasters and in emergency situations. For e.g. In 2015, there was a huge earthquake in Nepal, where many countries of the world and international organisations provided humanitarian aid in form of food, supplies, rescue and relief, medical assistance.

Nepal receives technical assistance from many donors. It provides technical skills and knowledge which are beneficial for development process because it improves human capital and helps to fill the skills gap and improve efficiency.

The long-term outcome of foreign aid may take some time to come into account, but short-term outputs can be visible within a short period of time. In short run, foreign aid supports the immediately. For example, victims of natural disasters get support immediately, people get benefit in the area of education, health or shelter or infrastructure and it can be visible in real time, when the project is being carried out. It has been found that huge amount of funds come from foreign nations during such situation of emergency. During the massive earthquake of 2015 in Nepal, donations came from all around the world immediately for supporting the victims. Donor countries were United Kingdom, United States, China, Australia, the EU, The UN, Switzerland, Israel, India, Malaysia and so on. The economy of the country had drastically fallen after the earthquake. But the huge flow of foreign aid helped the country to resist the crisis and survive from economic breakdown (Cook et al, 2016).

It is evident that foreign aid has positive impact in health sector. It has greatly supported meeting up some targets of Millennium Development Goals. As discussed in earlier chapter, it indeed has huge role in reducing maternal and infant mortality rate. USAID, DANIDA, UNICEF, World Bank, DFID and others are actively working since decades in developing

countries to improve these areas. Various HIV/AIDS prevention and treatment services are being supported. In Nepal, donors funded health programmes are being carried out that has significantly helped to achieve national health targets. Additionally, drugs and other supplies are being supported. Hospital and health centres are built along with provision of equipments.

Similarly, the foreign aid has achieved good results in education sector globally as well as in Nepal. Major support from aid could be seen in building infrastructures like schools and vocational centres in the rural part of Nepal. Besides infrastructure development, various programmes are also carried out to provide training to teachers to improve the teaching techniques and methods and distribution of educational materials are also covered by aid in many educational projects

Job opportunity to local people of recipient nation is another major positive aspect of foreign aid. Currently there are 39759 NGOs and 189 INGOs working in Nepal in different sectors such as health and community sector, child welfare, education, sanitation, safe motherhood, women empowerment, disability service etc (SWC, 2019). Donor funded programmes are carried out by local people. Large numbers of people are engaged in NGOs and INGOs funded programmes. This phenomenon of granting funds by donor country and receiving and utilizing by recipient country create a space for employment opportunities.

Disadvantages of Foreign Aid

Foreign aid not only has advantages, but it also has many disadvantages which should be considered before seeking aid. Foreign aid has high probability of being fungible especially in least developed countries where corruption is very high. One of the major disadvantages of foreign aid is that it may encourage corruption and misuse of resources. The fungibility of aid makes it easier to be misused by corrupt officials by relocating the aid in non-beneficial expenses, fading in operational costs etc.

The recipient country may have to cover the recurring expenses of projects which may create further financial pressure on them. In recent years, the foreign aid is more in form of loan than grant, which may pressure the recipient country to pay high interest rates on loans by sharing their budget for repayment.

The foreign aid may not only promote aid dependency but also aid addiction among poor economic countries. There are plenty of examples in least developed countries especially in African countries. Aid comes with cost of crippling debt and conditionality that may not be in favour of the recipient country. In FY 2017/18, more than 50% of total ODA is in form of loan in Nepal. Despite of many reform attempts and new government, the corruption is still very high. The country may face a huge debt since the aid may not be fully utilized but it still has to pay the interest for the loan. Hence Nepal may fall in the debt trap because of this.

Chapter 4. Research Methodology

Methods of Data Collection

This study will be based on secondary data collected and published by The World Bank and The Government of Nepal, Nepal Rastra Bank (The Central Bank of Nepal), Central Bureau of Statistics and various donor agencies such as, Asian Development Bank (ADB), United Nations Development Program (UNDP) and others. Foreign aid and Foreign Direct Investment (FDI) will be taken as the percentage of gross domestic product.

Research Design

Descriptive research design will be adopted for the study. The descriptive, quantitative and analytical research tools will be also used for the study. Regression equations will be analysed and calculated which provides value of dependent variable (GDP Growth in this study) for given values of independent variables. The primary objective of the regression analysis is to show the relationship between foreign aid and GDP. For instance, after deriving regression equation one can able to find out the effect of foreign aid on GDP. This paper will follow the Burnside and Dollar (2000) paper as a foundation but will include more variables to their model and carry out the analysis.

Choice of variables

Foreign aid

As we discussed in our second chapter, the relationship between foreign aid and economic growth is not conclusive enough but it has been justified that foreign aid facilitates the resource constraints of poor countries especially by focusing on the supply side (Munemo et al., 2007). Following this perspective, foreign aid is considered to be a positive factor for economic growth. For this study, the Net Official Development Assistance received (% of GNI) has been used to represent the foreign aid. Net ODA consists of disbursements of loans made on concessional terms and grants by official agencies of the members of the Development Assistance Committee (DAC), by multilateral institutions, and by non-DAC countries to

promote economic development and welfare in countries and territories in the DAC list of ODA recipients. It includes loans with a grant element of at least 25 percent (calculated at a rate of discount of 10 percent) World Bank (2018). Data used in this paper has been collected from World bank data so there is no specific choice on the components of this variable.

FDI inflow

According to the neo classical theory, FDI boosts economic growth by transferring productive capital and technology in to the recipient country. The recipient country gains technical and managerial know-how and innovative business techniques which further develops the productive capacity and human capital of the country as well. Hence, more FDI are encouraged by developing economies since it is believed that FDI has many positive impact on economic growth through capital gain, technological transfer, managerial techniques and skills, human capital development, infrastructure development, market expansion, productivity development and international trade etc.

FDI data that has been used in this study is FDI inflows as % of GDP. FDI is the sum of equity capital, reinvestment of earnings, other long-term capital, and short-term capital as shown in the balance of payments. net inflows (new investment inflows less disinvestment) from foreign investors and is divided by GDP (World Bank ,2018). Data used in this paper has been collected from World bank data so there is no specific choice on the components of this variable.

Human capital

Human capital is considered as a major determinant of economic growth by Endogenous growth theory. Until the mid-1990s, human capital was only linked with education even though several authors had started to recognize the significance of health as well. Scholars such as Mankiw, Romer and Weil (1992) were the first to include both health and education when analysing human capital. Similarly, both health and education has been considered for human capital in this study.

Education

Barro & Lee (2001) claimed that human capital that is attained by education as significant determinant of economic growth.

As claimed by Habiyaremye and Ziesemer (2006), there are three general ideas on how education affects the production and its contribution to economic growth. First, education improves the labour efficiency of population. Second, education can enhance the ability of workers to perform complex function by skill development knowledge which cannot be carried out by uneducated workers. Third, educated and skilled labour generates more productivity and output. Hence, these ideas suggest that education helps the workers to comprehend, grasp and utilize the skills and knowledge of new technology and methods which can accelerate economic growth through high productivity.

For this paper, School enrolment for secondary level % gross has been chosen to represent education. Gross enrolment ratio is the ratio of total enrolment, regardless of age, to the population of the age group that officially corresponds to the level of education shown (World Bank, 2018). Since the education level is not high in Nepal, the ideal level for education would be secondary. Hence it has been chosen for the data.

Health

Lopez-Casanovas (2005) examined the relationship between health and economic growth. He found that quality health improved the quality of human capital and it had direct and positive effect on human productivity which ultimately led to economic growth. Similarly, Sen (1988) described life expectancy as an intrinsic capacity where personal welfare depended. Often, health variable is represented by life expectancy rate, so this study has also done the same; chose Life Expectancy at birth. Life expectancy at birth indicates the number of years a new born infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life (World Bank, 2018)

Policy Variables

In order to capture the overall concept of policies of the country, three major policies are chosen: Monetary Policy, Fiscal Policy and Trade policy as Burnside and Dollar(2000) did in their study.

Monetary Policy

Fischer (1993) claimed inflation rate as the best indicator of macroeconomic policies which reflects the ability of a government to control the economy. Inflation rates are supposed to be in control since its fluctuation affects the cost of capital and hinders capital investment. High inflation rates increase the uncertainty in economy which is counterproductive to economic growth. Therefore, it can be assumed that in order to promote economic growth, a low and stable inflation rate should be maintained.

In order to represent Monetary policy of the country, inflation rate is used in this study. Inflation measured based on the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly (World Bank, 2018).

Fiscal Policy

Gemmell and Kneller (2001) provided empirical evidence on the effect of fiscal policy which indicated that spending on public investment generated positive economic output whereas spending on consumption and social security did not have any significant impact. To represent fiscal policy, government expenditure has been taken i.e. Ratio of government expenditure to the gross domestic product (GDP) (World Bank, 2018).

Trade Policy

In endogenous growth model, there is an assumption that openness of the economy influences economic growth in a positive way because it promotes trade, technological transfers, trade knowledge etc. Dobre (2008) recognized the importance of openness in terms of sustainable

long-term growth in productivity . In this paper, the openness to trade is measured by trade policy which is represented by trade percentage. Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product (World Bank, 2018).

Institutional quality

In order to measure the institutional quality, the indicators of fundamental governance concepts developed by Kaufmann, Kraay, and Mastruzzi (2006) will be used. The indicators measure subjective perceptions of quality of governance, sourcing from polls of experts which reflect the country rating developed by commercial risk rating agencies and other agencies and cross-country surveys of people carried out by international organisations and other NGOs. They have limited their focus on measuring the perceptions of residents of country, entrepreneurs, investors, civil society etc regarding the quality of government of the country instead of compiling or presenting the available quantitative and descriptive data on cross country differences in political and social institutions.

They claim to use subjective data instead of objective because of several reasons. First, to measure issues such as corruption, objective data are difficult to obtain whereas there are some alternatives to subjective indicators. Second, perceptions matter as much as objective differences in institutions. As an example, given by themselves, a country can have sound institutions according to certain standards but the confidence of the citizens on those institutions are also important if they contribute to good governance. Third, through one of their studies in context of East Asian financial crisis, they found out that the subjective perceptions can have significant explanatory power for economic outcomes.

Hence, they created a set of estimates of six dimensions of governance based on several hundreds of variables measuring the perceptions of governance collected from 25 separate data sources constructed by 18 different organisations.

Voice and accountability

It measures the extent to which the citizens of a country are able to select their government i.e. the participation of citizens in the process of selecting and replacing authority personnel. It

measures the aspects of civil liberties, political processes and political rights. It also measures the freedom of speech, association, media and expression which is important to hold and monitor those in position to hold them accountable for their actions.

Government effectiveness

This indicator measures the quality of public services, civil service, policy formulation and implementation and the degree of its independence from political pressures and the credibility of the government's commitment to such policies. It also measures the quality and competence of civil servants and bureaucracy in whole.

Political stability and absence of violence

This indicator measures the perceptions of the likelihood that a government will be destabilized or overthrown by unconstitutional or violent means, including domestic violence and terrorism. It presents the idea that the quality of governance can be undermined by the nature and amount of change in government which also influences policies and ultimately affects the power of citizen to select and replace the government.

Regulatory quality

This indicator measures the ability of government to formulate and implement policies and regulations which permit and promote private sector development. It focuses on policies such as price control, bank supervision, as well as perception of burden inflicted by harsh regulation in business development or foreign trade etc.

Rule of law

This indicator measures the extent to which the stakeholders have confidence in the rules of the country especially in the police force, the courts and other government bodies. It also includes perceptions of crime, quality of judiciary and enforcement of contracts. This indicator reflects the environment where fair rules form the basis for social, economic and business interactions and the extent to which property rights are protected.

Control of corruption

This indicator measures perceptions of corruption, the extent to which public power is exercised for private gain as well as "capture" of the state by rich and private interests.

Burnside and Dollar (2000)

In their paper of 2000, Burnside and Dollar tried to investigate the relationship between economic growth, economic policy and foreign aid by using new data developed by World Bank. The Burnside and Dollar added economic policy index and institutional variables (Ethnic fractionalization, Assassinations institutional quality and broad money). To capture the conditional convergence effect, initial GDP is used, and an interaction term has been included to check whether the aid works better in good policy environment. The interaction term is between AID/GDP and policy index.

The policy index is formed by using three major policies -inflation rate, budget surplus, and openness dummy which is developed by Sachs and Warner (1999), to interact the index with foreign aid. The authors claim that they just created the index to make it simpler instead of using separate variables. They used principle component approach as first method and found that two principle components correlated with inflation and openness therefore they ignored the budget surplus variable and included the dummy, openness and inflation. They claimed that policy distortions that influence growth would eventually determine the aid effectiveness. Therefore, they created the policy index by weighing the policies based on their correlation with growth. Hence, this is how they examined the aid effectiveness under good or bad policies. My model is influenced by Burnside and Dollar (2000) paper. Hence, the difference and similarities between this paper and their paper are discussed below in a brief.

Difference between Burnside and Dollar's paper and this paper

Description	Burnside and Dollar	This Study
Independent Variables	economic policy, institutional variables	Savings, FDI, Human capital, Remittance, Policy, institutional quality
Dependent Variables	Real per capital GDP Growth	GDP growth rate
Instrumental variables	Yes- Population and land	No
Policy	Inflation rate and Current account balance/GDP	Inflation rate, Government Expenditure, Trade %
Dummy	Openness and time dummy	No
Institutional variables	Money and quasi money relative to GDP lagged CPIA business regulatory environment dummy	Voice and Accountability Government Effectiveness Political stability and Absence of Violence/ Terrorism Regulatory Quality

	CPIA property rights and rule-based governance dummy, (Ethnic fractionalization, Assassinations CPIA transparency, accountability, and corruption dummy.	Rule of law Control of corruption
Regional data	Sub-Sahara Africa East Asia	No
Method	First Stage Regression, 2SLS	Factor Analysis and Regression
Type	Cross country	Single country

Similarities

Description	Burnside and Dollar	This Study
Aid	Total ODA%GDP	Total ODA%GDP
Choice of Variable	Fiscal, trade and monetary Policy and institutional variables	Fiscal, trade and monetary Policy and institutional variables
Output	Aid has positive impact on growth with good fiscal monetary trade policy but low effect in presence of poor policies	In savings-aid factor, Aid had positive value and the factor was significant.

Model Specification

In this section, the model for the paper will be discussed which is used to study the relationship between foreign aid and economic growth. The empirical model used for this purpose is based on Burnside and Dollar's model (endogenous growth model) and some other empirical studies for additional variables discussed in the literature review chapter. First, to create the model, the basic relation function has to be discussed:

$$GDPg = f(PC, HC, PI) \quad (1)$$

Where,

GDPg denotes Annual GDP growth rate

PC is a vector of physical capital sources of country

HC is a vector of human capital of country and

PI is a vector of policy and institutional variables.

Endogenous growth model considers several variables such as physical capital, human capital, institutional design etc. Burnside and Dollar (2000) have added policy factor and institutional factors which may influence the economic growth. Based on these two concepts, the model can be derived as:

$$GDPg = \beta 0 + \beta PC + \beta HC + \beta PI + \mu \quad (2)$$

On the contrary, economic growth in poor countries are covered by various capital sources like foreign aid and investment. Only the FDI for the investment variable has been used for this case instead of Domestic investment with an assumption that the domestic investment is not enough due to low savings and, we have already taken savings in our data so domestic investment is not necessary. Remittance has been also included in this cluster as a component of capital.

Hence, PC = f (NETODA, SAV, FDI, REM) (3)

where,

NETODA denotes foreign aid, which is net official development assistance (ODA) as % of GDP.

SAV represents Gross domestic savings % of GDP

FDI represents Foreign direct investment, net inflows (% of GDP)

REM represents Personal remittances, received (% of GDP)

Similarly, we can break human capital (HC) down into two components: education, which is captured by school enrolment, secondary (% gross); and health, which is represented by life expectancy rate. Hence,

HC= f (SCH, LXP) (4)

Where,

SCH denotes School enrolment, secondary (% gross)

LIFE denotes Life expectancy rate

Regarding policy, I want to use trade% of GDP (used by Collier & Dollar) to measure trade openness as a proxy for trade policy, government expenditure % of GDP (used by Collier & Dollar) as proxy for fiscal policy and inflation rate (used by Burnside & Dollar) for monetary policy.

To analyse effect of governance, 6 indicators defined by the Worldwide Governance Indicators (WGI) will be used. The six indicators are Control of corruption, Political stability and Absence of Violence/ Terrorism, Regulatory Quality, Voice and Accountability, Rule of law and Government Effectiveness.

Hence,

Z = f (Policy, Institutional) = f (INFL, GOVEX, TRD, VOA, GOVEFF, POLS, REGQ, RUL, CORC)

Where, (5)

Thus, substituting (3), (4), (5) in (2), produces our refined model as:

$GDPg = \beta 0 + \beta 1\ SAV + \beta 2\ NETODA + \beta 3FDI + \beta 4\ SCH + \beta 5\ LXP + \beta 6\ TRD + \beta 7\ INFL + \beta 8\ GOVEX + \beta 9\ VOA + \beta 10\ GOVEFF + \beta 11\ POLS + \beta 12\ REGQ + \beta 13\ CORC + \beta 15 + \beta 16\ REM + \mu$ (6)

Where

GDPg -Annual GDP growth rate

SAV - Gross domestic savings % of GDP

NETODA - Net ODA as % of GDP

β3FDI - Foreign direct investment, net inflows (% of GDP)

SCH - School enrolment, secondary (% gross)

LXP - Life expectancy rate

TRD -Trade percentage of GDP

INFL - Inflation Rate

GOVEX - Government expenditure % of GDP

VOA - Voice and Accountability

GOVEFF- Government Effectiveness

POLS - Political stability and Absence of Violence/ Terrorism

REGQ - Regulatory Quality

RUL - Rule of law

CORC - Control of corruption

REM - Personal remittances, received (% of GDP)

μ= error term

Data Processing and Analysis

In the process of data analysis, the available required data from various sources will be collected, classified and tabulated to fulfil the requirements of the study. I will use SPSS software for the calculation of the quantitative data. Regression analysis will be carried out and presented. Data will be presented in percentage when it is required. Tables, graphs, diagrams, pie charts etc will be used according to the requirement of the study.

Limitations of the Study

This study will cover the period from 2008 to 2017 and it includes the variables which considered important based on the literature review, to have an impact on the economy. As long as the data are available, I have tried to include more control variables to get the exact impact of the independent variables. Most of the data are retrieved from two major sources, The World Bank and The Government of Nepal. But for some variables, data has been taken from other sources too. The other main limitations of the study are:

- There are many factors that influences the relationship between foreign aid and economic growth but in this paper only few relevant factors are taken. Some other factors that are mentioned in the literature such as democracy, geography, population, domestic investments, donor interest etc have not been used.
- This paper is a single country study with only 10 years data due unavailability of data.
- The data used for institutional quality is collected from World Bank Data and it is the estimates that have been used in this paper. Since the institutional quality is a subjective matter, we cannot get concrete numbers like other data. Hence, the data used in this paper for that variable is not reliable enough since the authors have also mentioned about the subjective nature of the data.
- After the regression was carried out, the output generated did not make sense because there was the problem of multicollinearity. Hence, factor analysis had to be conducted before regression. There is a problem with factor analysis data that all the variables are clustered into few components and we cannot single out any variable from the factor analysis output. This is one of the major limitation for this study.

- According to the literature, donor interest also has some influence on the effectiveness of aid. But this factor has not been used in the analysis. Similarly, absorptive capacity also has some role on the aid effectiveness but that too have not been considered in this paper.
- The endogenous growth model that this paper is based on uses few more variables than what this paper has used. This paper has skipped few variables used in the model such as technology, intermediate goods, organisational capital, social capital etc.
- Also, this paper is influenced by the study carried out by Burnside and Dollar (2000) but it has not included all variables used in that paper such as Ethnic fractionalization, Assassinations institutional quality and broad money. They have created policy index to interact them with aid but that too have not been carried out in this paper since it will not be suitable for the method we followed in this paper (Factor Analysis- Regression).
- This study is based on the data and information available from the secondary sources only.
- Sometimes data varies according to the sources as their definition and methods of collection and calculation are not identical.
- This study will be concentrated on limited scope as data and information related to the study is acquired from the secondary source.
- The data used for the analysis is from 2008-2017 because data for all variables were not available for the year 2018. But some figures and data tables have included the data from 2018.
- Some dates have been converted from Nepalese date to English date since the data for English date could not be found. So, the date can be seen for example as 2017/18 since the Nepalese fiscal year falls between two English years.

Chapter 5. Analysis

As we discussed in our literature review chapter, there has been long debates on whether the foreign aid contributes in economic growth or not. The purpose of this chapter is to present the empirical analysis of the result of the model and to discuss the results. We will also discuss the factors that might have caused the result. The study has analysed the influence of aid, savings, policies, institutional quality, remittance and human capital on GDP growth by using a single equation model.

The first regression analysis had shown that our data had problem of multicollinearity i.e. the independent variables in the model were correlated. Hence, we had to fix this issue using Factor Analysis and reduce the dimension of our variables. After extracting four factors- Economic Policy Factor, Quality of Life Factor, Governance Factor and Savings-Aid Factor. Then the significant factors are used again to run the regression analysis second time with the dependent variable i.e. GDP growth.

The study has analysed a 10 years data from 2008-2017 to investigate the impact of aid and economic growth.

As informed in the methodology chapter, the following independent variables are included in the analysis.

Type	Variable
Capital	Gross Domestic Savings
	Foreign Direct Investment
	Net Official Development Assistance
	Remittance
Labour	School Enrolment
	Life Expectancy
Policy	Trade %
	Inflation Rate
	Government Expenditure
Institutional Quality	Voice and Accountability
	Government Effectiveness

	Political stability and Absence of Violence/ Terrorism
	Regulatory Quality
	Rule of law
	Control of corruption

Table 5. Independent Variables

When the first regression was carried out, proper data could not be generated since there was the issue of multicollinearity. So, the dimension of the variables had to be reduced using Factor Analysis.

Factor Analysis

For defining GDP growth, many parameters that are correlated by nature are required. Thus, the output obtained through analysing the univariate may cause problems and is not appropriate for the conclusion. Hence, multivariate analysis must be carried out. For this case, Factor analysis has been used since it can predict the hidden relationships between the variables under scrutiny. This multivariate technique helps to account the variation in the number of original variables using few number of factors. There is an assumption that each original variable can be expressed as a linear combination of the factors that reflects the extent to which the original variables are independent with each other (Manly, 1986).

Appropriateness of Data

To check the appropriateness data, we will examine the communality table. The communality estimates should be moderate to large value to be appropriate. Small values may be the indicator that the factor analysis is inappropriate.

Extraction method

This is used to find out the provisional factor loadings which is initial factor solution. For this paper, Principal component method is used to extract the uncorrelated factors from correlated original variables. The first extracted factor has highest variance and successive factors has progressive lower variances.

Rotation Method

Rotation is required since it makes the factor structures more meaningful and interpretable. For this paper, Varimax method for rotation is used. It reduces the dimension of variables which have higher loadings on each extracted components.

Number of Factors

Generally, the number of factors depend on the value of eigenvalues i.e. factors having value higher or equal to 1 are extracted. But for this case, I have specified the factors to be 4 because of the number of variables used.

Output

The figure on the right shows the communalities table. According to the rule, higher the communalities, higher the better. This table show that the extracted values are higher in general. Variables which have values between 0.0-0.4 cannot load significantly on any factor hence they have to be removed. In the table, all the variables have value more than 0.4. Hence, we can understand that all the variables can be loaded significantly on the extracted factors, so they are appropriate to be used.

Note: I have eliminated the variable Government Effectiveness for the calculation since it generated an output that did not make sense. Hence, I have carried out the analysis by not including that specific variable.

Communalities

	Initial	Extraction
Gross domestic savings % of GDP	1.000	.817
Net ODA as % of GDP	1.000	.832
Foreign direct investment, net inflows (% of GDP)	1.000	.926
School enrollment, secondary (% gross)	1.000	.981
Life expectancy rate	1.000	.981
Trade % of GDP	1.000	.947
Inflation Rate	1.000	.965
Government expenditure % of GDP	1.000	.928
Voice and Accountability	1.000	.916
Political stability and Absence of Violence/ Terrorism	1.000	.960
Regulatory Quality	1.000	.946
Rule of law	1.000	.837
Control of corruption	1.000	.568
Personal remittances, received (% of GDP)	1.000	.942

Extraction Method: Principal Component Analysis.

Figure 11. Communalities table

Figure 11 contains the factor analysis result that shows four components that has been extracted. The absolute value below .50 has been ignored. All the 14 independent variables have been used and they have been sorted in those four components.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Government expenditure % of GDP	.954			
Inflation Rate	-.909			
Voice and Accountability	.771			
Foreign direct investment, net inflows (% of GDP)	.756			
Life expectancy rate	.742	.600		
Political stability and Absence of Violence/ Terrorism	.678	.601		
Regulatory Quality		-.953		
Remittance		.722		
School enrollment, secondary (% gross)	.676	.703		
Rule of law			.874	
Trade % of GDP			.748	
Control of corruption			.570	
Gross domestic savings % of GDP				-.894
Net ODA as % of GDP				.692

Extraction Method: Principal Component Analysis.
Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 9 iterations.

Figure 12. Rotation Component Matrix

As we can see in the figure 12, ***Component 1*** consists variables: Government expenditure (***Fiscal policy***), Inflation rate (***Monetary Policy***), Voice and Accountability, Political Stability

and Absence of Violence/Terrorism (***Institutional quality***), Foreign Direct Investment (***Investment***), Life Expectancy & School Enrolment (***Human Capital***).

Component 2 consists variables: Life Expectancy & School Enrolment (***Human Capital***), Political Stability and Absence of Violence/Terrorism, Regulatory Quality (***Institutional quality***), Remittance (***Capital inflow)***.

Component 3 consists: Rule of Law (***Institutional quality***), Trade % (***Trade Policy***) and Control of Corruption (***Institutional quality***)

Component 4 consists: Gross Domestic Savings (***Savings***) and Net ODA (***Foreign Aid***)

Defining the Components

After extracting the components, they have to be named. The name of extracted components plays very important role for interpreting the output. Since it is based on the subjective perception of the analyst, there is no scientific rule to name the extracted components. According to the factor loading and respective sign, the role of the factors will be considered, and a logical name will be given to each components.

Component 1: Economic Policy Factor

This component includes Fiscal policy, Monetary Policy, Voice and Accountability, Political Stability, Investment, Human Capital. When we look at the magnitude of the variables, the highest value belongs to Government expenditure and inflation rate, while Voice and accountability, Foreign direct investment and Life expectancy rate has moderate value and Political stability and School enrolment has lowest value among them. Considering the sign and value, the name of the first component could be **Economic Policy Factor**. The institutional quality variables are also related to the policy of government so is the foreign direct investment. Government controls the volume and quality of FDI with its internal and external policies and same is with the human capital. Economic policy also has some influence over the development of human capital. Figure # shows that this factor has positive but insignificant relationship with GDP growth. More discussion about this will be continued in later section.

Component 2: Quality of Life Factor

This component includes Human Capital, Political Stability, Regulatory Quality and Remittance. The variable Regulatory Quality has negative sign but high magnitude. Remittance and School Enrolment has positive and moderate value whereas Life expectancy rate and Political stability has lower value. Considering the sign and value, the name of the second component could be **Quality of Life Factor** because Regulatory Quality as defined in earlier chapter, "*captures the perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development"* (Kaufmann, Kraay, and Mastruzzi, 2006). So, we can understand that this variable explains the regulatory quality of the private sector development. Quality of Life factor envelopes the human capital, quality of Private sector, stability of the country and also the inflow-Remittance generated through migration. When we look at the figure, we can see that this component has negative relationship with GDP growth. More discussion about this will be continued in later section.

Component 3: Governance Factor

This component includes Rule of Law , Trade Policy and Control of Corruption. All the variables have positive sign. Rule of law and Trade policy has high magnitudes whereas control of corruption has a low value. Considering the variables included in this component, we could name it as **Governance Factor** since it includes all variables related to Governance. This component has a positive relationship with GDP growth as generated in figure 13.

Component 4: Savings-Aid Factor

This component includes only two variables: Savings and Aid. Savings (Gross Domestic Savings) has negative sign but large value whereas Aid (Net ODA) has positive but lower value. This component could be named as Savings-Aid Factor since it only consists those two variables in it. This component has negative relation with GDP growth as we can see in the figure below. More explanation will be carried out in later section.

After these components are generated, they are used as independent variables to run a regression analysis where GDP growth is used as dependent variable. Following output is generated:

Correlations

		GDP growth rate	Economic Policy Factor	Quality of Life Factor	Governance Factor	Savings-Aid Factor
Pearson Correlation	GDP growth rate	1.000	.229	-.472	.455	-.531
	Economic Policy Factor	.229	1.000	.000	.000	.000
	Quality of Life Factor	-.472	.000	1.000	.000	.000
	Governance Factor	.455	.000	.000	1.000	.000
	Savings-Aid Factor	-.531	.000	.000	.000	1.000
Sig. (1-tailed)	GDP growth rate	.	.262	.084	.093	.057
	Economic Policy Factor	.262	.	.500	.500	.500
	Quality of Life Factor	.084	.500	.	.500	.500
	Governance Factor	.093	.500	.500	.	.500
	Savings-Aid Factor	.057	.500	.500	.500	.

Figure 13. Correlation Table

First let's take a look at the correlation table, we can see that Economic Policy Factor has low correlation (0.229) and has small relationship but has no significant relation with GDP growth. That means 1 unit change in GDP results in 0.229 units increase in Economic Policy Factor. Quality of Life Factor has moderate correlation and negative substantial relationship (-0.472) but low significance (0.84) which means 1 unit change in GDP results in 0.472 units decline in Quality of Life Factor .

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874[a]	.764	.574	1.277746

a. Predictors: (Constant), Savings-Aid Factor, Governance Factor, Quality of Life Factor, Economic Policy Factor

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	4.559	.404		11.284	.000		
	Economic Policy Factor	.448	.426	.229	1.052	.341	1.000	1.000
	Quality of Life Factor	-.923	.426	-.472	-2.168	.082	1.000	1.000
	Governance Factor	.891	.426	.455	2.091	.091	1.000	1.000
	Savings-Aid Factor	-1.040	.426	-.531	-2.442	.059	1.000	1.000

a. Dependent Variable: GDP growth rate

Figure 14a. Model Summary Table

Figure 14 b. Coefficients Table

On the contrary Governance Factor has moderate but positive substantial relationship (0.455) which means 1 unit change in GDP results in 0.455 unit increase in Governance Factor. Savings-Aid Factor has negative but moderate correlation and substantial relationship (-0.531) with the GDP with high significance (0.057) which means 1 unit change in GDP results in 0.531 units decline in Savings-Aid Factor.

Looking at the model summary table, we can see that the R value is .874 which explains the degree of correlation. R square value is .764 which means that about 76% of the total variation in the GDP growth between period 2008 to 2017 can be explained by the model, which is very pretty good. In coefficients table, we can see in the significance column that the first factor is not significant.

1st Component- Economic Policy Factor is found to be insignificant to the GDP growth (0.341sig). This is means that economic policies do not have a significant impact on GDP growth. It has positive relationship but not significant.
The remaining three factors can be considered significant since they have below 10% significance. We have very small sample size; the precision of this study is low.

2nd Component- Quality of Life Factor has significant but negative relationship with GDP growth. This means that Quality of Life has high but inverse relationship. This looks very unusual but the reason for this will be discussed in next chapter.

3rd Component- Governance Factor has significant and positive relationship with GDP growth. This is an obvious sign since governance plays a vital role for economic growth of a country.

4th Component- Savings-aid Factor has significant but negative relationship with GDP growth. This component consists of negative savings and positive aid value which means that when savings are negative, amount of aid increases which leads to decrease in GDP growth. More discussions will be carried out in next chapter.

We use the values of unstandardized coefficients for our regression equation. The specified model was:
$GDPg = \beta 0 + \beta 1\ SAV + \beta 2\ NETODA + \beta 3 FDI + \beta 4\ SCH + \beta 5\ LXP + \beta 6\ TRD + \beta 7\ INFL + \beta 8\ GOVEX + \beta 9\ VOA + \beta 10\ POLS + \beta 11\ REGQ + \beta 12\ RUL + \beta 13\ CORC + \beta 14\ REM + \mu$

but since we had to cluster these variables into three significant factors, we can replace the equation as:

GDPg = β0+Quality of Life Factor + Governance Factor +Savings-Aid Factor

Hence,

GDPg = 4.559 - 0.923QLF + 0.891GV - 1.040SAF

(11.284) (-2.168) (2.091) (-2.442)

The growth regression determines the relative significance of the factors that are extracted. Here, the constant term. 4.559 is calculated by predicting GDP growth rate using the mean values of other remaining factors.

Chapter 6. Discussion

The main findings of the analysis are:

a. The factor that has the most significant effect on economic growth is savings-aid factor.
b. Savings-aid factor consists of two variables: negative savings variable and positive aid variable.
c. Savings-aid factor has negative relationship with GDP growth i.e. more aid causes decline in savings which leads to negative economic growth.
d. Savings-aid factor do not have any relationship with economic policy, quality of life and governance.
e. Economic policy has insignificant but positive relationship with economic growth.
f. Quality of life has negative and low significant relationship with GDP growth.
g. Governance factor has very low significance but positive relationship with GDP growth.
h. Foreign aid hampers savings.

Economic growth and extracted components(factors)

In earlier chapter, there has been a short discussion about the significance and correlation between the economic growth (GDP growth) and the extracted components (economic policy factor, quality of life factor, Governance factor and savings-aid factor), where the economic policy factor is found to be insignificant in relation with GDP growth. The first factor, Economic policy factor has a positive sign with GDP growth rate which means that economic policy can generate positive economic growth, but its capacity is non-significant. Good economic policy can bring economic growth indirectly in long term because with good policy, government can control both monetary aggregates as well as the revenue and expenditures of the country (Samuelson, 1955). He argued that with good economic polices (both fiscal and monetary), economy can have full employment and any rate of growth or capital formation that it wants to have. But in context of Nepal, though Economic policy has positive relationship, it does not have significant impact in GDP growth.

Second one is quality of life factor; this factor has negative but high value in relation with GDP growth. This one is bit unexpected output since, in general view, quality of life should have a positive relationship with GDP growth but in context of Nepal, we can view it from a different perspective. Quality of life factor is extracted from Regulatory quality (for private sector development), Remittance, School enrolment, Political Stability and Life expectancy variables. People of Nepal have been migrating to other countries for many reasons such as political condition of the country, for studying and working etc. They earn some revenue in foreign country and sent it back as remittance. The amount of Remittance is rapidly growing which has been discussed in chapters earlier. Remittance can yield positive effect on economic growth via various channels such as savings, investment, consumption, poverty alleviation, raising living standard (Pant, 2006). Remittance can create multiplier effects in domestic economy, produce job opportunities, develop local infrastructures which can create ripple effect on whole economic growth (ibid). Hence, we can draw a conclusion that more the quality of life degrades, more migration occurs which ultimately helps GDP growth through the capital inflow- Remittance.

Third component is Governance factor; This factor has positive and high value in relation with GDP growth but has lowest significance level. This factor reflects the rule of law ,trade percentage and control of corruption variables. World bank (1994) describes Governance as the way state exercises its power to manage its economic and social components. As we discussed in previous chapters that better governance can create efficient institutions and policies which can promote investment and production. Good governance allows the government to allocate the resources in necessary sectors which can yield higher productivity and thus economic growth (Romer, 2001). As we discussed earlier, many studies concluded that Aid in Nepal is not working effectively because of corruption, ineffective policies and weak institutions. Good governance improves bureaucratic structure and administration (North, 1991), discourages corruption, strengthens good policies and promotes investment Svensson (1998).

Fourth component is Savings-Aid Factor. It consists of only two factors: Savings and Net ODA. Savings has higher value than Aid, but the magnitude of savings is negative whereas magnitude of Net ODA is positive. savings-aid factor, economic policy factor , quality of life factor and governance factor do not have correlation with each other which means that savings-aid factor is not influenced by any of these factors in relation with GDP growth. This factor is highly

significant with GDP growth. This indicates that more aid and less savings have negative impact on GDP growth. The Harrod-Domar growth model also confirms that poor savings induce low rate of growth but there is seems disagreement regarding foreign aid. The model assumes that more foreign aid can function as additional savings to support the economy which can boost the economic growth rate.

Similarly, the output of Griffin and Enos (1970) is consistent with our output because in both cases, we can see that foreign aid and savings had negative relationship and foreign aid actually could have adverse effect on savings. When there is high amount of aid flowing in public sector, it erodes the government's ability to collect revenues and taxes and ultimately retard the development due to low domestic savings and investment. In Nepal, every year, the amount of aid is increasing, and very high percentage of expenditure is covered by aid which should have been covered by its own revenue and tax collection. We can really see the retardation of development due to high dependency on aid even for small projects. Hence, we can understand that aid cannot be the absolute solution for economic growth in poor countries.

There are many factors which are responsible for the generated output. Some of them are discussed below along with comparison of output with the literatures that we reviewed in chapter 2.

Ineffective Policy

Economic policy factor did not have significant impact on GDP growth even though it has positive relationship. It is because the quality of policy in Nepal is not effective enough, as many aid scholars have implied in their conclusion. This output is consistent with the output from Easterly et al (2004) who also found that policy variable was insignificant in aid-growth relationship. Similarly, the result of Basnet (2013) where he claimed that aid had negative relationship with domestic savings is consistent with our result. This, again, could be due to policy issue. As we could see it in Figure no. 5, savings has higher negative value and aid has small positive value. This could mean that positive effect of the aid could be nullified by the negative effect of savings.

The study of Burnside and Dollar (2000) also concluded that foreign aid could work positively and significantly only if the country had good policy environment. Here in this case, savings-aid factor is negative and significant because the policy environment in Nepal is not good.

Institutional weakness

The amount of aid has not been utilized effectively, this could be because of political and administrative weakness as Mihaly (1965); (2002), Stiller and Yadav (1979) also claimed. This resulted in poor absorptive capacity and corruption which steered the flow of aid in other unintended and unproductive sectors. Large amount of aid is used to import consumption goods instead of capital goods for production. There is no emphasis on domestic production and the import-export gap is very high. As Singh (1996) argued, the iron triangle- politicians, businessmen and bureaucrats) benefitted the most from the aid instead of needy people.

Another finding is that the aid provided by multilateral sources were more visibly effective rather than bilateral sources i.e. improvement in education sector and health sector. The reason for this could be that the projects financed by multilateral sources are given with lesser political interest than projects of bilateral sources as Headey (2008); Girod (2008); Cashel- Cordo and Craig (1990) found. Most of the multilateral projects are directed towards health and education sector. Indeed, the outcomes in health and education has improved, especially gender specific outcomes like maternal mortality rate has declined significantly and school enrolment ratio of girls to boys has increased significantly. The gender gap in education is slowly improving. This result is also consistent with the result from Pickbourn & Ndikumana (2013).

Corruption

As mentioned earlier, the due to institutional weakness, corruption prevails. Bauer (1991) also argued that when there is a large inflow of aid in a country, no matter how the country has been performing economically, the resources ought to get wasted by corruption from the bureaucrats and used for power gaining in the society. There is a general school of thought that aid promotes corruption in poor countries because of poor polices and rule of law. This can cause huge economic disparity which might be the case of Nepal. Morris (1996) also claimed that the major reason for ineffective use of aid in Nepal was inexperience and nepotism. Fisher(1966) also

indicated that there was geographical disparity in aid allocation, since urban areas were more targeted instead of rural areas, where the aid was most needed.

For more elaboration of these issue, I would like to answer the research questions.

1. What kind of relationship does foreign aid have with economic growth in Nepal?

Looking at the case of Nepal, its situation regarding foreign aid and economic growth, we can conclude that foreign aid does not have a positive relationship with economic growth. The output of the analysis confirms this statement. Due to the chosen method of analysis, I cannot single out the aid variable but the savings-aid factor that we extracted can explain that aid has inverse relationship with savings through which it generates negative economic growth.

2. What kind of impact does foreign aid make in the economy of Nepal?

Foreign has considerable level of impact in economy of Nepal. Though it does not have as much result as it should have generated, some sectors where constant aid has been poured like education and health, does have shown good results and helped the country to meet some of its development goals. But it does not have direct impact in the economy of Nepal since most of aid is spent on government expenditure instead of savings and investment. Aid is hampering the domestic savings of the country which ultimately also hampers the economy.

3. Why could not aid generate the expected result in Nepal?

In the chapters, the causal factors that are preventing the full utilization of aid have been discussed. The concept of aid and the objective of aid are slowly changing. It has now shifted from financing savings-investment gap to policy reform and government expenditure. When this happens, the aid will not generate economic growth. Maybe it can in long run but for that, the aid has to be utilized effectively for a long period of time. The relationship of donor and recipient is not well coordinated. Many projects are still pending or have been unsuccessful due to lack of clear coordination between two parties. Donors have been dissatisfied with the administrative and policy weaknesses. Nepal has not been able to use the available aid resources to invest and become self-sufficient but instead it has been whirling down in the debt trap. Yes, the problem is in government's inability to formulate effective policies, improve the

administrative capacity and establish transparent and good coordination with donors. Because of this, there is a trend of donor fatigue already started in Nepal. As there is also a problem with donor interest but if the recipient government is clear on its target and vision, donor interest will not have much impact on effectiveness.

Another obstruction in aid effectiveness is corruption. The level of corruption in Nepal is very high which can be observed from low level to high level of the country, whether its bureaucracy or business or any other sector. Unless the corruption level is not brought down, no matter how much aid is provided, it will not generate good results. As we discussed in earlier chapter that aid now has slowly changed from grant to loan, making 50% of total disbursement in loan and remaining in grant and technical assistance. If things keep going as now, the fungibility of aid will grow and Nepal will only be paying interest on the debt without actually reaping any significant benefit from the white elephant-aid.

To be optimistic, the government of Nepal has just settled in the new federal system and now promises to make changes in the policy as well as in the whole administrative system and reduce corruption. If things work as the government have planned, aid should start generating better results and in near future, Nepal should quickly take off from the quicksand of debt and achieve higher economic growth.

So, what can be done?

If the intention of aid is to promote economic growth, then the government should start spending the foreign aid wisely by investing in capital goods, promoting domestic production, using the aid to fill foreign exchange gap (import-export) so that domestic savings could be used for more investments. Government should formulate more pragmatic and reasonable plans and policies compatible with national interest when it comes to spending.

Regarding infrastructure development, complementary projects also need to be considered. For example, building roads is not going to generate economic growth, but other complementary projects such as promoting trade, industrialization etc. should also go hand in hand.

Government and the donor community need to improve coordination among themselves and discuss the objective of aid and meet halfway so that the aid would not be fungible. For that, a common assistance framework can be built to promote and encourage transparent and effective partnership relation to track and follow up the aid flow.

Once the country start generating higher economic growth, the social-economic sectors will automatically develop. Or else the country cannot get rid of aid and will also be aid dependent. The stakeholders need to understand that aid is only a temporary solution, not a constant resource.

By coordinating with the donor community, the government should discourage projects which has been ineffective or if possible, understand the problem and make improvement so that those projects would also generate good outcomes instead of pouring additional aid without addressing the issue first.

Next idea could be strengthening the managerial capacity and improving the quality of institution. As we discussed in earlier chapters, the absorptive capacity of Nepal is restricted by the inefficient institutions and administrative agents which ultimately diminished the prospects of aid. Here, both donor community and government of Nepal should address this issue. Donors need to understand and consider the absorptive capacity of Nepal and provide financial aid and technical assistance suitable to it.

Last but most important, Nepal needs to adopt self-sustaining approach for economic growth in long-run. Aid in form of loan can seriously hamper the economy with debt burden in short-run and long-run as well. Nepal needs to formulate long-term strategies to drive the economy by using its own domestic resources instead of depending upon foreign assistance and only using external resources for huge investments, developing human capital, technological development, developing business environment etc. Nepal should take the perfect example of South Korea as a role model on how a country can maximum utilize foreign assistance to become self-reliant developed nation in a short period of time.

Chapter 7. Conclusion and Recommendations

The motivation of this study was to analyse the impact of foreign aid on economic growth of Nepal by using 10 years of data from 2008-2017. The volume of aid is increasing every year, but still Nepal is one of the poorest country in the region. The amount of loan is getting higher than grant, so seemed important to evaluate the impact and effectiveness of aid in the country.

Based on the empirical findings from our study, it can be concluded that foreign aid has not generated economic growth but instead has sabotaged the domestic savings and thus inducing negative impact on economic growth. Another finding of this study is that economic policy factor, quality of life factor and governance factor does not have any relationship with savings-aid factor. Economic policy has insignificant but positive relationship with economic growth whereas quality of life has negative but significant relationship and governance factor has significant as well as positive relationship.

The output has been consistent with many literatures that has been reviewed in the literature review chapter. Ineffective policy, weak administrative institutions, corruption in government and bureaucrats are recognized as some of major problems in aid effectiveness in Nepal. Besides that, donor interest, absorptive capacity, fungibility and conditionality of aid are also few important factors that influence the aid effectiveness.

The findings could have been more precise and clearer if there was no problem of multicollinearity in the data so that each and every variable could be clearly evaluated and analysed. Due to multicollinearity problem, factor analysis had to be run before running regression analysis. Hence, we got four clustered factors out of 16 variables and the analysis had to be run according to the extracted factors. Nonetheless, the output from the analysis are almost in line with the aid literature. Factors such as the sample size, types and number of variables, method of analysis could have caused difference in findings of this paper with the other studies discussed in literature chapter.

This paper has tried to incorporate important variables claimed by various scholars into a single model and used latest available data to examine the impact and relationship between foreign aid and economic growth.

Recommendations for Future Research

- Much broader study should be carried out to identify other significant factors that may affect the economic growth in Nepal.

- It would be more beneficial if the empirical analysis on impact of foreign aid in economic growth uses data of longer period of time.

- As the literature is full of controversy regarding the impact of aid, a comparative study would also be better to understand the causes of differences in output.

- More variables such as technology, democracy, geography etc could be used in future studies to examine the potential impacts on aid effectiveness in Nepal, since it has not been carried out in context of Nepal. So, it would be a fresh addition to the literature.

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Appendix

Year	GDP	SAV	NETODA	FDI	SCENSEC	LIFEEXP	REM	INFL	GOVEX	TRD	VOA	POLSTA	REGQ	RULAW	COCOR
2008	6.10464	9.8311	5.50235	0.00793	51.7977	67.036	21.7381	9.90783	15.274	46.0362	-0.50	-1.83	-0.62	-0.67	-0.81
2009	4.53308	9.43367	6.56336	0.29772	52.79	67.484	23.2076	11.0948	19.369	47.0794	-0.44	-1.62	-0.71	-0.86	-0.70
2010	4.81641	11.4514	5.05061	0.54829	58.8267	67.914	21.647	9.3265	18.769	45.9849	-0.45	-1.58	-0.74	-0.95	-0.69
2011	3.42183	13.9671	4.66205	0.49711	61.2396	68.329	22.2956	9.22708	18.644	41.8283	-0.45	-1.42	-0.72	-0.89	-0.78
2012	4.78119	10.9868	4.05026	0.48801	64.7428	68.732	25.4274	9.45981	19.305	43.6582	-0.64	-1.38	-0.80	-0.74	-0.81
2013	4.12888	10.5534	4.4971	0.38526	65.9865	69.126	29.0014	9.04016	17.82	48.146	-0.53	-1.13	-0.85	-0.72	-0.69
2014	5.98898	11.9228	4.34599	0.15199	66.8817	69.511	29.4391	8.36415	18.845	52.2552	-0.43	-0.72	-0.83	-0.65	-0.59
2015	3.32291	9.20608	5.62987	0.24238	67.1409	69.887	31.4324	7.86891	20.104	53.0953	-0.42	-1.00	-0.80	-0.68	-0.58
2016	0.58868	4.06734	4.94451	0.50032	69.4974	70.253	31.2086	8.79034	21.949	48.7514	-0.25	-0.85	-0.76	-0.80	-0.80
2017	7.90574	11.9483	4.99919	0.78884	71.2095	70.604	27.8459	3.6271	27.521	51.9834	-0.23	-0.66	-0.72	-0.68	-0.75

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Factor Analysis

Notes

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Descriptive Statistics

	Mean	Std. Deviation	Analysis N
Gross domestic savings % of GDP	10.63483	2.858269	10
Net ODA as % of GDP	5.02453	.729512	10
Foreign direct investment, net inflows (% of GDP)	.39079	.223687	10
School enrollment, secondary (% gross)	63.01128	6.700191	10
Life expectancy rate	68.88760	1.198947	10
Inflation Rate	8.67200	1.974976	10
Government expenditure % of GDP	19.76000	3.205129	10
Trade % of GDP	47.88184	3.742973	10
Remittance	26.3260	3.92558	10
Voice and Accountability	-.43400	.121216	10
Political stability and Absence of Violence/ Terrorism	-1.21900	.406105	10
Regulatory Quality	-.75500	.068028	10
Rule of law	-.76400	.105114	10
Control of corruption	-.72000	.085505	10

Correlation Matrix[a,b]

		Gross domestic savings % of GDP	Net ODA as % of GDP	Foreign direct investment, net inflows (% of GDP)
Correlation	Gross domestic savings % of GDP	1.000	-.419	.162
	Net ODA as % of GDP	-.419	1.000	-.272
	Foreign direct investment, net inflows (% of GDP)	.162	-.272	1.000
	School enrollment, secondary (% gross)	-.088	-.561	.518
	Life expectancy rate	-.239	-.357	.475

	Inflation Rate	-.110	.233	-.569
	Government expenditure % of GDP	-.093	-.021	.766
	Trade % of GDP	-.369	.164	-.088
	Remittance	-.459	-.219	.053
	Voice and Accountability	-.526	.254	.412
	Political stability and Absence of Violence/ Terrorism	-.181	-.370	.352
	Regulatory Quality	-.074	.534	-.114
	Rule of law	-.030	-.195	-.368
	Control of corruption	.011	.153	-.293

Correlation Matrix[a,b]

		School enrollment, secondary (% gross)	Life expectancy rate	Inflation Rate
Correlation	Gross domestic savings % of GDP	-.088	-.239	-.110
	Net ODA as % of GDP	-.561	-.357	.233
	Foreign direct investment, net inflows (% of GDP)	.518	.475	-.569
	School enrollment, secondary (% gross)	1.000	.969	-.714
	Life expectancy rate	.969	1.000	-.759
	Inflation Rate	-.714	-.759	1.000
	Government expenditure % of GDP	.670	.756	-.838
	Trade % of GDP	.526	.660	-.574
	Remittance	.818	.868	-.437
	Voice and Accountability	.437	.598	-.619
	Political stability and Absence of Violence/ Terrorism	.923	.958	-.731
	Regulatory Quality	-.653	-.547	.097
	Rule of law	.370	.413	-.431
	Control of corruption	.201	.243	-.097

Correlation Matrix[a,b]

		Government expenditure % of GDP	Trade % of GDP	Remittance
Correlation	Gross domestic savings % of GDP	-.093	-.369	-.459

	Net ODA as % of GDP	-.021	.164	-.219
	Foreign direct investment, net inflows (% of GDP)	.766	-.088	.053
	School enrollment, secondary (% gross)	.670	.526	.818
	Life expectancy rate	.756	.660	.868
	Inflation Rate	-.838	-.574	-.437
	Government expenditure % of GDP	1.000	.465	.420
	Trade % of GDP	.465	1.000	.752
	Remittance	.420	.752	1.000
	Voice and Accountability	.743	.535	.393
	Political stability and Absence of Violence/ Terrorism	.695	.730	.854
	Regulatory Quality	-.081	-.342	-.673
	Rule of law	.113	.615	.559
	Control of corruption	-.025	.677	.429

Correlation Matrix[a,b]

		Voice and Accountability	Political stability and Absence of Violence/ Terrorism	Regulatory Quality
Correlation	Gross domestic savings % of GDP	-.526	-.181	-.074
	Net ODA as % of GDP	.254	-.370	.534
	Foreign direct investment, net inflows (% of GDP)	.412	.352	-.114
	School enrollment, secondary (% gross)	.437	.923	-.653
	Life expectancy rate	.598	.958	-.547
	Inflation Rate	-.619	-.731	.097
	Government expenditure % of GDP	.743	.695	-.081
	Trade % of GDP	.535	.730	-.342
	Remittance	.393	.854	-.673
	Voice and Accountability	1.000	.594	.185
	Political stability and Absence of Violence/ Terrorism	.594	1.000	-.578
	Regulatory Quality	.185	-.578	1.000
	Rule of law	.020	.475	-.207
	Control of corruption	.039	.367	-.542

Correlation Matrix[a,b]

		Rule of law	Control of corruption
Correlation	Gross domestic savings % of GDP	-.030	.011
	Net ODA as % of GDP	-.195	.153
	Foreign direct investment, net inflows (% of GDP)	-.368	-.293
	School enrollment, secondary (% gross)	.370	.201
	Life expectancy rate	.413	.243
	Inflation Rate	-.431	-.097
	Government expenditure % of GDP	.113	-.025
	Trade % of GDP	.615	.677
	Remittance	.559	.429
	Voice and Accountability	.020	.039
	Political stability and Absence of Violence/ Terrorism	.475	.367
	Regulatory Quality	-.207	-.542
	Rule of law	1.000	.219
	Control of corruption	.219	1.000

a. Determinant = .000

b. This matrix is not positive definite.

Communalities

	Initial	Extraction
Gross domestic savings % of GDP	1.000	.816
Net ODA as % of GDP	1.000	.832
Foreign direct investment, net inflows (% of GDP)	1.000	.926
School enrollment, secondary (% gross)	1.000	.981
Life expectancy rate	1.000	.981
Inflation Rate	1.000	.965
Government expenditure % of GDP	1.000	.928
Trade % of GDP	1.000	.947
Remittance	1.000	.942
Voice and Accountability	1.000	.916
Political stability and Absence of Violence/ Terrorism	1.000	.960

Regulatory Quality	1.000	.947
Rule of law	1.000	.838
Control of corruption	1.000	.569

Extraction Method: Principal Component Analysis.

Total Variance Explained

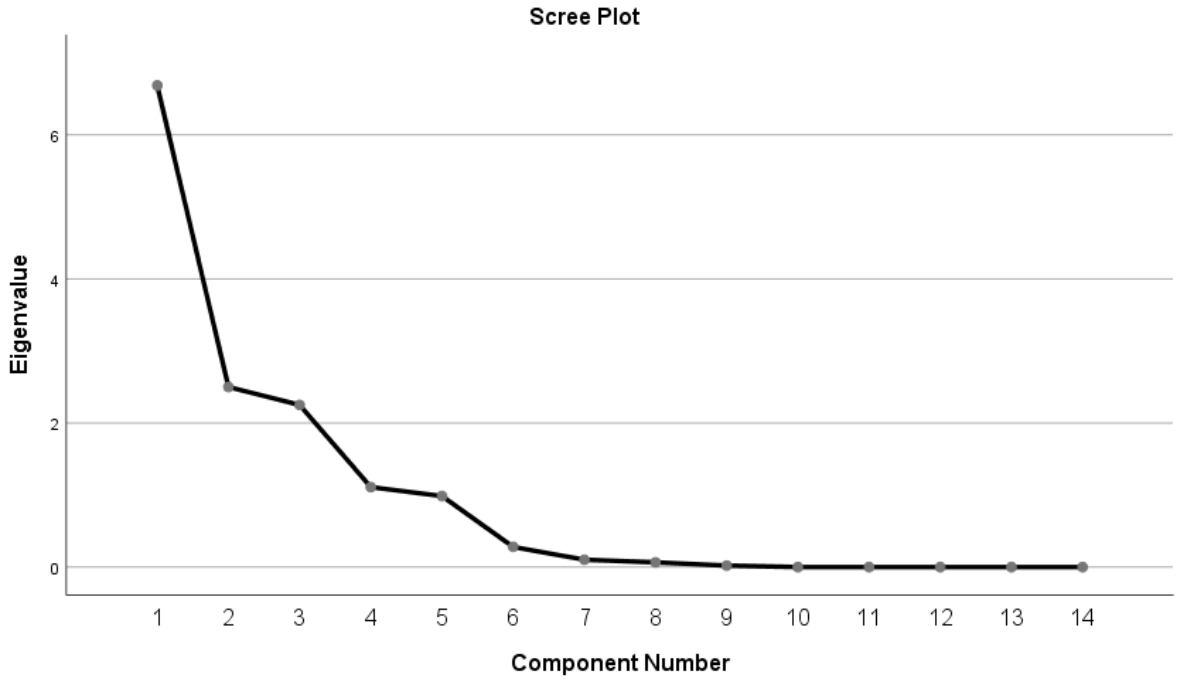
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings	
	Total	% of Variance	Cumulative %	Total	% of Variance
1	6.686	47.755	47.755	6.686	47.755
2	2.500	17.855	65.610	2.500	17.855
3	2.250	16.074	81.684	2.250	16.074
4	1.110	7.932	89.616	1.110	7.932
5	.985	7.039	96.655		
6	.281	2.004	98.659		
7	.102	.730	99.389		
8	.065	.468	99.856		
9	.020	.144	100.000		
10	2.631E-16	1.879E-15	100.000		
11	1.197E-17	8.548E-17	100.000		
12	-2.304E-16	-1.646E-15	100.000		
13	-3.782E-16	-2.702E-15	100.000		
14	-7.622E-16	-5.444E-15	100.000		

Total Variance Explained

Component	Extraction Sums of Squared Loadings	Rotation Sums of Squared Loadings		
	Cumulative %	Total	% of Variance	Cumulative %
1	47.755	4.732	33.798	33.798
2	65.610	3.279	23.423	57.221
3	81.684	2.509	17.921	75.141
4	89.616	2.027	14.475	89.616
5				
6				
7				
8				
9				
10				
11				

12				
13				
14				

Extraction Method: Principal Component Analysis.



Component Matrix[a]

	Component			
	1	2	3	4
Life expectancy rate	.983			
Political stability and Absence of Violence/ Terrorism	.976			
School enrollment, secondary (% gross)	.936			
Remittance	.863			
Inflation Rate	-.799			
Trade % of GDP	.766			
Government expenditure % of GDP	.763			
Voice and Accountability	.620		.607	
Foreign direct investment, net inflows (% of GDP)		.813		

Control of corruption		-.662		
Net ODA as % of GDP			.861	
Gross domestic savings % of GDP			-.711	
Regulatory Quality				
Rule of law				.602

Extraction Method: Principal Component Analysis.[a]

a. 4 components extracted.

Rotated Component Matrix[a]

	Component			
	1	2	3	4
Government expenditure % of GDP	.954			
Inflation Rate	-.909			
Voice and Accountability	.771			
Foreign direct investment, net inflows (% of GDP)	.756			
Life expectancy rate	.742	.600		
Political stability and Absence of Violence/ Terrorism	.678	.601		
Regulatory Quality		-.953		
Remittance		.722		
School enrollment, secondary (% gross)	.676	.703		
Rule of law			.874	
Trade % of GDP			.748	
Control of corruption			.570	
Gross domestic savings % of GDP				-.894
Net ODA as % of GDP				.692

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 9 iterations.

Component Transformation Matrix

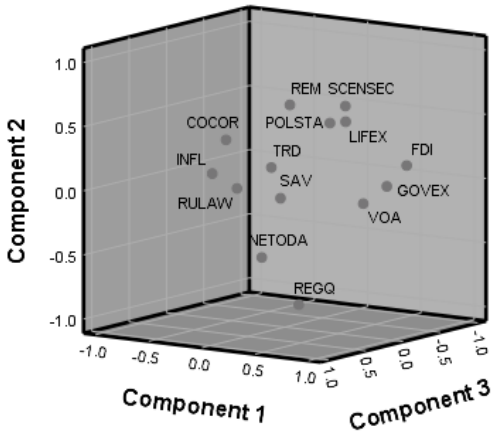
Component	1	2	3	4

1	.740	.554	.361	.119
2	.628	-.374	-.669	-.135
3	.120	-.478	.210	.844
4	.207	-.569	.615	-.505

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Component Plot in Rotated Space



Component Score Coefficient Matrix

	Component			
	1	2	3	4
Gross domestic savings % of GDP	.065	-.140	.155	-.502
Net ODA as % of GDP	.004	-.207	.081	.315
Foreign direct investment, net inflows (% of GDP)	.204	.057	-.319	-.039
School enrollment, secondary (% gross)	.082	.193	-.064	-.040
Life expectancy rate	.105	.131	-.020	.033
Inflation Rate	-.262	.217	-.195	.206
Government expenditure % of GDP	.251	-.104	-.040	.001

Trade % of GDP	.038	-.055	.291	.099
Remittance	-.038	.229	.034	.152
Voice and Accountability	.191	-.108	-.048	.243
Political stability and Absence of Violence/ Terrorism	.088	.112	.051	.007
Regulatory Quality	.157	-.431	.119	-.010
Rule of law	.039	-.192	.492	-.241
Control of corruption	-.128	.124	.188	.088

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Component Score Covariance Matrix

Component	1	2	3	4
1	1.000	.000	.000	.000
2	.000	1.000	.000	.000
3	.000	.000	1.000	.000
4	.000	.000	.000	1.000

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

```
REGRESSION
  /DESCRIPTIVES MEAN STDDEV CORR SIG N
  /MISSING LISTWISE
  /STATISTICS COEFF OUTS R ANOVA COLLIN TOL
  /CRITERIA=PIN(.05) POUT(.10)
  /NOORIGIN
  /DEPENDENT GDP
  /METHOD=ENTER FAC1_1 FAC2_1 FAC3_1 FAC4_1
  /SCATTERPLOT=(*ZPRED ,*ZRESID).
```

Regression

Notes

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Comments	

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	Weight	<none>
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	N of Rows in Working Data File	10
Missing Value Handling	Definition of Missing	User-defined missing values are treated as missing.
	Cases Used	Statistics are based on cases with no missing values for any variable used.
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Descriptive Statistics

	Mean	Std. Deviation	N
GDP growth rate	4.55930	1.958449	10
Economic Policy Factor	.0000000	1.00000000	10
Quality of Life Factor	.0000000	1.00000000	10
Governance Factor	.0000000	1.00000000	10

Savings-Aid Factor	.0000000	1.00000000	10

Correlations

		GDP growth rate	Economic Policy Factor	Quality of Life Factor
Pearson Correlation	GDP growth rate	1.000	.229	-.472
	Economic Policy Factor	.229	1.000	.000
	Quality of Life Factor	-.472	.000	1.000
	Governance Factor	.455	.000	.000
	Savings-Aid Factor	-.531	.000	.000
Sig. (1-tailed)	GDP growth rate	.	.262	.084
	Economic Policy Factor	.262	.	.500
	Quality of Life Factor	.084	.500	.
	Governance Factor	.093	.500	.500
	Savings-Aid Factor	.057	.500	.500
N	GDP growth rate	10	10	10
	Economic Policy Factor	10	10	10
	Quality of Life Factor	10	10	10
	Governance Factor	10	10	10
	Savings-Aid Factor	10	10	10

Correlations

		Governance Factor	Savings-Aid Factor
Pearson Correlation	GDP growth rate	.455	-.531
	Economic Policy Factor	.000	.000
	Quality of Life Factor	.000	.000
	Governance Factor	1.000	.000
	Savings-Aid Factor	.000	1.000
Sig. (1-tailed)	GDP growth rate	.093	.057
	Economic Policy Factor	.500	.500
	Quality of Life Factor	.500	.500
	Governance Factor	.	.500
	Savings-Aid Factor	.500	.
N	GDP growth rate	10	10
	Economic Policy Factor	10	10
	Quality of Life Factor	10	10
	Governance Factor	10	10
	Savings-Aid Factor	10	10

Variables Entered/Removed[a]

Model	Variables Entered	Variables Removed	Method
1	Savings-Aid Factor, Governance Factor, Quality of Life Factor, Economic Policy Factor[b]	.	Enter

a. Dependent Variable: GDP growth rate

b. All requested variables entered.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.874[a]	.764	.574	1.277746

a. Predictors: (Constant), Savings-Aid Factor, Governance Factor, Quality of Life Factor, Economic Policy Factor

b. Dependent Variable: GDP growth rate

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	26.357	4	6.589	4.036	.079[b]
	Residual	8.163	5	1.633		
	Total	34.520	9			

a. Dependent Variable: GDP growth rate

b. Predictors: (Constant), Savings-Aid Factor, Governance Factor, Quality of Life Factor, Economic Policy Factor

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	t
1	(Constant)	4.559	.404		11.284

	Economic Policy Factor	.448	.426	.229	1.052
	Quality of Life Factor	-.923	.426	-.472	-2.168
	Governance Factor	.891	.426	.455	2.091
	Savings-Aid Factor	-1.040	.426	-.531	-2.442

Coefficients[a]

Model		Sig.	Collinearity Statistics	
			Tolerance	VIF
1	(Constant)	.000		
	Economic Policy Factor	.341	1.000	1.000
	Quality of Life Factor	.082	1.000	1.000
	Governance Factor	.091	1.000	1.000
	Savings-Aid Factor	.059	1.000	1.000

a. Dependent Variable: GDP growth rate

Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions		
				(Constant)	Economic Policy Factor	Quality of Life Factor
1	1	1.000	1.000	.35	.03	.57
	2	1.000	1.000	.01	.13	.07
	3	1.000	1.000	.00	.00	.00
	4	1.000	1.000	.02	.80	.13
	5	1.000	1.000	.63	.04	.22

Collinearity Diagnostics[a]

Model	Dimension	Variance Proportions	
		Governance Factor	Savings-Aid Factor
1	1	.05	.00
	2	.78	.00
	3	.00	1.00
	4	.06	.00
	5	.11	.00

a. Dependent Variable: GDP growth rate

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.52593	7.34089	4.55930	1.711287	10

Residual	-1.204972	1.376634	.000000	.952375	10
Std. Predicted Value	-1.773	1.625	.000	1.000	10
Std. Residual	-.943	1.077	.000	.745	10

a. Dependent Variable: GDP growth rate

Charts