REMITTANCE STATUS AND CONTRIBUTION TO GDP OF NEPAL

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Abstract

This paper examines the remittance status and contribution to GDP of Nepal through a time series of 25 years from 1994 to 2018 A.D. This paper analysis is based on the quantitative nature of data using the simple linear multiple regression model for analysis. Every related data has been used in natural logarithm, those data are further proceeds using the STATA data processing software. This research paper is done to understand the how and what is the degree of remittance contribution towards economic growth of a nation. Many countries like Nepal are highly dependent on their human resource mobilization in various countries and their remittance has been a great source of the nation's economy. Remittance has a direct impact on the economic growth, i.e. higher the remittance inflow higher the economic growth of the nation. There is large History of Nepalese going oversea as a military force and serve the particular nation, with the globalization, Liberalization concept number of the Nepalese flying aboard for the seek of employment increase rapidly although factors like foreign aid, capital information, import and broad money supply has also some contribution to economic growth but remittance inflow started to play vital role in increasing per capita income of nation and contribution to economic growth in high degree than that of other factors.

Key Terms: Remittance, Real GDP, PCI, Money Supply, economy

1. INTRODUCTION

Nepal being a developing country with high degree of political instability has challenged the country's economy resulting in unemployment, low living standard, lack of infrastructure and so on. Nepal is not able to provide sufficient development and uplift in case of employment opportunities. Due to lack of employment, many Nepalis people (human force) are migrating from Nepal to other developing and developed nations for the sake of employment and job.

The number of migrations to overseas countries has increased drastically in the last decades. Outflow of the human resource for the seeks of income generation has been a great source of income to the nation as remittance, which has a huge impact in the nation's economy. Remittance is considered as the source of the income to the nation that will support the nation at the time of economic distress. Although Nepal is not able to export the goods and services significantly, Nepal is considered as the one of the countries with a large number of human resource exporting. Remittance or say human resource exporting has not only increase and flourish country economy but has also increase the living standard of the people by increasing the source of income resulting increasing in the purchasing power leads to proper child education, proper health expenses, increase in products and services demand, ability to fulfillment of the basic need of the family member. That is directly or indirectly increasing the status of Nepal.

Nepal maintains a long history of the migration of labor or exporting human forces for the purpose of war back in many centuries. The Nepalese work force has contributed and sacrificed their life to the foreign country. Still today many Nepalese are working in military forces as a source of foreign employment. With the emerging concept of globalization, Privatization and Liberalization policy in 2007 has increased foreign employment opportunities which frequently increase the exporting of human force. Foreign employment has been considered as the major source of income to many Nepalese households supporting their daily living standard.

Remittance for Nepal is the major source of the income for the country, and one of the major indicators that boost up the GDP. Nepal is counted among the top 5 in the world that is highly benefited by the remittance whereas among the SAARC countries Nepal is the top country to be benefited by the remittance. Both skilled and unskilled manpower contribute to GDP equally through remittance. These include Nepali businesses and top professionals working in various countries across the world. According to the Nepal Labor Department data, more than 5.5 million Nepali youth seek authorization letters for working abroad currently,

According to NRB Nepal received NPR 784 billion remittances in the fiscal year 2018/019. The total remittance in 2015-2016 Nepal remittance amounted NPR 617 Billion, in 2016-2017 remittance contributed NPR 665 Billion similarly NPR 695 Billion and NPR 776 Billion in 2017-2018,2018-2019 respectively. Recent report of NRB explains that remittance is increasing year by year. In FY 2070-71, the total remittance received by Nepal was NPR 543 billion, which increased significantly by NPR 200 billion (33.9 percent) in FY 2075-76 to NPR 783 billion. The total remittance received by Nepal contributed to 29 percent of the country's Gross Domestic Product (GDP). As compare to past decade contribution of remittance in GDP is incomparable as it is increase by more than 100% While

remittances received by Nepal in 1995 was 1.3 percent of the GDP, it increased to 17 percent in 2007, and surged to 32 percent in 2016 making it the world's highest recipient of international remittances as a percentage of GDP.

2. Objectives

The major purpose of the study is to analyze the impact of remittance on the Nepalese economy. And the specific objectives are:

   i.   To analyze remittance status and contribution to GDP in Nepal.

   ii.   To assess the impact of remittance to per-capita income.
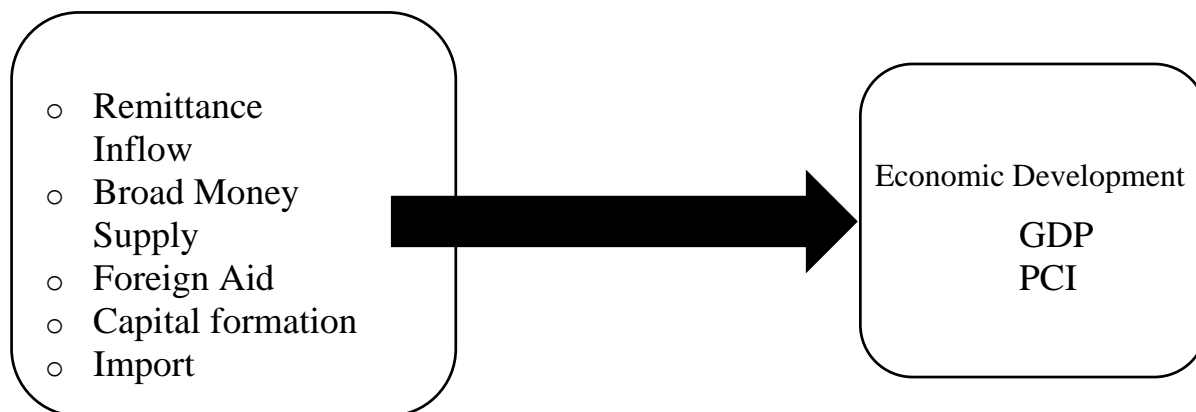
Conceptual Framework

Fig 1: Conceptual Framework

Conceptual framework of the study and the relationship among the variables are shown with the help of the above figure. The dependent variable is economic development of the country measured in terms of GDP and PCI. The independent variables of the research are remittance inflow, broad money supply, foreign aid, capital formation and import.

3. Literature Review

Table 1 Review of major literature

Year	Major Findings
Khan (2011)	The finding of the study indicates that worker remittances have significant and positive effects on economic growth.
Cooray (2012)	The results suggested that remittances lead to increase in financial sector size.
Khathlan (2012)	The results showed a positive and significant relationship between worker remittances and economic growth in both the long-run and the short-run.
Shafqat et al. (2014)	The finding of the research indicated that foreign remittances are the famous means of economic growth and have significant positive relationships with each other.

Table 2 Review of Nepali Literature

Year	Major Findings
Thagunna & Acharya (2013)	The finding of this study shows that remittance income and grants appear to be the most relevant variables to raise nominal GDP in Nepal. Pension and other items have also significant effect on increasing nominal GDP in Nepal
Pant (2011)	The study concluded that remittances contribute largely to the national economy. The remittances affect development at both the household and national levels.
Gaudel (2006)	The finding of this study shows that remittance income and grants appear to be the most relevant variables to raise nominal GDP in Nepal. Pension and other items have also significant effect on increasing nominal GDP in Nepal
Pradhanet al., (2008)	This study found that remittances have a positive impact on growth.
Kollmairet al., (2006)	The study concluded that labor migration and remittances is an important mainstay of Nepal's economy.
Srivastava & chaudary (2007)	The finding of this study showed that remittance has not been used effectively so as to increase the real growth rates of the economy.
Kafle (2014)	Remittance inflows are positively related with broad money supply but lag of total remittance inflow has more significant impact on broad money supply compared to total remittance inflow of current year
Malekoo (2015)	Remittance inflow has a positive and significant effect on gross domestic product and total deposit of commercial banks'. The study also finds that consumption and gross capital formations have positive and significant impact on the gross domestic product of the country.
Neupane (2011)	The study stated that remittance is significant not only to increase domestic consumption expenditure but also to enhance GDP in the nation. However, remittance has reduced the domestic investment in the nation since a large portion of remittance has been used upon the unproductive sector.
Shrestha (2008)	The study stated that remittances sent by the migrant workers are an effective tool for poverty reduction.

4. Research Methods

This research paper is fully based upon the secondary source of the data collected from World Bank, Nepal Rastra Bank (NRB), Central Bureau of Statistics (CBS), Ministry of Finance (MoF) as well as Ministry of Labor, Employment and Social Security related websites database in their respective websites. In order to find the relationship between remittance and GDP, for the better representation 25yrs dataset has been analyzed. This research paper is based upon secondary data collected from 1994 to 2019 A.D. data is analyzed using the simple regression model to measure the contribution of remittance in the economy (more specifically in GDP) of Nepal. Regression equation is created based on the following relationship between independent and dependent variables.

Gross Domestic Product = f (REM, CP, I, M2, FA)

Per Capita Income = f (REM, CP, I, M2, FA)

Model specification

Linear multiple regression model has been used to explain the impact of various independent variables upon dependent variables i.e. that are expressed using given equation (i).

$$RGDP_{nt} = \beta_0 + \beta_1 REM_{nt} + \beta_2 M2_{nt} + \beta_3 FA_{nt} + \beta_4 I_{nt} + \beta_5 CP_{nt} + e_{nt} \text{ -------------(i)}$$

Where,

$\beta_n = 1, 2, 3, 4,$ *and 5 indicates Regression parameters*

$\beta_0 =$ *Constant Term*

$e_{nt} =$ *Error Term*

RGDP: it refers to the Real Gross Domestic Products sample of the study 'n' for period 't'.

PCI: it denotes the Per Capita Income of the study 'n' for period 't'.

REM: it represents total Income from Abroad of the study 'n' for period 't'.

M2: it is the Broad Money Supply for the study 'n' for periods'.

FA: it is the Foreign Aid received by country 'n' and for period 't'

I: it is the Goods Imported from abroad in country 'n' for periods'

CP: it is the Capital Formation of the study 'n' for period 't'.

β_0 terms as intercept terms similarly $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5, specific parameters (Beta or Regression coefficients) of the explanatory variables to be estimated.

RESULT

The below table states the Real GDP of Nepal of the past 25 years annually from 1994 till 2018. By observing the below Real GDP table we can analyze that Nepal's GDP of Nepal is increasing year by year. Real GDP of Nepal is NPR 950033 million in 2018, with the lowest GDP in 1994. i.e. NPR 319219 million. As GDP is a representation of the economy, it seems that Nepal's economy is improving year by year.

Table 3: Showing the GDP of Nepal form year (1994/1995) to (2018/2019)

| Year (mid-July)	Real GDP (NPR)
1994	319219000000.00
1995	330291000000.00
1996	347921000000.00
1997	366225000000.00
1998	376999000000.00
1999	393903000000.00
2000	417992000000.00
2001	441518000000.00
2002	442049000000.00
2003	459488000000.00
2004	481004000000.00
2005	497739000000.00
2006	514486000000.00
2007	532038000000.00
2008	564517000000.00
2009	590107000000.00
2010	618529000000.00
2011	639694000000.00
2012	670279000000.00
2013	697954000000.00
2014	739754000000.00
2015	764336000000.00
2016	768835200000.00
2017	832060300000.00
2018	887455000000.00

To boost per capita income of Nepal has also represented the economy of the county. Figure 2, showing the trend of increasing PCI yearly, with the maximum in year 2019 i.e. 117455.15 NPR which increased from the last year which was 104152.26 NPR in 2018, and lowest per capita income in 11155.54 NPR in 1994. From the below scatter graph, we can observe that PCI is gradually increasing year by year, as we know PCI represents the per head income of the population. Per capita income is national income divided by population size. Per capita income Per capita income is often used to

measure a sector's average income and compare the wealth of different populations. Per capita income is often used to measure a country's standard of living.
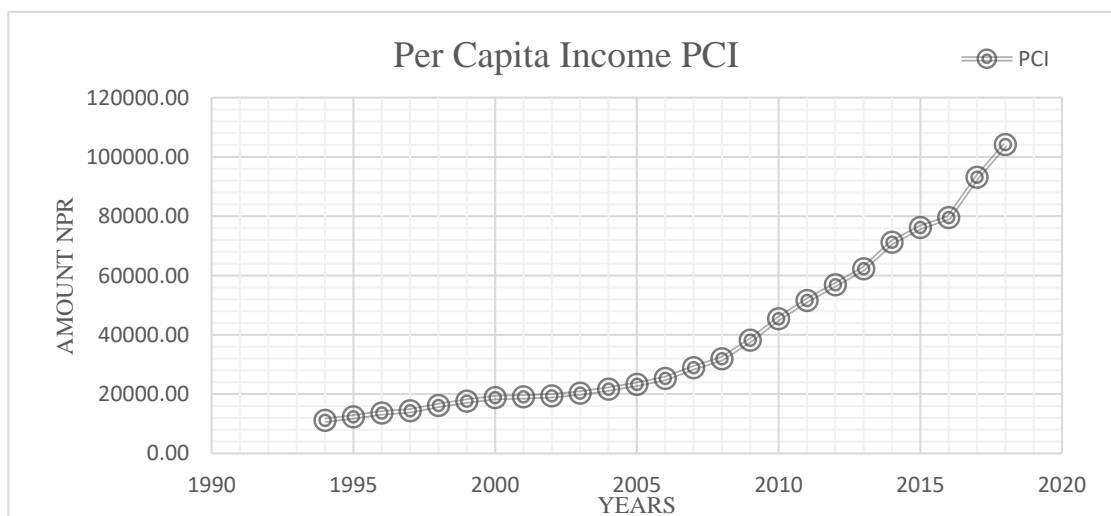
Figure 2: Scatter Graph showing Per Capita Income of Nepal (1994-2018)
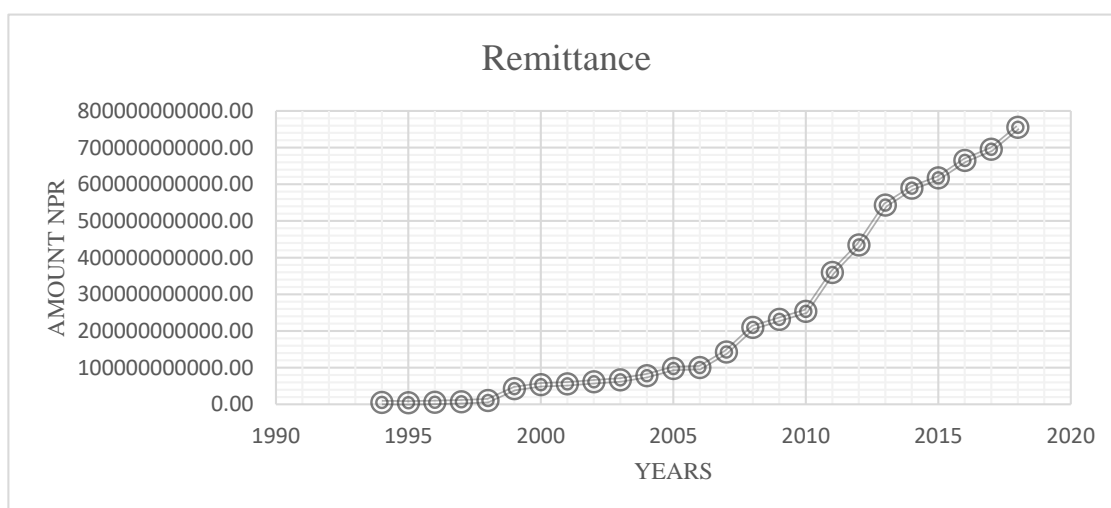
Figure 3: Scatter Graph of Remittance Inflow in Nepal (1994-2018)

Figure 3, scatter graph shows the pattern of remittance inflow in Nepal from all over overseas from observation period from 1994 to 2018, Observing above graph explains that remittance inflow is increasing gradually with the highest remittance inflow i.e. NPR 755058.6 million in 2018 and lowest remittance inflow in the year 1994 i.e.5063.6 million. It explains that exporting of human resources is increasing and their contribution to overseas nations is increasing highly. In context of Nepal remittance inflow is the major source of income to the nation and through the above data it seems that Nepal source of income is increasing which will support Nepal economy and economic distress in Future.

Regression Analysis

As regression analysis is there to predict the relationship between dependent variable and independent variable in a given time frame. Here regression analysis is run to understand the contribution of independent variable i.e. REM (Remittance Inflow), CP (Capital Formation), I(Import), FA (Foreign Aids), M2(Broad Money Supply) in Dependent variable Real GDP (Gross Domestic Product) of Nepal that are supposed to describe their relationship with the economy of the country. The two regression models after observing the nature of data and scattering of data. The two Regression analysis model are as follows:

Model 1:

$RGDP_{nt} = \beta_0 + \beta_1 REM_{nt} + \beta_2 M2_{nt} + \beta_3 FA_{nt} + \beta_4 I_{nt} + \beta_5 CP_{nt} + e_{nt}$

Table 2 Regression Table

Source	SS	df	MS			
				Number of obs	=	25
				F(5, 19)	=	1651.91
Model	2.20617914	5	.441235827	Prob > F	=	0.0000
Residual	.005075029	19	.000267107	R-squared	=	0.9977
				Adj R-squared	=	0.9971
Total	2.21125417	24	.09213559	Root MSE	=	.01634

lngdp	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
lnrem	.0620553	.0074351	8.35	0.000	.0464936	.0776171
lni	.0004726	.0408597	0.01	0.991	−.0850477	.0859929
lncp	.2166557	.0428026	5.06	0.000	.1270688	.3062427
lnm2	−.0070247	.0083162	−0.84	0.409	−.0244308	.0103814
lnfa	.0135808	.0088844	1.53	0.143	−.0050145	.0321762
_cons	19.67077	.2464914	79.80	0.000	19.15485	20.18668

On the basis of the regression output using Stata, the regression equation can be written as:

lngdp=19.67077+ .0620553 lnrem+ .0004726 lni + .2166557 lncp - .0070247 lnm2 + .0135808 lnfa + e

The result of the regression model shows that R-square is 0.9977. It means 99.77% of dependent variables are explained by independent variables and the remaining are errors that remain unexplained. The adjusted r-square is 0.9971. It can be explained as follows with the addition of a new independent variable if the adjusted r-square increases it signifies that additional independent variables significantly increase the predicting power of the model and vice versa.

The coefficient analysis result shows that the coefficient of remittance is 0.06205 and significant at 5 % level of significance. It means one-unit change in remittance (LnRem) is associated with a 0.06205 unit change in Real Gross Domestic Product (RGDP) remaining other things constant. Similarly, the coefficient of capital formation is 0.2166 and significant at 5 % level of significance. Likewise, the coefficient of import is 0.00047 and insignificant at 5 % level of significance. The coefficient of money supply is -0.007024 and insignificant at 5 % level of significance. Similarly, the coefficient of foreign assistance is 0.01358 and insignificant at 5 % level of significance. The F-statistics of the model is 0.000, it means the overall model is statistically significant at 5 % level of significance.

Model 2:

$$PCI_{nt} = \beta_0 + \beta_1 REM_{nt} + \beta_2 M2_{nt} + \beta_3 FA_{nt} + \beta_4 I_{nt} + \beta_5 CP_{nt} + e_{nt}$$

Table 3: Regression Table

Source	SS	df	MS			
				Number of obs	=	25
				F(5, 19)	=	1895.42
Model	11.3901568	5	2.27803137	Prob > F	=	0.0000
Residual	.022835409	19	.001201864	R-squared	=	0.9980
				Adj R-squared	=	0.9975
Total	11.4129923	24	.475541344	Root MSE	=	.03467

lnpci	Coef.	Std. Err.	t	P>|t|	[95% Conf. Interval]	
lnrem	.0369843	.0157714	2.35	0.030	.0039744	.0699941
lni	.6046695	.0866723	6.98	0.000	.4232623	.7860766
lncp	.0349546	.0907937	0.38	0.705	-.1550788	.2249879
lnm2	.0433729	.0176406	2.46	0.024	.0064508	.080295
lnfa	.0247485	.0188458	1.31	0.205	-.0146962	.0641933
_cons	-9.151802	.5228618	-17.50	0.000	-10.24616	-8.057439

On the basis of the regression output using Stata, the regression equation can be written as:

lnpci= -9.151802 + .0369843 lnrem+ .6046695 lni + .034954 lncp + 0.043372 lnm2 + .02474 lnfa+e

The result of the regression model shows that R-square is 0.9980. It means 99.80% of dependent variables are explained by independent variables and the remaining are errors that remain unexplained. The adjusted r-square is 0.9975. It can be explained as follows with the addition of a new independent variable if the adjusted r-square increases it signifies that additional independent variables significantly increase the predicting power of the model and vice versa.

The coefficient analysis result shows that the coefficient of remittance is 0.03698 and significant at 5 % level of significance. It means one-unit change in remittance (LnRem) is associated with a 0.03698 unit change in Real Gross Domestic Product (RGDP) remaining other things constant. Similarly, the coefficient of capital formation (CP) is 0.034954 and insignificant at 5 % level of significance. Likewise, the coefficient of import (I) is 0.60466 and significant at 5 % level of significance. The coefficient of money supply (M2) is 0.043372 and significant at 5 % level of significance. Similarly, the coefficient of foreign assistance (FA) is 0.02474 and insignificant at 5 % level of significance. The F-statistics of the model is 0.000, it means the overall model is statistically significant at 5 % level of significance.

Findings

1. The average gross domestic product of Nepal has been revealed to be NRS. 889.4 billion. The GDP is highest in the year 2018 with NRs. 887.455 billion and lowest in the year 1994 with NRs. 319.219 billion. It shows that GDP of Nepal is in increasing trend from the year 1994 to 2018.

2. The average per capita income of Nepal is NRs.34214.82 with highest (NRs.104152.26) in 2018 and lowest (NRs. 11155.59) in 1994. The result also indicates that per capita income of Nepal is in increasing trend from year 1994 to 2018.

3. The total remittances inflow of Nepal is highest (NRs. 7550.586 billion) in the year 2018 and lowest (NRs. 50.636 billion) in the year 1994.The result also indicates that total remittances inflow is in increasing trend from year 1994 to 2018.

4. The Government of Nepal receives an average of NRs. 32.25 billion foreign aid with the highest (NRs. 51.9282 billion) in 2010 and lowest (NRs. 11.2494 billion) in 1994.

5. The average broad money supply of Nepal is NRs. 598.62 billion with highest (NRs. 3094.4666 billion) in 2018 and lowest (NRs. 72.2203 billion) in 1994. The result also indicates that broad money supply is in increasing trend from year 1994 to 2015.

6. The imports of Nepal are recorded to be the highest (NRs. 1403.2808 billion) in the year 2018 and lowest (NRs. 71.58246 billion) in 1994 leading to an average of NRs. 370.3 billion.

7. Gross domestic product is positively related to capital formation. It indicates that higher the gross capital formation, higher would be gross domestic product.

8. Likely gross domestic product is positively related to foreign aid. It indicates that an increase in foreign aid leads to an increase in GDP.

9. Similarly, the result shows that per capita income is positively related to remittance inflows. It indicates that increase in remittance inflows leads to an increase in per capita income.

10. Likewise, the regression analysis shows that beta coefficients are positive for remittance inflows, consumption, import, gross capital formation and foreign aid per capita.

11. The regression analysis of gross domestic product shows that the beta coefficients are positive for total remittances inflow, foreign aid, imports and capital formation. The result indicates that higher the total remittances inflow, broad money supply, foreign aid, imports and capital formation, higher would be gross domestic product.

12. It is found that per capita income is positively related to capital formation indicates that higher the capital formation, higher would be per capita income.

13. It is also revealed that per capita income is positively related to import, indicating that higher the import, higher would be per capita income.

14. The beta coefficient for total remittance inflow is positive and significant at 1 percent level of significance. Thus, the result indicates that higher the total remittances inflow, higher would be the gross domestic product. Similarly, the broad money supply, foreign aid, imports and capital formation are significant at 1 percent level of significance.

16. The regression result for the dependent variables of per capita income shows that the beta coefficient is positive for total remittances inflow, broad money supply, foreign aid, imports and capital formation. The result indicates that higher the total remittances inflow, broad money supply, foreign aid, imports and capital formation, higher would be per capita income.

17. The beta coefficient for remittance inflow is positive and significant at 1 percentage level of significance.

All these findings mean that remittance inflows have had positive impacts on the economy for a long time. Remittance has been taken as the major source of economy that the government can mobilize in various development works as remittance fuel up growth for other sectors like consumption, education, employment etc. Despite all these benefits that country can have there is still a con of such a remittance economy nation.

Conclusions

The major conclusion to be noticed in this paper is that the total remittance inflow positively contributes to the economic growth of Nepal. The variable Remittance inflows, broad money supply, capital formation in the country, demand for imported goods and foreign aid used in this study paper shows that they have a positive impact on GDP and per capita income of Nepal. Study shows that the level of remittance inflow directly impacts the gross domestic product and per capita income of Nepal

i.e. higher the inflow of remittance, higher would be gross domestic product and per capita income. This research paper also concludes that remittance is the most significant source of gross domestic product and per capita income and these two factors reflect the economic condition of the country. It plays a prominent role in the economy of the nation as they are the major sources of income for most of the household consumption in the country. Also, remittances have stimulated the development of the nation.

Similarly, the paper points that higher will be the remittance inflows, foreign aid, capital information, import and broad money supply, better would be the nation's economic condition and largely contribute to economic growth of the nation.

Policy Implication

This paper is supposed to contribute in the field of research, through which further research can be conducted and believed to help planners, researchers willing to conduct research related to the economy of the nation. This paper will be a great help to form appropriate plans and policies to be conducted by the government of the nation.

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