

Contribution of Remittance in Economic Growth of Nepal

Birendra Giri

M.A., Economics

Abstract

This study paper intended to investigate how remittance income affected economic growth of Nepal. The main objectives of this study tries to find the answer on two questions: First, does the remittance inflow is contributing to the growth of an economy of Nepal? Second what is the trend of remittance inflow in Nepal over the year? We have used Unit Root Test, Ordinary Least Squared Regression Analysis, and Ratio Analysis Test. In this research, it is investigated that whether remittances have growth impact on Nepalese economy, by using data belong to 1990-2016 period. The time series regression findings show that remittance flow to Nepal have statistically meaningful and positive impact on GDP growth. This paper is based on the secondary source of information briefly explain the potentiality of remittance income for the GDP growth of Nepal.

Keywords: GDP; Economic Growth; Remittance; Unit root test; OLS; Ratio analysis.

Introduction

Remittance income in developing countries has become a life line for economic development Remittance inflow in Nepal began with the entry of Nepalese youths in the British Indian Army during the World War I. Following this, there were increased remittances to Nepal when a large number of Nepalese youths joined the Indian army in the 1950s and 1960s. Simultaneous to this, the increased number of Nepalese migrant workers in India also contributed to bring in remittances from India. This initial phase of foreign employment came to a sea-change in the second stage in the 1990s, at the wake of globalization, when a large number of Nepalese opted for jobs in Malaysia and Gulf countries. Government of Nepal now has opened 109 countries for foreign employment though the concentration is still in India, Malaysia, Gulf nations, South Korea, Israel and Japan leaving the European countries, Australia and the United States where Nepalese Diaspora constitute a large community.

In the past two decades, increasing number of Nepali people has been migrating abroad in the pursuit of better opportunities. Definitely, a decade long Maoist's insurgency in Nepal (1996 – 2006) compelled for the massive exodus. Rather than living under uncertainties and life threatening risks associated with the civil war,

thousands of people opted for emigration – whether as laborers, students or as other status of residency. With the 2005 figure alone, it is estimated that 4.77 percent of the Nepali population are emigrants – and there is an upward pressure on the figure. Worldwide top 19 remittance recipient countries receive more than 10 percent of their GDP in remittances. The total amount remittance carried by Nepal is increased to NPR 665 billion in 2015/16 from NPR 2.13 billion in 1990/91 (Table-B1). The trend of remittance inflow is found increasing day by day but in recent year same ratio is in decreasing trend.

Nepal stands as the fifth largest country in the world map in terms of the contribution of the remittance to the nation's Gross Domestic Product (GDP) till 2011. The most visible effect of remittance flow in the country is manifested through its 23percent share in GDP as stated by “Migration and Remittance Fact book 2011” of World Bank and it is expected to increase with the increasing labor migration (14.5percent each year, Nepal Central Bank, 2011/12) particularly in middle east gulf countries. Remittances to Nepal have a stronghold in the national economy and they have also transformed the lives of a large number of rural people. To this end, we employed an econometric procedure which heavily relies on relationship between GDP growth & remittance inflow and trend of remittance inflow as well.

Review of Literature

Different studies on the effect of remittances to economic growth have shown mixed results. For instance, Tuladhar (2014) examined on impact of inward remittance on Nepalese economy with purpose of analyses the influence of income from inward-remittances on exports, imports, trade deficit, consumption and GDP in Nepal. By using only secondary data from 2001/02 to 2012/13 were collected from the government documents. Correlation and regression models were used to examine the relationship between remittance income and exports, imports, trade deficit, consumption as well as GDP. However, result she found there was a significant impact of inward-remittance on macroeconomic indicators. The remittance significantly affected the change in trade deficit, but had little effect on the changes in exports. The remittance affects the macro-economic variables. Therefore, the proper utilization of remittance could be a good implication for the policy-makers and planners to encourage exports by investing the imported goods into productive sectors for the economic development of the nation.

Pant (2008) conducted a research on “Mobilizing Remittance for productive use: A policy-oriented approach”, the potential for remittances to reduce poverty and

economic vulnerability, improve family welfare and stimulate economic development has been of special interest to the governments everywhere. For this to take place, the formulation and implementation of effective remittance-augmenting policies and strategies is the core. This paper thus looks at the different policies initiated by some countries. Policy alternatives for Nepal are then suggested for mobilizing remittances for productive use.

Bhattarai (2005) conducted a research on “Migration of Nepalese Youth for Foreign Employment: Problems and Prospects” with the aim of evaluating the Nepalese government policies and programs related to the regulation and management of foreign employment profession in Nepal with the major objectives as: (i) to identify the major issues and challenges in foreign employment (ii) to identify the problems faced by migrant workers (both male and female) both in home country and the country of destination (iii) to prioritize the needs of international migrant labors (iv) to evaluate the existing government policies and programs and suggest appropriate amendments in the existing policies.

Thagunna, K.S. (2013) found that the contribution of foreign employment and remittances to Nepalese economy and also identifies the information needs and gaps. An attempt is also made to assess the role of remittances in poverty reduction. At a time when the country's major economic indicators are not favorable, the remittances have played a vital role in maintaining macroeconomic stability and keeping the economy afloat.

In a study conducted by IMF (2005) about the impact of remittances on growth over an extended period (1970-2003) for 101 developing countries found no statistical link between remittances and per capita output growth, or between remittances and other variables such as education or investment rates. However, this inconclusive result attributed to measurement difficulties arising from the fact that remittances may behave countercyclical with respect to growth.

Faini (2002) argues that remittances overcome capital market imperfections and allow migrant households to accumulate positive assets. Ang (2007) shows the relationship between workers' remittances and economic growth at the national and at the regional levels in the case of Philippines. He found that at the national level remittances do influence economic growth positively and significantly. When he broke down his analysis at the regional level to confirm the national results, he found that mixed results giving rise to his anecdotal observations those remittances do not positively affect economic growth. In sum, he concludes that remittances

have to be translated to value-added activities and investments which are more foundational sources of development and growth.

Chami et al. (2003), covering 113 countries found that remittances had a negative effect on growth. The authors of the study attribute this negative effect on the moral hazard problem that remittances create. Essentially, the study concluded that income from remittances allows receiving families to decrease their own work and productivity, which then translates into a reduction in the labor supply for the developing country. Glytsos (2005) using data for 1969-1998 for Egypt, Greece, Jordan, Morocco, and Portugal shows that the impact of remittances on output varies over time and across countries. For Egypt, Jordan, and Morocco the growth-generating capacity of rising remittances characteristic is smaller than the growth-destroying capacity of falling remittances. Therefore, the large fluctuations in the real value of remittances contribute to large fluctuations of output growth and cause instability in the economies concerned.

Data and Research Methodology

Sampling Frame and sample size

In the study, the data within the time series of Nepali Fiscal Year 1990/91 to 2015/16 of GDP and remittance income of Nepal has been used. Data on each variable are obtained from various year Economic Survey published by Ministry of Finance, Government of Nepal and journal published by the NRB. All the data are represented in NPR Billion without using logarithm.

Empirical Approach

This study is the time series analysis, so we have to go through the stationary test before the correlation analysis. Stationarity was carried out using the Augmented Dickey Fuller (ADF) test statistic and Philip Peron test to investigate the presence or otherwise of unit root. The co-integration test helps us to understand the whether the long term relationship exist between the variable. The data were tested using the OLS regression analysis and ratio analysis as well. Their significance revealed the kind of relationship between dependent and independent variable. The data will be collected on the dependent and independent variable and the least square method will be used to determine the value of coefficient of regression. After obtaining the value for the coefficient of the variable we will know the magnitude for the dependence of economic growth and remittance income when other variable remains constant.

Model Specification

The model employed in this study to evaluate the impact of remittance on economic growth in Nepal. The original model in this case is as follows:

$$GDP = \alpha + \beta RMT + e \dots\dots\dots (1)$$

Where;

GDP = Gross Domestic Product in producers’ price

RMT = Remittance Inflow of Nepal

α = intercept or constant

β = parameters or coefficients of explanatory variables

e = error term

Findings

Statistical Test Results

The unit root (or stationary) test by using Augmented Dicky Fuller (ADF) as well as Philip- Perron test for time series analysis of data. The measure tools to analyses date and interpret its result through ordinary least square (OLS) regression analysis. Similarly, ratio analysis tools to knowing contribution of remittance in GDP.

Statistical summary of Data

Table 1

Descriptive summary of Data

Variable	Obs	Mean	Std. Dev.	Min	Max
GDP	26	400.5889	219.2916	111.4905	764.175
RMT	26	154.1954	203.6754	2.1283	665

There are 26 observations (Obs), and shows mean, standard deviation (std. dev.), minimum value (min) and maximum value (max) of the variables.

Stationary (Unit root) test

The Augmented Dicky Fuller (ADF) and Philip-Perron (PP) test result is given in Table-2.

Table 2:
Augmented Dicky Fuller and Philip-Perron Test Result

Variables	Coefficients	At level			First Difference				
		Test	1% Critical	5% Critical	10% Critical	Test	1% Critical	5% Critical	10% Critical
		statistics	Value	Value	Value	statistics	value	value	value
GDP	PP-> Z(rho)	0.203	-17.200	-12.500	-10.200	-24.648	-17.200	-12.500	-10.200
	ADF -> Z(t)	0.177	-3.750	-3.000	-2.630	-4.824	-3.750	-3.000	-2.630
	p-value Z(t)	0.971				0.000			
RMT	PP->z(rho)	3.585	-17.200	-12.500	-10.200	-18.536	-17.200	-12.500	-10.200
	ADF -> z(t)	5.391	-3.750	-3.000	-2.630	-4.076	-3.750	-3.000	-2.630
	p-value Z(t)	1.000				0.254			

As per table-2; z (rho) and z (t) is tabulated for PP test and z (t) for ADF test. As shown by the table the data are non-stationery, since the value of test statistics is higher than critical values at 1%, 5% and 10% i.e. acceptance of null hypothesis, this implies there is unit root and so on. After the first difference, all the data are stationery assuring that the value of test statistics for z (rho) and z (t) is significantly lower than the critical values. The variable GDP has the test statistics value of -24.648 which is significantly less than the 1% critical value of -17.200 i.e. rejection of null hypothesis implies that there is no unit root for PP test and similar result for

ADF test where test statistical value of -4.824 which is significantly less than the 1% critical value -3.750 after first derivative. Similarly, variable RMT has the tested value of -18.536 is less than 1% critical value of -17.200 on PP- test after first order difference. Further, -4.076 tested value is less than 1% critical value in ADF test.

OLS Regression Analysis

Table 3

The regression analysis result

GDP	Coef.	Std. Err.	T	p> t
A	291.3018	26.80319	10.87	0.000
RMT	0.56321	0.1062278	29.78	0.000
R-squared	0.9737	Mean dependent var		992291.363
Adjusted R-squared	0.9726	S.D. dependent var		8747.038
Prob (F-statistic)	0.000	F-statistic		886.84

The equation for the regression model is given as,

$$GDP = \alpha + \beta RMT + e \dots \dots \dots (i)$$

From the above analysis we found that, $\alpha=291.3018$ & $\beta=0.56321$

Therefore, the linear regression equation obtained from the data set in equation (i);

$$GDP = 291.3018 + 0.56321 * RMT + e \dots \dots \dots (ii)$$

As per our desire equation from the research, the implication of the observation is that 1 percent increase in remittance inflow (RMT) to 0.56321 percent increase in GDP. Similarly, $\alpha=291.3018$ is the constant term which denotes that 291.3018 billion amount of economic growth is fixed either remittance inflow is increase or decrease.

Ratio of Remittance to GDP

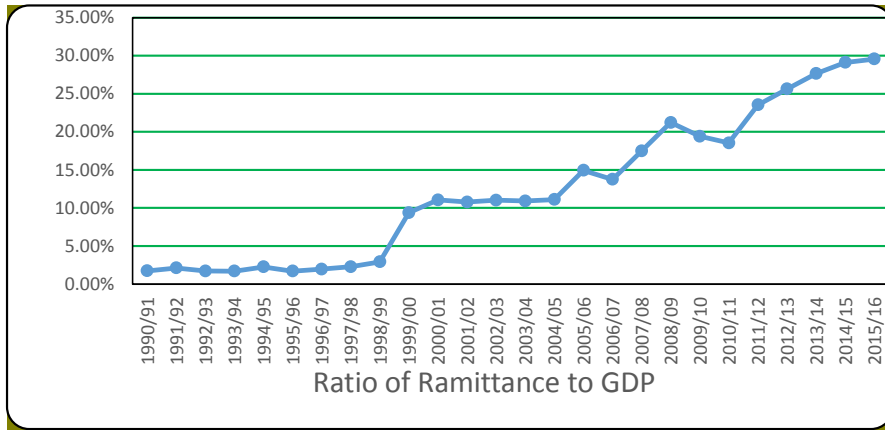


Figure 1: Ratio Analysis of Remittance to GDP

Data Source: Yearly Economic Survey by MOF Nepal

As per figure-1; the increasing volume of remittances and its contribution to the national economy in the recent years is reflected in the increasing remittance to Gross Domestic Product (GDP) ratio. Above line graph represents the ratio of remittance to GDP (in producers' price) from 1990/91 to 2015/16. The remittances to GDP ratio remain below 2 percent since 1990/91 to 1993/94 where starting point is 1.74 percent. Figure shown that stable situation in remittance to GDP ratio in between 1990 and 1999. The contribution of remittance in GDP significantly increased and reached 9.38 percent in 1999/00 where only 2.92 percent was found in 1998/99. Similarly, in 2000/01 the share of remittance was 11.05 percent than after plateau situation was found till 2006/07. Moreover, in 2008/09 ratio of remittance to GDP was reached 21.22 percent whereas since same year though trend of ratio were decline towards 18.54 percent in 2010/11. However, from 2011/12 again contribution of remittance in nominal GDP is in continuous increasing trend up to peak 29.61 percent in 2015/16. It depicts ratio of remittance to GDP is comparatively high in Nepal with compared to other Asian nations.

Trend Analysis of Remittance Inflow in Nepal

With respect to the scale of remittances to Nepal, the annual economic survey of the Ministry of Finance (MOF) displays remittances flows through official channels. The flow of remittances along with time period mid 1991-2015 (A.D.) appears below in Figure. It can be seen that remittance inflow follows an upward trend.

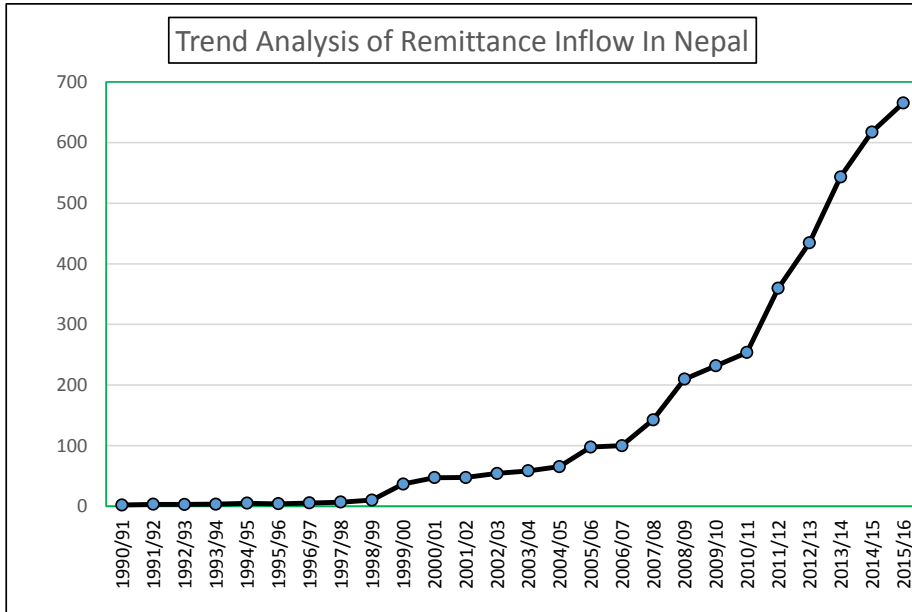


Figure 2: Trend Analysis of Remittance Inflow in Nepal.

Data Source: Yearly Economic Survey by MOF Nepal

In Nepal, since the mid-1990's, remittances have been an important source of foreign currency. Before then, remittances of Nepalese emigrants were so small that they were not recorded in the Nepalese balance of payments. Initially, if the weak amounts of remittances are due to the low numbers of migrants and their settlement expenditures, from 1990 to 1999. The dramatic increases since 2000 (A.D.) and same continuous increase till research period. However, we found that 2008-2011 (A.D.) the growth of remittance income was in slow pace as compare to previous year. Moreover, inflow of remittance income to Nepal is regular increasing trend till end of research period which cross 665 billion in volume.

Conclusion

Failure to transform our economy from subsistence agriculture sector to industry, service, tourism, trade, etc. is the main reason attributable for the slow growth of employment opportunities in Nepal. Tenth Plan has set quantitative targets with reference to foreign employment under which it would be effortful to send some 550,000 persons abroad for employment so as to raise the contribution of this sector to our overall national income (economic survey, 2015). Both the developed as well as developing economies have much to gain from an increased flow of workers. The

oil exploration and other development activities in West Asia provided opportunities to the labor exporting countries of South Asia to export their manpower to the Middle East in large number involving at its peak in the early 1980s and over a million temporary workers a year.

This study investigated the impact of remittance inflow on economic growth of Nepal using the ordinary least square techniques. The times series data spanning from 1990/91 to 2015/16 were tested using various techniques. The stationarity test was done using the tools such as ADF test and PP test. Similarly, OLS regression analysis and ratio analysis were used. The study revealed that the remittance though gradually increased from year to year as result of the increase in economic activities, the remittance to GDP as a percentage of total economic situations show the increasing trend. Nepali economic growth, due to higher Remittance is essentially a “pseudo-growth”. The economy is able to afford foreign imports not because of the return from its economic output – through higher level of exports of goods and services – but it is simply from the return of exporting labors. When remittance from official source alone is approximately the quarter of the GDP, there is a significant risk. For a developing country, infrastructure investment is essential. Public infrastructures such as highways, railways, ports and airports all provide positive economic impact. And as argued in (Acharya, 2003), developing countries should have higher supply of public infrastructures than demanded. Such would stimulate further economic activities to take place, which would trigger the virtuous cycle of economic growth.

The remittances have become a popular issue in the international financial literature over a decade because of their volume and their potential to reduce poverty. Recent literature has posited that there exist positive relations between remittance and economic growth, capital accumulation and poverty alleviation of recipient countries. Though the results seem varied, most of them utilized cross country or panel data and therefore there is a need to validate it further into country specific case studies. Remittance income was found to be determinant of GDP. According to our research, dependency level of GDP in remittance is more than 50 percent. This shows that, the proper utilization of remittance income is very essential to economic growth of Nepal. Both remittance income and GDP curve are found in upward slow. It means they have linear relationship between remittance income and economic growth.

References

- Acharya, S.R. (2003). Official development assistance (ODA) in transport sector: challenges and opportunities. *Eastern Asia society for transportation studies*, 4, 1572-1586.
- Afsar & Rita (2007). *Management in South Asia. A Country Paper of Bangladesh* Presented at SAARC Finance Seminar, May 9 to 11, 2007.
- Akhtar & Rokeya (2007). *Management of worker's remittance in SAARC countries. A country paper of Bangladesh* Presented at the SAARC Finance Seminar, May 9 to 11, Kathmandu.
- Ang, A.P. (2006). *Workers' remittances and economic growth in the Philippines*. Retrieved from http://www.ifwkiel.de/vrcent/degit/paper/degit_12/C012_029.pdf.
- Barham, B. & R. B. (1998). Migration, remittance and inequality: Estimating the net effects of migration on income distribution. *Journal of Development Economics* 16:2.
- Bhattarai, P. (2005). *Migration of Nepalese youth for foreign employment: Problems and prospects: A Review of Government Policies and Programs*. Kathmandu.
- Central Bureau of Statistics (2011). *Nepal Living Standards Survey III*. Kathmandu, Nepal, Central Bureau of Statistics.
- Chami, R., Barajas, A., Cosimano, T., Fullenkamp, C., Gapen, M., & Montiel, P. (2008). *Macroeconomic consequences of remittances*. IMF Occasional Paper (No. 259). Washington, International Monetary Fund.
- Chami, R., Fullenkamp, C., & Jahjah, S. (2003). *Are immigrant remittances flows a source of capital for development?* IMF Working Paper No. 189. Washington: International Monetary Fund.
- Faini, R. (2002). *Migration, Remittances and Growth*, Paper presented at UNU-WIDER conference on Poverty, International Migration and Asylum, 27-28 September, Helsinki.
- Giuliano, P. & Ruiz-Arranz, M. (2006). *Remittances Financial Development and Growth*. IZA, Discussion Paper No. 2160.
- Glytsos, N. (2005). *Dynamic Effects of Migrant Remittances on Growth: Aneconometric model with an application to Mediterranean countries*. Econ WPA, Discussion Paper, No. 74.
- IMF, (1993). *Balance of Payment manual fifth Edition*. International Monetary Fund. Washington DC. USA.
- Pandey, Nischal Nath (April, 2005). *Institute of Foreign Affairs. Policy Study Series – V: Labour issues and foreign policy*. Kathmandu, IFA Publication.

Pant, B. (2005). Remittance inflow to Nepal: Economic Impact and Policy Option. Nepal Rastra Bank Samachar. Nepal Rastra Bank Kathmandu, Nepal.

Pant, B. (2005). The Emerging Role of Remittances for Economic Sustainability. The Free Market (Monthly). Vol. 3.

Pathak, N. N (2005). Institute of foreign affairs. Policy study series – V: Labour Issues and Foreign Policy. Kathmandu, IFA Publication.

Thagunna, K.S. (2013). Empirical analysis of remittance inflow: the case of Nepal. International Journal of economics and financial issues vol. 3, No. 2, 2013.

Tuladhar, M. (2014). Impact of Inward Remittance on Nepalese Economy. The KIC Journal of Management and Economic Review Vol. 1, No.2, March, 2014, pp.98-108.