



Remittance Inflow and Economic Growth: The Case of Georgia

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Abstract:

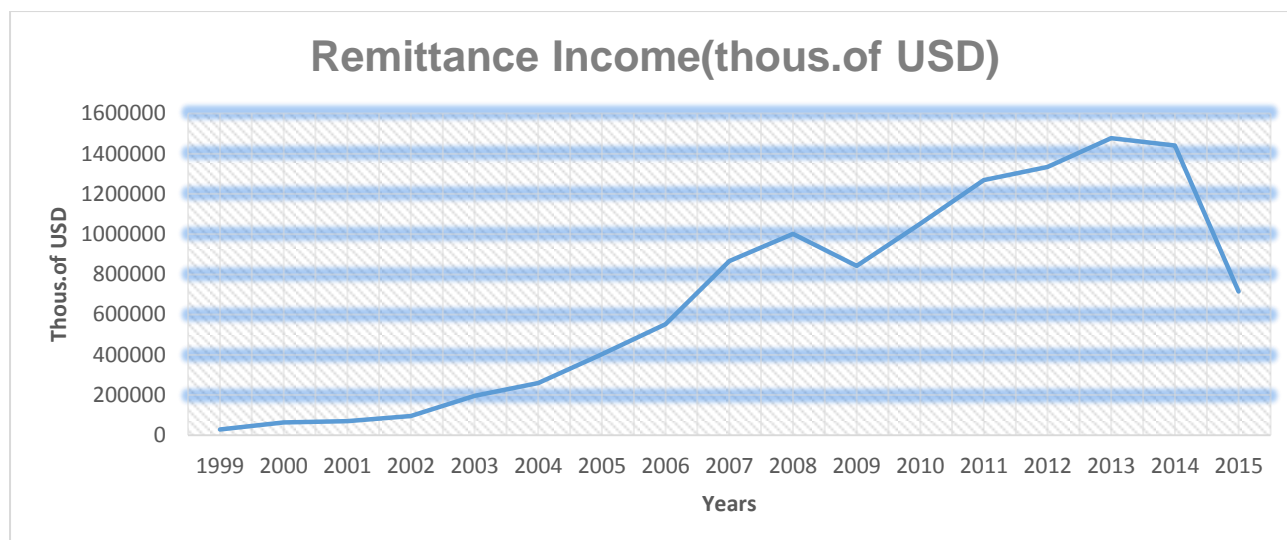
Remittance inflow become one of the main source of capital flows in the world. It is noted that remittance is very effective in promoting household welfare and as an alternative source of capital inflow. However in it uncertain whether or not it leads to economic growth. This article examines the effects of remittances inflow on economic growth in Georgian republic. The impact of remittance inflow on GDP growth was analyzed and tested by Unit Root Test, Johansen Co-integration and VAR Granger Causality/Block Exogeneity Wald Tests. In the paper the quarterly data interval from the first quarter of 1999 to third quarter of 2015 was used. As a result it was found out that that there is a nexus between remittance and GDP and it is concluded that remittance leads to increase in GDP growth.

Keywords: Remittances Inflow; Economic Growth; Unit Root Test; VAR Granger Causality Test.

JEL Classification Numbers: F24; O4; F4.

Introduction

The Georgia is one of the first republics of USSR that got independence after the elections of 1990. The radical reforms of transformation the economic system from command economy to market economy did not bring any results and in some cases made the economic situation even worse. One of the reason was self-isolation of Georgia and confrontation with Russia. Another reason was the fact that in 1993 Georgia, there was not national currency, which were making impossible to conduct independent monetary policy. With the breakup of USSR, Georgia like other post-Soviet countries inherited high level of unemployment and fall in production resulted from break-up of common economy. These dire conditions have pushed hundreds of thousands of Georgians to look for work in other countries. The main destinations for emigrants from Georgia was Russia. Remittances from this countries were main sources of income in home-country. According to World Bank, the growth in remittances is expected to moderate to 4.4 percent in 2015, rising flows to 454\$ billion. Remittance is an essential source of external fund for Georgia. It is steadier than portfolio equity flow and private debt and also larger than official development assistance. The remittance is a stable component of receipt reliable bringing in foreign currency that positively influences to balance of payments. The main sources of remittance are the economic situation and number of emigrants in the remittance-sending countries. There are many factors influencing remittance inflow for the Georgia, the exchange rate is one of the major determinant. The appreciation of the remittance source countries currency against the Georgian lari boosts flows of the currency. Technological development also positively influences the amount of remittance, especially banking sector and development of microfinance institutions.



10 Section 3 presents the data and describes the empirical analysis and results. The last part relates to the end of the paper and conclusion.

Literary Review

There have been conducted many studies on the impact of remittance inflow on economic growth and other economic parameters in different countries which have contributed to the large amount of theoretical and practical literature. The majority of this paper can be classified by two categories. The studies that have found positive relationship between remittance and economic growth and studies that found negative relations between remittance and economic growth. The studies that denote the impact of remittance on economic growth exhibits variability. Remittances do not exhibit too much volatility against changes in economy relative to FDI inflows and portfolio investment (Ramey and Ramey, 1995). Ivakhnyuk, I, (2006) found out that workers' remittances which are closely related to migration have a positive impact on economic development. In addition, in their study to examine the effect of workers' remittances on economic growth in a sample of 39 developing countries using panel data from 1980–2004 resulting in 195 observations.

Pradhan (2008) found out that remittances have a positive impact on growth. Ramirez and Sharma (2008) examine the impact of remittances on economic growth in 23 Latin American and Caribbean countries using panel data from 1990 to 2005. Results from the estimation show that there is a positive relation between workers' remittances and economic growth. The paper presents evidence of negative growth in the absence of remittance receipts in those countries. According to Giuliano and Ruiz-Arranz, (2009) remittance can influence positively on the economic growth by improving the development of financial sector. Another argument is found by Barajas, (2009) which emphasizes the importance of remittance as a factor that increases capital accumulation, thus positively influencing to economic growth. Nyamongo (2012) in their paper on the role of remittances and financial development on economic growth of Saharan Africa 36 countries over the period of 1980-2009 found out that remittances appear to be a significant source of growth for these countries in Africa during the period under study. They also found that that volatility of remittances appears to have a negative effect on the growth of countries in Africa and that remittances appear to be working as a compliment to financial development. Jawaid (2012) in their study to investigate the relationship between workers' remittances and economic growth by using 7 years average annual data of 113 countries from the period 2003 to 2009 indicate the positive and significant relationship between workers' remittances and economic growth. The study shows that the workers' remittances are more contributing in high income countries as compared to low and middle income countries.

Kiio, Soi, Buigut (2014) found that there is positive and highly significant relationship between workers' remittances and real GDP per capita, indicating that higher economic growth is related with higher remittances. Further, we paper found a positive impact of gross capital formation and change of exchange rate regime from fixed to floating on economic growth.

Sulaimanova and Bostan (2014) showed the determinants of international migration for Tajikistan and Kyrgyzstan. The empirical results revealed that one of the strong and statistically significant pushing factors of migration is remittance inflow. Remittance is reducing migration, showing that with the growth of remittances, migration outflow decreases.

Bayar (2015) examines the causal relationship among the real GDP per capita growth, personal remittances received and net foreign direct inflows in the transition economies of the European Union and found that there was unidirectional causality from remittances and foreign direct investment inflows to the economic growth.

Despite of the above mentioned findings, some authors have found negative effect of remittance on economic growth. Sofranko and Idris (1999) conclude that workers' remittances fail to create sufficient savings required for rapid economic growth because remittances are mainly used for consumption not for investment. Leon and Piracha (2004) suggests that international migration/remittances paralyze countries making them dependent on remittances. Reliance on remittances distorts development and creates inequalities and disparities among the people within the country. According to Lopez (2007) the exchange rate appreciation may decrease the competitiveness of the countries and thus decrease the export and increase the import. The remittances may affect the economic growth negatively through the exchange rate appreciation. Waheed and Aleem (2008) found out that that workers' remittances are only beneficial in short run. In long run the policy makers should focus on export earning instead of workers' remittances as a source of foreign exchange earnings for continues and stable growth. Ahortor and Adenutsi (2009) argue that workers' remittances also create over dependency on external economy or income that's creating voluntary unemployment.

Data

The data consists of the quarterly time series data of Remittance (rmt) per capita and Gross Domestic Product (gdp) per capita of Republic of Georgia. The data interval is from the first quarter of 1999 to third quarter of 2015. The all data used in this study is taken from Georgian Statistical department site (http://geostat.ge/index.php?action=page&p_id=119&lang=eng), Georgian National Bank (<https://www.nbg.gov.ge/index.php?m=304>) and the World Bank data (<http://data.worldbank.org/indicator/BX.TRF.PWKR.CD.DT>)

Methodology and Results

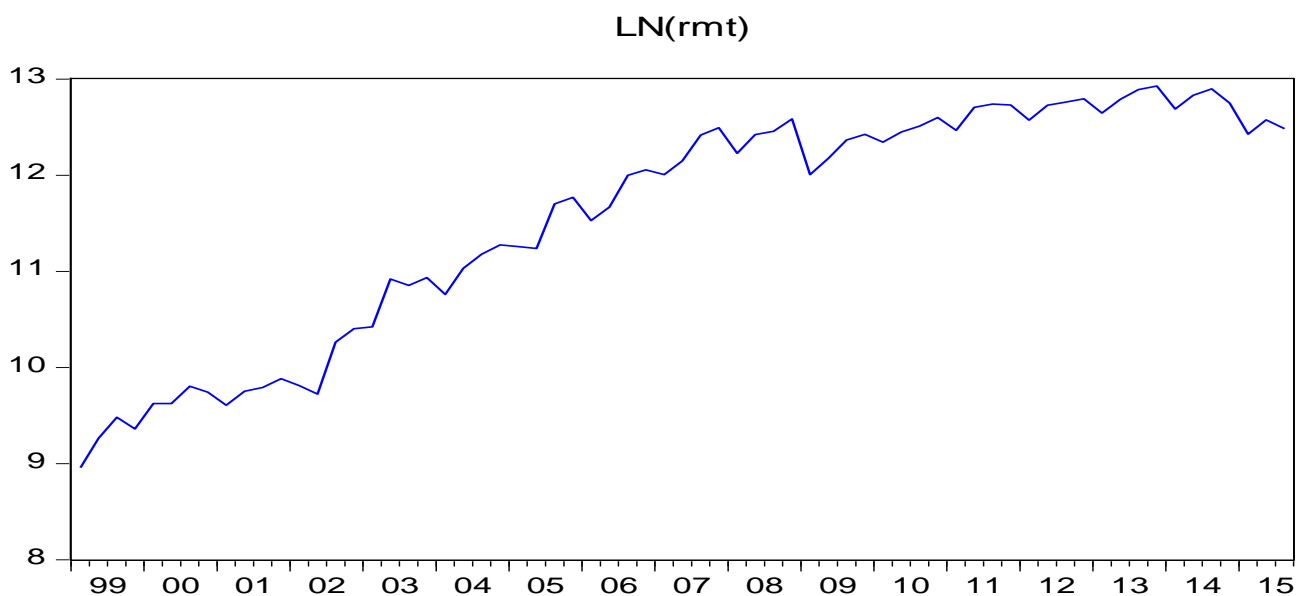
Unit Root Test

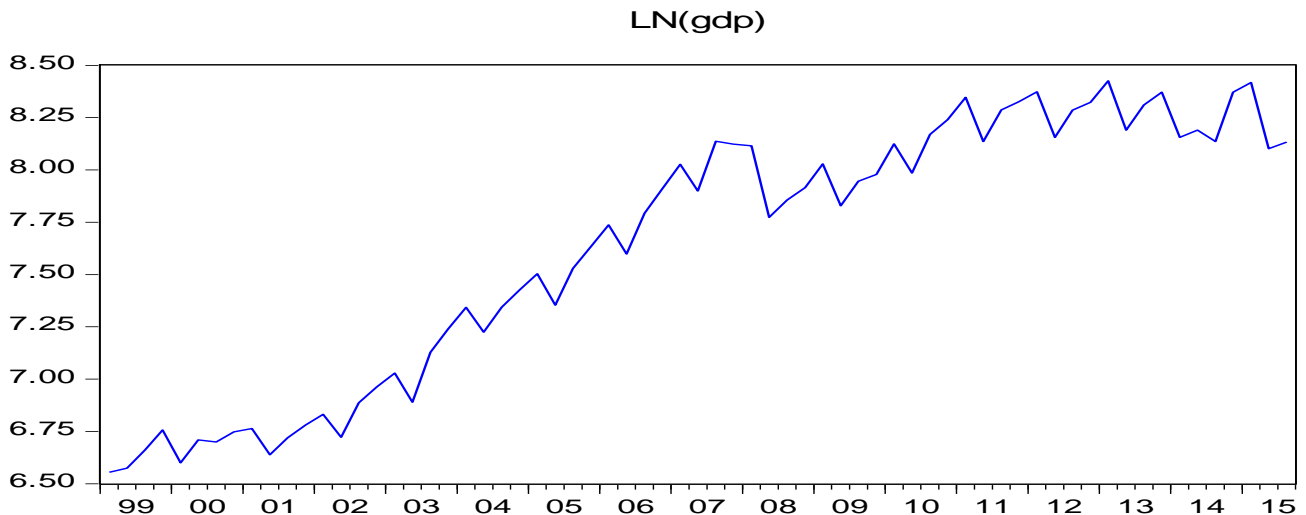
Most macroeconomic time series are non-stationary since they are mostly trended data. Unit root test is important to avoid generating spurious results. The unit root test in this study is performed by the natural logarithms of the series rmt and gdp. The augmented Dickey-Fuler (ADF) test is used for investigating the existence or absence of unit root. There are three possible forms of the ADF test however two forms that constant only and constant with trend are going to be used by the following equations as demonstration respectively:

$$\Delta y_t = \alpha_0 + \rho y_{t-1} + \sum_{i=1}^p \beta_i \Delta y_{t-i} + u_t$$

$$\Delta y_t = \alpha_0 + \rho y_{t-1} + \alpha_1 t + \sum_{i=1}^p \beta_i \Delta y_{t-i} + u_t$$

Table 1: The Series Natural Logarithms of Rmt and Gdp





The null and alternative hypotheses are:

H_0 : The series has unit root therefore non-stationary

H_1 : The series has no unit root therefore stationary

Table 2: ADF Unit Root Test

	<u>At Level</u>		<u>At 1st difference</u>	
	Constant	Constant with trend	Constant	Constant with trend
LN(rmt)	-1.94	0.36	-2.92*	-3.73*
LN(gdp)	-1.67	-0.81	-3.23*	-3.56*

Note: test critical values at 5% are -2.91 for constant and -3.48 for constant with trend. Significance at 5% is denoted by *.

The results of ADF test indicate that both series are non-stationary at level and both series become stationary at first difference. Therefore the series LN(rmt) and LN(gdp) are integrated order 1.

Johansen Co-integration and VAR Granger Causality/Block Exogeneity Wald Tests

Since it is mostly seen that variables are not only explanatory variables for a given dependent variable, they are also explained by the variables that are used in the model. Because of this reason Vector Autoregressive (VAR) model becomes very popular and useful. The researchers in this study prefer to use VAR model to test co-integration and causality tests. Lag length is important in VAR models. Akaike and Schwarz-Bayesian criterion are used to select the lag length. The following table gives the results for lag length.

Table 3: Lag Length Selection

<u>Lag</u>	<u>AIC</u>	<u>SC</u>
0	1.802	1.871
1	-2.370	-2.162
2	-2.408	-2.062
3	-2.498	-2.014
4	-2.817	-2.194
5	-2.995*	-2.234*
6	-2.903	-2.003

The optimal lag length is selected as 5 by using Akaike and Schwarz-Bayesian information criterion. The next step is Johansen co-integration test for the examination of long-run relationship.

<u>Hypothesized</u>	<u>Trace</u>	<u>0.05</u>		
<u>No. of CE(s)</u>	<u>Eigenvalue</u>	<u>Statistic</u>	<u>Critical Value</u>	<u>p-value.**</u>
None *	0.462178	42.01511	15.49471	0.0000
At most 1 *	0.066248	4.181201	3.841466	0.0409

Note: the rejection of the hypothesis in the test is denoted by *Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level trace test indicates that there are at least two co-integrating equations. Therefore the series LN(rmt) and LN(gdp) move together in the long-run. The causality test is performed by using VAR Granger Causality/Block Exogeneity Wald Tests and the results are reported in the following table.

<u>Dependent variable: LN(gdp)</u>			
<u>Excluded</u>	<u>Chi-sq</u>	<u>df</u>	<u>Prob.</u>
LN(rmt)	66.41936	2	0.0000
All	66.41936	2	0.0000
<u>Dependent variable: LN(rmt)</u>			
<u>Excluded</u>	<u>Chi-sq</u>	<u>df</u>	<u>Prob.</u>
LN(gdp)	4.541405	2	0.1032
All	4.541405	2	0.1032

The null hypothesis that the series LN(rmt) does not cause the series LN(gdp) is only rejected according to test statistic values.

Conclusion

The quarterly data is used from the first quarter of 1999 and third quarter of 2015 to examine the possible nexus between remittance and economic growth for the Republic of Georgia. Unit root test is applied to avoid spurious results. Johansen co-integration test and Granger Causality/Block Exogeneity Wald Tests are used through establishing VAR model by testing lag length with Akaike and Schwarz-Bayesian information criterion. The tests performed in this study show that there is a nexus between remittance and GDP and it is concluded that remittance leads to increase in GDP growth.

Remittances plays a significant role in macroeconomic stability and economic growth of Georgia. They provide a social insurance and sources of income to jobless households in Georgia. It is very important to do not consider remittance as a cure for all economic problems in Georgia one of the weak side of the remittance is that it is highly unpredictable and that's why cannot be viewed as a substitute of domestically generated income. Fall in the inflow of the remittance has an immediate impact on Georgian national currency. If not for the remittance from abroad, after the events of August 2008 and the financial crisis, the poverty rate in Georgia would have been much higher. In 2008, was recorded the highest rate of remittance inflow to Georgia in comparison with previous years (including, to the year 2009) - more than \$ 1 billion, and at the same time a large part of the amount received in the country towards the end of the year. Our recommendation is to decrease the dependence of Georgian economy and macroeconomic stability from the remittance abroad, since any shock in neighbor country directly influences to the amount of remittance which simultaneously shakes the stability of national currency.

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