The Impact of Remitances on Albanian GDP and Economic Growth

Enea Myftari

Elbasan. Albania
Email: myftarienea@yahoo.com

Absract *This paper includes a considerable part of Albania's macroeconomic, focusing mostly on remittances framework. The purpose of this paper is to show through conducted analysis, the reality of remittances in Albania. These remittances have been evaluated from their beginning up to now, by seeing consequences that brought these remittances, and focusing on the level they represent in Albania's GDP. This paper begins with a historical overview of the factors that led to the start of remittances to Albania, and continues with analyzing of remittances effect on the economy of Albania. The distribution of remittances in Albania is been presented according to different urban and rural areas. The changes in remittances inflow are illustrated among years, and the paper focuses on the role of remittances especially on its share in Albania's GDP. This paper includes also graphics and their valuable interpretation. The methodology which is used in this paper is, obtaining information from various sources and literature. The facts and analysis on the topic has been adapted by highlighting my personal ideas on the matter. Based on the information regarding this paper, it can be concluded that remittance inflows constitute a very important share in GDP and economic development of Albania. Lastly, a recomendation to Albanian government would be that, these remittances which in many cases are used mostly for consumption, must be oriented towards investment.*

Key Words: *macroeconomics, remittances, Albania's GDP, economic development, consumption, investment*.

1 Introduction

In 1990 with the fall of communism in Albania happened substantial changes in economic and political system of the country. This sudden change with highly damaging consequences for the state's economy led to bankruptcy of the state enterprises, the decay of heavy processing industry, the overthrow of the old economic model and the unemployment growth. Due to this difficult transition situation Albania was accompanied by migration of population for a better life, which had positive consequences for the country (Emigracioni Shqiptar dhe Integrimi Social, 2008, 10-11). These positive consequences came as a result of remitted money in foreign value to domestic country, through official or unofficial channels. These remitted money of course affected the stagnated Albanian economy by recovering its budget, GDP and its internal economy as well. The aim of this study is to examine remittance behavior and impact on GDP, as well as to review and recommend measures to improve productive use not just consumption.

The rest of the study is organized as follows: Part 2 provides the literature review which is based mostly on previous conducted studies by trusted channels, while part 3 discusses about data and methodology analysis. In order to analyze the given data and interpret the results scientifically, calculations are done through the simple method of regression equation by using Excel programme. Whereas part 4 indicates the conclusions which are pointed out from the study and it ends with suggestions to improve the economy. In part 5 are shown the references which testify the credibility of the conducted study and lastly in part 6 is found the annex with the required calculation from simple regression equation.

2 Literature Review

The inflow of remittances and its related issues have long been of interest to economists and policy makers in Albania, in particular after the collapse of communist regime. Since then several macro and micro level studies have been published that have served to enrich the literature on remittances. In fact many studies are conducted about this topic. One of them is the study conducted by the institute "Agenda" for "The effects of declining remittances in Albania" in the context of a project supported by Open Society Foundation for Albania, Soros, who was released on July 15, 2010 at the premises Tirana International Hotel. The result of this study was that 73.8% of remittances go for consumption. (SOROS,2010, 3-4) Almost everyone has a relative or a friend who works or lives abroad as temporary worker or a permanent migrant. Albanian solidarity enabled bringing money to their relatives who were in Albania. These remittances represent a significant role in balancing the Albanian economy and minimizing existing imbalance between export and import that have reached approximately 1÷3. (Gazeta Sot, 03.12.2010)

The remittances inflow from emigrants in Albania has increased sharply since the start of the transition. The mid of 2007-08, became known as the highest level ever reached in the remittances inflow perspective and had stabilized at 13-

14% level of GDP. At the following year, due to the adverse effect of global crisis, there was a significant decline in remittances inflow from expatriates. At press conference official governmental authorities claimed that Albania didn't get affected from the global crisis but, it was indirectly affected by the reduced level of remittances inflow. (Gazeta Albeu, 26.08.2009)

The black sector indicates that rural families dispose additional liquidity, which are likely from remittances of emigrants, held in obsolete savings mechanisms. These mechanisms are mainly in the form of slow construction of second homes and the money was kept "under the mattress". If these resources would be used through the development of formal savings and mechanisms and investment schemes, then the immigrant's remittances will play an important role in the expansion of economic activity in the country. (Informalja dhe Tregu i Zi ne Shqiperi, 2010, 34)

Table 1: Albanian GDP, remittances inflow and its share in GDP

USD	Remittances	GDP	GDP per share
1992	150	709	21%
1993	274.8	1,228	22%
1994	378	1,985	19%
1995	384.6	2,424	16%
1996	500	3,013	17%
1997	267	2,196	12%
1998	452	2,727	17%
1999	368	3,434	11%
2000	530	3,686	14%
2001	620	4,091	15%
2002	733	4,449	16%
2003	888	5,652	16%
2004	1,160	7,464	16%
2005	1,289	8,376	15%
2006	1,359	9,133	15%
2007	1,468	10,705	14%
2008	1,495	12,969	12%
2009	1,317	12,045	11%
2010	1,156	11,786	10%

Source: *Bank of Albania, 2011*

Figure 1: The share of remittances inflow in Albanian GDP

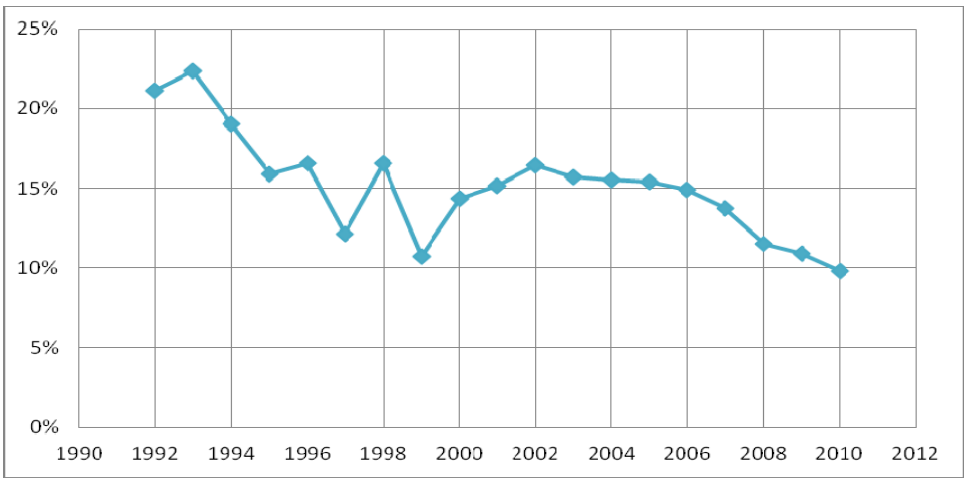
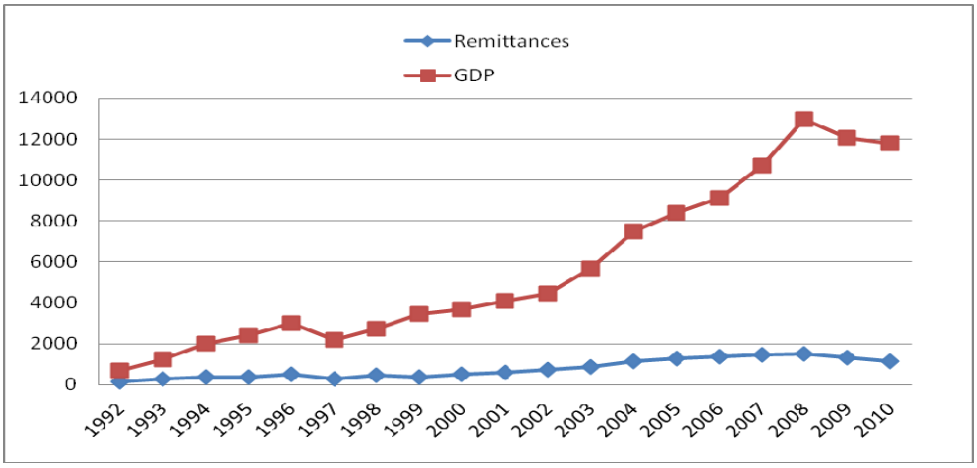


Figure 2: Albanian GDP and remittances inflow



3 Data, Methodology and Analysis

In this section, in order to gain knowledge about the dataset and the observations is applied empirical methodology. The above data are attained from a reliable source which is the web page of World Bank, thus undoubtedly it can be said that these values are valid. The purpose of this paper is to work over the given observations and analyze them by using the statistical method. Thus we will be able evaluate the outcome of the results and understand better whether the relationship between the dependent variable and independent variable exists or not? If yes, we have to explore how strongly are they correlated.

In this paper is used the regression analysis model to analyze the relationship between the remittances inflow which are brought from the emigrants from abroad and the Albanian GDP. The period taken into consideration is the last decade starting from 2001 to 2010, meaning we have ten observations.

In this analysis, the aim is to predict the GDP by using the remittances inflow. Because we have only two variables, we are going to have a simple regression equation which will be like:

$$y_i = \beta_0 + \beta_1 x_i + \varepsilon_i, \quad i = 1, \ldots, n.$$

Where:

- GDP is the dependent variable and it is denoted with "Y". We believe that GDP depends on remittances from emigrants and it constitutes a vital importance for it.
- Remittances Inflow is the independent variable and it is denoted with "X".
- β_0 -It is the intercept parameter
- β_1 -It is the coefficient of the independent variable
- Ɛ - The standard error shows the committed error by comparing the linear line.

According to the regression equation which is Y = 8.27842*X – 755.83652 the results are as following:

X Variable Coefficient = 8.27842
Intercept Coefficient = 755.83652
R square = 0.913530128
Standard Error = 0.61772

Thus, by analyzing these data the aim is understanding whether the null hypothesis will be rejected or failed to reject, which in this case the interest is on learning whether there is or not any correlation between remittances and GDP.

t statistic is the significance test for an estimated parameter in regression using the *t distribution*. This is called the *t statistic, or t ratio*. The higher this calculated t ratio is, the more confident . In that case,

Y = 8.27842*X – 755.83652

***t statistic* (13.40150)**

***F statistic* (179.6003)**

In order to conduct significance test for estimated parameter, it must be compared the calculated t ratio to the critical value of the *t distribution with n-k=19-2=17 df* given by *Table of t distribution*. This *t test* of the statistical significance of the estimated coefficent is performed *at the 5 percent level of significance.* Thus, at *0.05 level of significance in Table of t distribution* and *at 17 df*, it is founded that critical vaule of ***t=2.11*** for this two-tailed t test.

In that case, calculated value of ***t=13.40*** exceeds the tabular value of ***t=2.11*** for *the 5 percent level of significance with 17 df*, the null hypothesis is rejected that there is no relationship between *X (value of Remittances)* and *Y (Albanian GDP)* and the alternative hypothesis is accepted that there is in fact a significant relationship between *X and Y*.

The overall explanatory power of the entire regression can be tested with the **analysis of variance**. This uses the value of the **F statistic**, or *F ratio*. Specifically, the *F statistic* is used to test the hypothesis that the variation in the independent variables explains a significant proportion of the variation in the dependent variable.

Using the values of $\mathbf{R^2}$ **= 0.9135**, **n=17**, and **k=2** for that case, it is obtained **F=179.600.** To conduct the *F test or analysis of variance*, it is compared the calculated or regression value of the *F statistic* with a critical value from the *table of F distribution*. The *F distribution* is defined in terms of *2 df*. There are *k-1* for the numerator and *n-k* for the denominator. Thus, in that case, the degrees of freedom are *k-1=2-1=1* (the number of independent variables in the regression) for the numerator and *n-k=19-2=17* for the denominator. To determine *the critical value of F* that it is founded in the table for *the 5 percent level of significance is 4.45.* Since the calculated value of the *F statistic of 179.600* exceeds the critical value of *4.45 for the F distribution with 1 and 17 df*, the null hypothesis is rejected that there is no relationship between *X (value of Remittances)* and *Y (Albanian GDP)* and the alternative hypothesis is accepted that there is in fact a significant relationship between *X and Y*.

By using **Y = 8.27842*X – 755.83652** regression equation we can predict the **GDP**. Thus:

Table 2: Predicted Albanian GDP

USD	Remittances	GDP	GDP^
1992	150	709	486
1993	274.8	1,228	1,519
1994	378	1,985	2,373
1995	384.6	2,424	2,428
1996	500	3,013	3,383
1997	267	2,196	1,455
1998	452	2,727	2,986
1999	368	3,434	2,291
2000	530	3,686	3,632
2001	620	4,091	4,377
2002	733	4,449	5,312
2003	888	5,652	6,595
2004	1,160	7,464	8,847
2005	1,289	8,376	9,915
2006	1,359	9,133	10,495
2007	1,468	10,705	11,397
2008	1,495	12,969	11,620
2009	1,317	12,045	10,147
2010	1,156	11,786	8,814

***Source**: Bank of Albania, 2011*

Figure 3: Scatter Diagram for indentifying the Correlation between two variables.

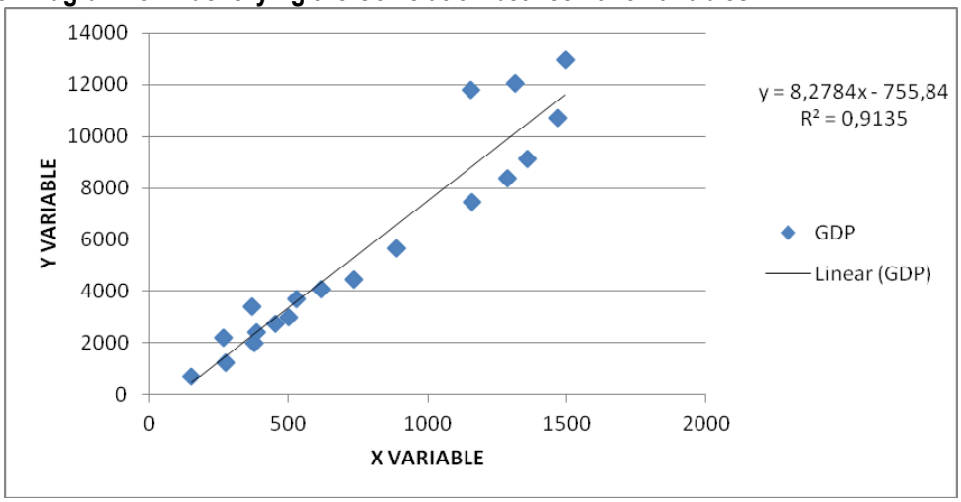
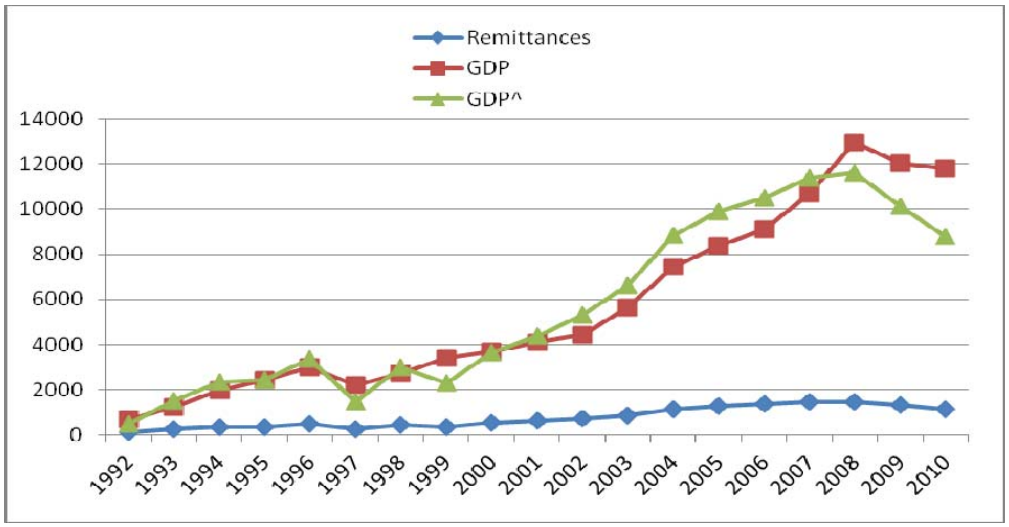


Figure 4: Scatter Diagram



4 Conclusions / Recommendations

According to the regression results, the value of R square is close to the "LINE" and the closer is the R square to number 1, the stronger is the relationship between two variables. So the number obtained is good and it means our data are reliable, and we proof that between remittances and GDP there is a strong relationship. But, to the extent that remittances play an important role in smoothing household's consumption over time, an eventual drop in remittances inflow (like 2008-10 due to the global crisis), may have direct adverse effects on consumption and thus on poverty. The future of Albania can not rely forever on them, thus, in the context of development of the country, the Albanian government should prevent this money going only for consumption, but it should try to remodel the economy and to orient these money shipments in the business sector, manufacturing and services.

References

Bank of Albania, "Annual Report 2001", (22 November 2011).
Gazeta Albeu, http://www.albeu.com/shqiperi/berisha:-shqiperia-i-vetmi-vend-qe-nuk-u-prek-nga-kriza/12162/ *(26 August 2009).*
Gazeta Sot, http://www.energjia.al/component/content/article/34-news/1834-eksport-importet-rriten-me-97-miliarde-leke-me-2009 (03 December 2010).
International Organization, "International Monetary Fund" (IMF), http://www.imf.org/external/np/sta/bop/2006/luxgrp/pdf/albani.pdf *(22 November 2011).*
International Organization, "World Bank" (WO), www.worldbank.org, and http://www.google.com/publicdata/explore?ds=d5bncppjof8f9_&met_y=ny_gdp_mktp_cd&idim=country:ALB&dl=en&hl=en&q=albanian+gdp *(22 November 2011).*
National Institute of Statistics (INSTAT), www.instat.gov.al (22 November 2011).
Soros (2010),"Efektet e Renies se Remitancave ne Shqiperi". Agenda Institute Open Society, (p3-4).
S.R Pindyck, and D.L. Rubinfeld, Econometric Models and Economic Forecasts, McGraw Hill, 2002.

6 Annex:

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.9557877
R Square	0.913530128
Adjusted R Square	0.908443665
Standard Error	1211.104853
Observations	19

ANOVA

	df	*SS*	*MS*	*F*	*Signific. F*
Regression	1	263433175.6	263433175.6	179.6003	1.82466E-10
Residual	17	24935174.42	1466774.97		
Total	18	288368350			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	-755.83652	555.33378	-1.36105	0.19127	-1927.48836	415.81533	-1927.48836	415.81533
Remittances	8.27842	0.61772	13.40150	0.00000	6.97514	9.58170	6.97514	9.58170