

# The Role and Impact of Remittances on the Economic Growth - Kosovo Case Study

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## Abstract

In this research paper the role and impact of remittances on the economic growth of Kosovo in the recent years (2008 - 2013) through remittances, inflation rate, real effective exchange rate (REER) as independent variables and economic growth as depend variable is analyzed. The secondary data are used which are taken from international and domestic institutions which are analyzed through STATA software (an econometric and statistical program). The reason for writing is that in 2013 the total value of remittances in Kosovo was 620.8 million € and in 2011 Kosovo was among the top 10 countries with the highest level of remittances. The main arguments used in this research paper are: how do remittances affect in overall the economy? What is the impact of remittances on businesses? How do we use it for family consumption? In the research methodology are used secondary data and all of them are analyzed by STATA software which helps in calculation of OLS method of regression, descriptive statistic and correlation matrix. Also this paper research findings show us that if we refer to the result of variables that are included in the paper though OLS methods, the remittances ( $\beta_1 = - 0.017$ ) and the exchange rate ( $\beta_3 = - 0.322$ ) have negative impact and non-significant ( $T < 2$ ) effect on economic growth but the inflation rate has positive ( $\beta_2 = 0.245$ ) and significant ( $T > 2$ ) effect on economic growth and the coefficient of determination ( $R^2$ ) is

84% then the coefficient of Durbin Watson Statistic (DW) is 2.11, it means there is no autocorrelation.

**Key Words:** Correlation, Economic Growth, Inflation Rate, REER, Remittance.

## 1. Introduction

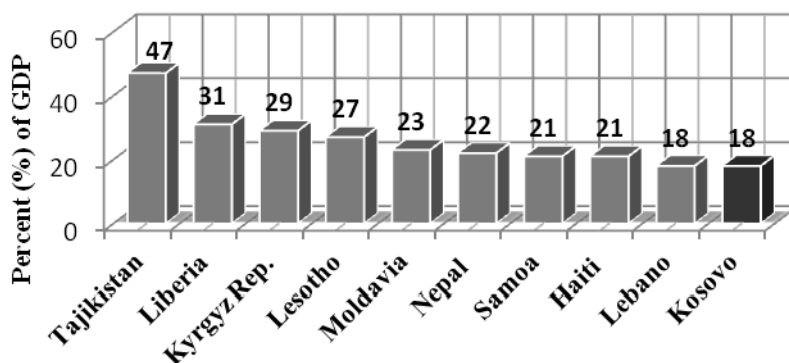
In 2010 over 215 million or 3.2 % of world population were immigrants, as argued (Rath et al, 2011) while only in 2012 transfers by immigrants from EU-27 to their home country was nearly 39 billion euro (Eurostat, 2013) also in 2011 it was nearly 40 billion euro (Eurostat, 2012). Remittances are very necessary for countries with lower economic development also for transition countries, such as Kosovo. According to (Muhamet et al, 2007) migration in Kosovo during the last 50 years is divided in 4 stages: a) first stage from 1960 to 1988; b) migration after eviction from state institutions from 1989 - 1997; c) emigration from the last war in Kosovo from 1998 - 1999; d) post 1999. The role of remittances in GDP is important and the remittances together with FDI and Financial sector constitute a dominant part of GDP (close to 65%) and remittances are very important for Kosovo's economy especially for stimulating consumption and private investment and its impact is very high in improving the welfare of many citizens of Kosovo. According to some research of United Nation Development Program (UNDP, 2010)] over 25% or over 400.000 of people in Kosovo have the remittances as the main source of income while as Kosovo Agency of Statistic (KAS, 2013) cited, in 2013 over 43 % of Kosovo citizens have family members who live abroad.

## 2. A Review of Selected Literature:

For more than fifty years, there have been long debates and discussions about the main source of economic growth and some economists and researchers scientist have defined different factors that are affecting the economic growth, as: foreign direct investment, physical capital investment and technological change, openness of the economy, increasing returns from investment in new ideas and research and development, etc; as cited (Fayissa, B. & Nsiah, Ch., 2010). In the present time most research papers find that the remittances have positive and significant effect on economic

growth so the remittances means the transfer of money (financial found) from migrants-sending to the receiving countries (in host countries of remittance), according to (Ahmad et al, 2013). Their effect on economic growth and in the overall economy is multidimensional, like as: improve education and health system, reduce poverty, improve financial access and financial development, political sustainability and economic stability, etc, suggested by (Ratha, 2013).

**Figure 1:** Remittance for Kosovo as percent of GDP in 2011



**Source:** Outlook for Migration and Remittances 2013 – 2015.

During the global financial crisis in SEE, countries had lowering and raising of remittances but the financial crisis had its effect in two-ways: first of these movements are influenced by disorders that occurred in the labour market during the financial crisis in developing countries, especially in the sectors of manufacturing, construction and domestic work, etc.; secondly the movement of the labour market are reflected significantly in countries that are sending remittances, where most of them are used for home consumption (Panagiotou, 2012). But recent research shows that in some countries the use of these remittances is not only for domestic consumption but these are also used in other sectors, such as education and health (Joshevska et al, 2012). Table 1 shows the level of remittances during financial global crisis in SEE countries over the years 2006 - 2011.

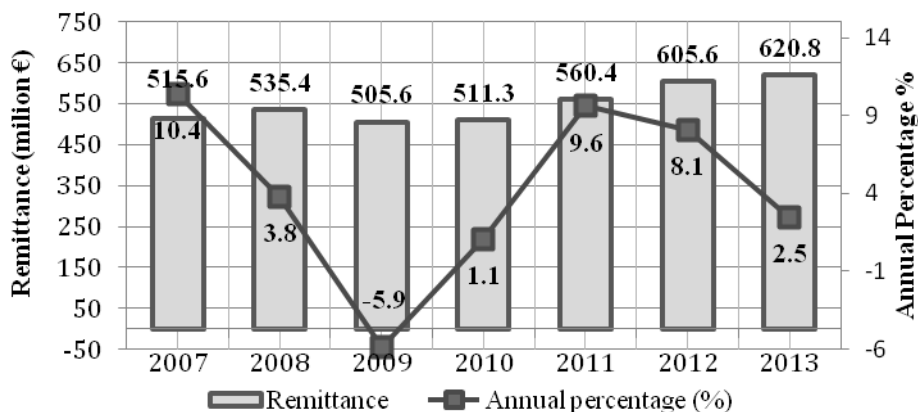
**Table 1:** The level of Remittances in SEE countries (million \$)

	2006	2007	2008	2009	2010	2011
Albania	1 359	1 468	1 495	1 317	1 156	1 221
Macedonia	267	345	407	381	388	435
Montenegro	---	196	298	302	301	334
B & H	2 157	2 700	2 735	2 167	1 906	2 021
Croatia	859	1 194	1 292	1 271	1 287	1 236
Serbia	2 754	3 064	2 710	3 936	3 351	3 719
<b>Totali:</b>	<b>7 396</b>	<b>8 967</b>	<b>8 937</b>	<b>9 374</b>	<b>8 389</b>	<b>8 966</b>

**Source:** Adapted by Panagiotou 2012 - (World Bank Outlook 2011).

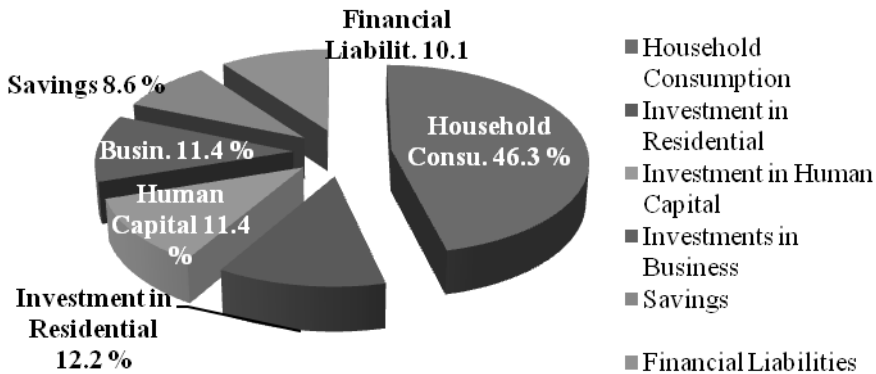
Therefore, the role and impact of remittances in economic growth has been adequately studied and their importance on economic growth during those years was very high i.e in Kosovo in 2008 the participation of remittances on economic growth was 14.1 %, the highest participation of remittances on economic growth in the region while other countries had: Albania 12.8 %, Serbia 11.8 %, Macedonia 4.0 %, etc; according to Central Bank of Kosovo (CBK, 2009). If we analyse participation of remittances on GDP for 2011 and if we compare Kosovo with other global countries, we understand that Kosovo is very high ranking [see figure above, argued by (World Bank, 2013)]. Since 2004 until the time when Kosovo was hit by the financial global crisis (2009), remittances in Kosovo had a total value of nearly € 2.8 billion, after the financial crisis in Kosovo remittances were reduced to 505.6million compared with previous year (2008), as argued by (Mustafa-Topxhiu, 2010) but after 2009 remittances have a continuous growth while in 2013 the growth of remittances was 620.8 million or 2.5% is their annual growth (see figure below).

**Figure 2:** Remittances in Kosovo 2007 - 2013 (million €)



**Source:** IMF 2013; Riinvest 2013; CBK 2014.

The biggest annual growth is in 2007 with 10.4 % but after that in Kosovo the effect of financial global crisis and its impact was visible, only in 2009 the FDI reached to -5.9 %, then we have rapid growth until 2012. If we refer to the case study of (CBK, 2009), the remittances in Kosovo have a variety of factors that determine them, such as: a) the income of immigrants; b) the period of years that they work; c) investment of remittances in their countries of origin; d) industrial environment; e) level of educations, etc. The role and impact of these remittances in recent years have been necessary in many families in Kosovo. However the use of remittances in Kosovo, according to (UNDP, 2010) divides into different categories, where the majority of remittances are for consumption then investment in housing, human capital, businesses, savings and financial liabilities, etc (see figure below).

**Figure 3:** The consumption of Remittances in Kosovo

**Source:** UNDP 2010.

### 3. Methodology and Data Collection:

In methodology we will discuss the objectives set out above for remittance and its impact on Economic Growth in Kosovo during the years 2008 - 2013 so the goal in this research is not only to know facts and to understand reports of the phenomena in this area of research, but the goal is *"to operate and understand more than we have done previously in this area"*, by (Bell, 2005 p.28). The data used for methodology in this research publication are collected from official economic and financial institutions in Kosovo from 2008 - 2013 (such as: Central Bank of Kosovo and Kosovo Agency of Statistic) as well as International institutions (such as: World Bank Development Indicators). In this research publication multiple regression analysis is used to find the relationship between variables that are included in the analysis therefore as a dependent variable is Economic growth and as independent variables are: remittances, inflation rate and exchange rate (REER).

All data used in this research paper are analyzed through quantitative research method, which represents the "measurement of data which can be analyzed through statistical models" as cited (Creswell, 2009 p.4) also the data that are calculated through the STATA 10 econometric program and they offered the results that are shown below in the very important field of Kosovo's economy. The econometric model that is used in the research is:

$\ln(EG_t) = \beta_0 + \beta_1 \ln(REM_t) + \beta_2 \ln(INF_t) + \beta_3 \ln(EXC_t) + \epsilon_t$ . Where the main variable are:

- EG=Economic Growth
- REM=Remittances
- INF=Inflation
- EXC=Exchange Rate
- $\epsilon_t$ =Stochastic Error Term
- $\beta_0, \beta_1, \beta_2, \beta_3$ , are the respective parameters.

#### 4. Empirical Results and Interpretations:

In this part of the research we will reflect the results achieved through econometric program STATA, this actually constitutes part of the research more meaningfully because here are interpreted the implications of the parameters involved in research with various econometric and statistical methods (Statistic descriptive, Correlation method, Ordinary Least Squares method). In Table 2 we have Statistic descriptive method, which is quantitative discipline that describes the main features of a quantitative description of the variables. The data collected in the research are shown in percentage (%), including REER that has international index of real effective exchange rate and the dates include the research period from 2008 to 2013. In Table 2 the minimum value of economic growth (EG) is 2.5 % (it means, the lowest value of "EG" in period of research) and maximum value is 5.4 % (it means the highest value of "EG" in period of research), the mean value is 3.7 % (it means average value of "EG" in period of research) and standard deviation values is 1.04 % (it means, the "EG" variables are quite close between them 2.5% to 5.4%).

**Table 2:** Statistics Descriptive Method

Variables:	Observation	Mean	Std Derivation	Min	Max
Economic Growth	6	3.7	1.04	2.5	5.4
Remittance	6	0.72	3.48	-5.5	3.8
Inflation Rate	6	3.7	4.19	-2.41	9.35
Exchange Rate (REER)	6	105.3	1.76	102.2	107.2

**Source:** Authors' own calculations.

The remittance (REM) having minimum and maximum are -5.5 % & 3.8 % then the mean value is the lowest than other three variables in research with only 0.72 % but standard deviation is 3.48 %. The minimum of inflation rate is -2.41 %, the maximum is 9.35 % and the mean value is the same as economic growth 3.7 %, standard deviation is 4.19 %, it is the highest value than other three variables in research. REER index value for minimum and maximum are 102.2 % & 107.2 %, the mean is 105.3 and standard deviation is 1.76. Table 3 shows the most important analysis in the research and the variables are as following: Economic growth is a dependent variable and Remittances, Inflation Rate and Real Effective Exchange Rate (REER) are independent variables.

In OLS method we have found that Remittances have negative impact ( $\beta_1 = -0.017$ ) on Economic Growth. Comment of analysis is as follows: when other variables are fixed or constant (Inflation rate and Exchange rate) and when the remittances increase for a unit, it will have an effect on the economic growth with -0.017 per unit (negative impact), also the Exchange rate (REER) has negative impact ( $\beta_3 = -0.322$ ) on Economic Growth, when other variable (remittances and Inflation rate) are fixed but the inflation rate is different from remittances and exchange rate because it has positive impact ( $\beta_2 = 0.245$ ) on economic growth, so when the inflation rate increase for a unit, economic growth will increase for 0.245 per unit when the other variable are fixed or constant.

**Table 3:** Test of Ordinary Least Squares (OLS) Method

Economic Growth	Coefficient	Std. Error	T-Statistic	P-Values	R <sup>2</sup>	DW
Constant	36.679	35.717	1.03	0.412	0.839	2.11
Remittance	-0.017	0.203	0.09	0.940		
Inflation Rate	0.245	0.097	2.53	0.127		
Exchange Rate	-0.322	0.339	-0.95	0.443		

**Source:** Authors' own calculations.

Through T-statistics, means the explanatory capability (or significance) positive ( $T > 2$ ) or negative ( $T < 2$ ) that the independent variables to the dependent. In addition to the rate of inflation (with 2.53) has shown a



positive significance ( $T > 2$ ) to economic growth while remittance with 0.09 ( $T < 2$ ) and the REER with -0.95 ( $T < 2$ ) have shown negative explanatory capability to economic growth or non-significant effect on economic growth.

In table 3 is shown the coefficient of determination in correlation between dependent variable (EG) and independent variables (REM, INF, REER), so what does the determination ( $R^2 = 0.83$ ) between economic growth and remittance, interest rate, exchange rate mean? It tells us: a) the relationship is positive between them. As the independent variables increase, the economic growth rate also will increase; b) the relationship is quite strong (since the value is pretty close to 1) while 17% (100% - 83%) are other factors that are not included in this model. The coefficient of Durbin Watson Statistic (DW) is test for autocorrelation in the residual from statistical regression analysis and the test of "DW" is always between 0 (indicate positive autocorrelation) and 4 (indicate negative autocorrelation). In this research paper the Durbin Watson Statistic (DW) is 2.11, which means there is no autocorrelation.

**Table 4:** Correlation Matrix

Variables:	Economic Growth	Remittance	Inflation Rate	Exchange Rate
Economic Growth	1.00			
Remittance	0.11	1.00		
Inflation Rate	0.74	0.63	1.00	
Exchange Rate	-0.21	0.85	0.39	1.00

**Source:** Authors' own calculations.

The method of correlation in table 4 shows the analysis of the relationship between independent variables (remittance, inflation and exchange rate) and dependent variable (economic growth). The relationship between economics growth (as dependent variable) and inflation rate (as independent variable) is the highest correlation with 0.74 (it is approx of positive correlation) then the remittance is 0.11 (it is near to "zero" correlation) and the lastly exchange rate has - 0.21 and it means (negative correlation) with economic growth.

## 5. Conclusions

In this research paper is analysed the role and impact of remittances on the economic growth in Kosovo and the data are collected from official institutions in Kosovo and international institutions, these data are from 2008 to 2013. The main variables in research are as follows: on one side is the Economic Growth "EG", as dependent variable and on the other side are Remittance "REM", Inflation Rate "INF" and Real Effective Exchange Rate "REER" as independent variables. In this research the data are calculated through STATA software (econometric and statistical electronic program) and in research are included different statistical and econometric analyses, such as: descriptive analysis, multiple regression analysis and matrix correlation analysis.

In the main analysis in research (OLS method) the results are shown as follows: the inflation rate with  $\beta_2 = -0.245$  has positive impact on economic growth but remittances with  $\beta_1 = -0.017$  and exchange rate with  $\beta_3 = -0.322$  have negative impact on economic growth. In analysis T-statistic only inflation rate with 2.53 is explanatory capability (or significance ( $T > 2$ )) to economic growth while remittance with 0.09 and REER with -0.95 have shown non-significant ( $T < 2$ ) effect on economic growth. Though coefficient of determination ( $R^2$ ) that measures the connectivity of independent variables to the dependent in the survey is 84%, then in this research paper the coefficient of Durbin Watson Statistic (DW) is 2.11, it means there is no autocorrelation.

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### Appendix 1/A

**Table 4:** Data descriptions for analysis remittance

Year	Economic Growth (%)	Remittance (%)	Inflation Rate (%)	Exchange Rate (REER)
2008	5.4	3.8	9.35	105.1
2009	3.5	-5.5	-2.41	102.2
2010	3.3	-0.2	3.48	104.8
2011	4.4	0.1	7.34	105.8
2012	2.5	3.5	2.48	106.6
2013	3.1	2.6	1.76	107.2

**Source:** Economic Growth and Remittance - Annual Report of CBK; Inflation Rate - World Bank: World Indicators; REER - Financial Stability Report, CBK 2014;

### Appendix 1/B

**Table 5:** Variable Descriptions and Sources for data analysis

Variable	Description	Source
GDP	Annual growth in real GDP in Kosovo and its expressed as a percentage (%)	Annual Report of CBK, 2014
Remittance	Workers' remittances (received) in Kosovo as a percentage of GDP and it's expressed as a percentage (%)	Annual Report of CBK, 2014
Inflation Rate	Inflation, costumer price measures changes in the price level of a market of consumer goods and services purchased by households within annual period (annual %)	World Bank: World Development Indicators
Exchange Rate (REER)	The weighted average of a country's currency relative to an index of other major currencies adjusted for the effects of inflation.	Financial Stability Report of CBK, 2014