THE IMPACT OF REMITTANCES ON ECONOMIC GROWTH- NORTH MACEDONIAN CASE

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Abstract

This paper aims to analyze the impact of remittances on economic growth in the Republic of Macedonia. Our paper should be analyzed in accordance with other papers analyzed in developed countries and those in developing or transition. Analyzing the variables in the econometric model we must notice whether remittances affect economic growth. Our goal is to see if the results are consistent with our hypothesis. The obtained results show that remittances have a direct and indirect impact on economic growth, where remittances have a positive impact on economic growth while FDI has a negative impact on economic growth. And finally we give a conclusion like any other model and this model has its limitations that in addition to these variables used can be taken other variables for analysis and our recommendation is to analyze the impact of remittances on personal consumption, the standard of life etc.

Keyword: remintance, economic grouth, fiscal policy

Introduction

Remittances are a very important source of foreign income for developing countries. The size of remittances has increased dramatically over the last few decades. Those who face the challenges of transition as is the case of Macedonia. Remittances also contribute to maintaining the social stability of countries that have remittance income. Remittance flows have their weight both locally, regionally and globally. scientifically ascertain how they affect small and open economies.[1]According to statistics of (World Bank, 2012) remittance figures in the Western Balkans has reached 14 billion US dollars.[2]In Macedonia according to official data of the

National Bank, on behalf of remittances in 2012, about 2 billion euros were poured (Banka popullore, 2012), every fifth citizen in Macedonia sent money to these families to help them overcome the consequences of the crisis, reduced social differences and at the same time amortized the deepening of Remittances have recently become one of the largest direct investments flowing into developing countries. The importance of remittances for can be assessed in terms of some macroeconomic reports. These reports include the ratio of remittances to GDP, the ratio of remittances to FDI, the ratio of remittances and remittances to other sources such as official development assistance We will discuss the importance of remittances in the Republic of Macedonia in terms of the ratio of remittances to GDP and FDI. So we ask the research question whether remittances affect the growth of economic development. To answer this research question we present the following hypothesis:

H1 / 1: Remittances positively affect economic growth in the Republic of Northern Macedonia

To ascertain the validity of the hypotheses, we will apply the method of small squares, respectively the regression analysis. Therefore, through the regression analysis, we will confirm or reject the hypothesis in question.

After entering and defining the hypothesis, the work is organized in the same way, in the second part we will review the literature, in the third part we will specify the economic model by means of mathematical formulas and then we will explain the evaluation method by means of calculations. And STATA specialized programs, we will be able to replace the values of the variables found in the formula and test the selected model, in the fourth part we will interpret the results and finally the conclusion and limitations of the model with recommendations for policy makers and further research on this issue by other authors.

Literature review

In this section we will analyze the empirical analysis of the impact of remittances on GDP and foreign investment in both developed and transition countries. Many experts in this field have conducted numerous studies of the same study and have reached conclusions. Different as the experience of many countries shows that there are differences from country to country.

As well as remittances play a role of different importance in developing countries and those in transition. We will try to test empirically the effects of remittances on GDP and FDI. In support of our empirical work will be the literature of countries in transition by given the similar characteristics of our country to these countries.

The study from Ojapina, Taiwo Victor (July 2012) includes the analysis of the impact of remittances in Nigeria as a country in transition, where the analysis includes data from the period 1977-2009. The analysis was done through the OLS model. They found that the debt-to-income ratio, real GDP, population growth and the exchange rate have a positive effect on remittances, while the unemployment rate, inflation and income-debt ratio are negatively related to remittances.

However, Nnameka Chukëuone, Ebele Amaechina, Sunday Emeka Enebeli-Uzor, Evelyn Iyoko, Benjamin Okpukpara (2012) have analyzed that domestic and international remittances have reduced the level, depth and severity of poverty in Nigeria.

However, the study by Zizi Goschin, Aura Popa, Mihai Roman (2010) through the econometric model analyze remittances in these 4 countries such as Turkey, Bulgaria, Albania and Romania which have very similar results at the macroeconomic level and their remittances cause significant modifications on the same variables, mainly have a negative impact on inflation and unemployment but a positive impact on GDP. Although the result of Albania is more appropriate than that of Romania, while Bulgaria and Turkey are not only neighboring countries but have almost the same trend of remittances.

Aysit Tansel (June 2010) analyzes remittances in Turkey, where the largest number of workers are in Western Europe (most of the emigrants are in Germany). He used the TSLS model; this model has been used successfully to measure impacts in some countries near Turkey or those countries that have similar characteristics to Turkey such as Greece, Egypt, Jordan, Morocco and Portugal. His finding is that the impact of remittances on consumption, imports and income are all positive. Its results show that in order to make more accurate forecasts of consumption and investment we must take into account the effect of remittances. In general, the data provided in this study show that remittances are a major and positive factor in the development and growth of Turkey. and this paper has important implications and uses in policy making and forecasting.

Regarding the study of Pablo A. Garcia-Fuentes, P. Lynn Kennedy (2009) their analysis relates to the impact of remittances on economic growth by investigating the impact of remittances through growing human capital in a group of Latin American countries and the Caribbean for the period 1975-2000, which used the OLS model. They have concluded that human capital and remittances have a significant effect on economic growth.

Remittances, we say, can also contribute to increased savings and investment. However, some studies show a negative relationship between remittances and growth. Chami, R., Fullenkamp, C., Jahjah, S. (2003, p. 21) show empirically that remittances tend to be offset and have a negative effect on economic growth. They also point out that problems that may arise jeopardize remittances which may be severe and sufficient to reduce economic activity.

Achouak Barguellil, Mohamed Heid Zaiem, Mourad Zmami (2009) have analyzed an exel model from 1990-2006 to determine the relationship between economic growth and education. This panel aims at the analysis taken by two groups of countries with different samples to reveal two direct and indirect effects of remittances on economic growth. The first group consists of 10 countries with the highest remittances - by percentage of GDP, where the results obtained show a positive but not significant correlation between education and economic growth. These analysts have come to the conclusion that remittances have an impact on economic growth that contradicts the theory of Guiliano and Arranz.

The money sent by migrants to their homes is the second largest financial flows in many developing countries, affecting economic growth. The effects of remittances on the economy in recent years have been faster than the effects of foreign direct investment. Remittances are money that is transferred from one person to another, which is a form of support for families in the country. According to the World Bank, remittances reached $ 250 billion globally in 2006, and these figures are undoubtedly inflows that include remittances through formal panels (Maimbo & Ratha 2005).

Giuliano and Ruiz – Arranz (2005) used a series of remittance decisions covering over 100 countries in the period 1975-2002. They found that remittances promoted growth in less financially developed countries, providing an alternative way to finance investments and they help alleviate the credit constraints that contribute to improving the distribution of capital and boosting economic growth. Remittances to the economies of transition countries have grown very rapidly and have doubled. The Labor Bank estimates that remittances in 2007 amounted to more than $ 256 billion or almost 2% of their GDP (Database BB, July 2008).

By improving credit rating, remittances contribute to a better investment climate and thus can attract other financial flows. Undoubtedly, the extent to which remittances can stimulate development depends on the complementary domestic economic policy that targets these flows. on appropriate activities and address their macroeconomic implications (McCormick and baahba, 2000; Taylor, 2006; Ballard, 2003). They have assessed the impact of remittances on economic

variables such as poverty growth complicated by the statistical problem of endogenous that during periods of low or high poverty growth many people may emigrate or those who are now out may now send funds to their homes to help alleviate poverty (IMF, 2005)

As can be seen from the evaluation of remittances, we can conclude that the results and conclusions are mixed, it depends on the circumstances of a country's economy, so it must be concluded that remittances have a positive or negative impact on economic growth. Since empirical evidence is mixed and remitenact differ from country to country further studies and analyzes in this area should be continued. Through this paper we will try to give a correct answer to the research question and prove whether remittances affect economic growth.

Empirical analysis on testing the effects of remittances on economic development

After reviewing the empirical evidence of the impact of remittances in relation to various other macroeconomic variables of developed and transition countries, now through an econometric model we will test the impact of remittances and FDI on GDP in the Republic of Macedonia. We will first specify the econometric model and the evaluation method and after specifying the model, we will analyze the data in the empirical paper and calculate the econometric model and interpret the result. Also, in this part will be checked the validity of the hypotheses defined in the introduction of this paper.

Econometric model specification and small squares estimation (OLS)

Through the simple linear regression method and through the application of the small squares method (OLS), we will test the effect of temporality on FDI and GDP in the Republic of Northern Macedonia.

Therefore, the specification of the three-dimensional linear regression model is as follows:

$Y = \beta 1 + \beta 2 X 1 + \beta 3 X 2 + U i$

Y -represents the dependent variable (variable to be clarified, regressive, endogenous, predicted, etc.), in our case of research as the dependent variable is FDI (foreign direct investment) and GDP (gross domestic product)

X - Represents the independent variable (regressor, exogenous, predictive, etc.), in our case as an independent variable is remittance

B1, B2 and B3 are called parameters or evaluation coefficients (where B1 is the parameter of the constant,

Where as B2 and B3 are the evaluation parameters of the independent variable).

U- represents the residual or variable which affects the model but is not included in the model and is a random and unobserved variable which takes positive and negative values.

Small Squares Assessment (OLS)

The simplicity of this model is derived from the assumption for the term error: which is assumed to be $e \approx N (0, \sigma2)$. In other words, knowing the value of the error term which in the model does not explain anything about the other variables (the distribution of the error term is independent of the other variables), as well as the observations of the error term are uncorrelated with each other. In principle only e is normally distributed where $E (e) = 0$ (the error term has an average of 0) and a constant change. And for a given X there is no series correlation between observations moreover the error terms are not heteroskedastic. In other words individual observations over time are different individual observations and such an approach may be reasonable in cases where the sample size from indirect data is very small. However, ignoring the data panel structure assuming that the error term is independent and identically distributed, leads to results that are not appropriate in many models. After the concerns mentioned from the classical linear regression model, efficient estimation can be achieved using the small squares (OLS) method. Despite numerous biases, similar to other studies in this study the data collected will be evaluated by means of small squares (OLS) in our empirical analysis.
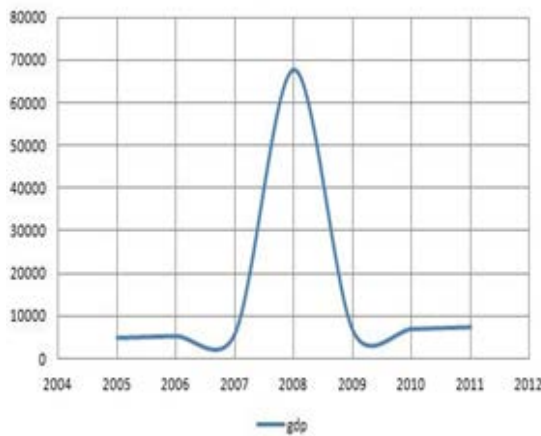
Data in the econometric model

In the regression calculation, data on remittances were obtained from the World Bank. The research was conducted in the period from 2005 to 2011 Given the limited access to the data needed for this model, I must say that I have done data interpolation at certain time periods.

We will interpolate data on foreign direct investment and GDP in the period 2005-2011. I have used the main data sources for this model: the National Bank of Macedonia, the World Bank and the Statistical Office and the MFI.

The variables I used in the model are: remittances, GDP and FDI. We also want to emphasize that in order to have consistency between the variables, I generated a new variable, which actually presents the data for remittances, but entered in the logarithm.
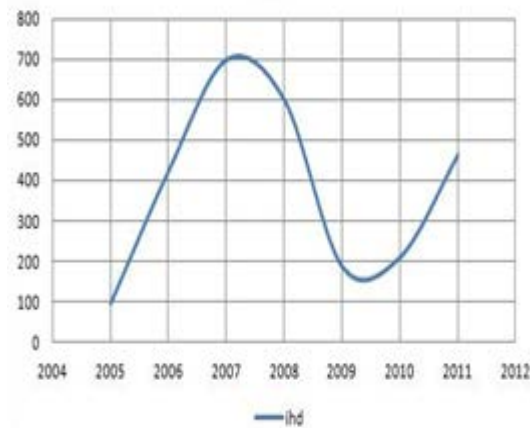
Graph 1.1 GDP in RM   Graph 1.2 Remittances in RM
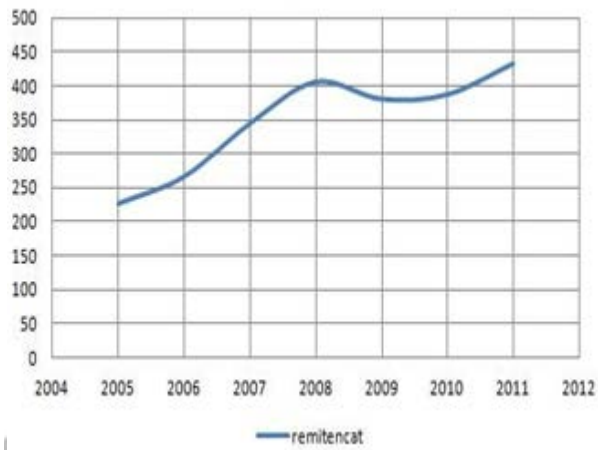
Source: www.stat.gov.mkBurimiwww.stat.gov.mk

Graph 1.3 Foreign direct investments in the Republic of Macedonia

Source: www.stat.gov.mk

Calculating the econometric model and interpreting the results

We will now evaluate the econometric model of the impact of remittances and FDI on GDP in the Republic of Macedonia. Through regression analysis we aim to check the validity of the hypothesis set out at the beginning of this paper. In order to convert all variables into relative terms we need to enter the data of monetary policy channels into the logarithm. The model includes two variables, which are independent variables, exogenous, remitenact and FDI, while the dependent variable, the regressor, in this case is GDP. In the following we will specify the model as multiple and logarithmic regression, for made his calculation.

The econometric log model can be written as:

$$\ln(GDP_i) = B_1 + B_2 \ln(\text{Re}\,mitenca) + B_3 \ln(IHD) + u_i$$

Where Y- represents the CPI or regressor; B1- the coefficient of the constant; B2, B3, B4- partial exchange rate appreciation coefficients and GDP_in-regressors and u- standard error.

The calculation of the estimation coefficients in the equation of the regression sample function is done by the computer program STATA_12. By selecting them we obtain the estimators B1, B2 and B3, which are known as the evaluators of small squares.

After calculating the estimation coefficients B1, B2 and B3, we can rewrite the three-dimensional regression equation, making the substitutions of the corresponding values as well:

lnGDP= 5.179828 + 0.6456338 lnRemitence - 0.0332978 lnIHD

(se)	0.3000579	0.058129	0.0191106
(t)	17.26	11.11	-1.74

The results of empirical research suggest that the direct channel of remittance impact has a relatively large effect on GDP and FDI in the Republic of Macedonia. From the regression results, we found that the eventual increase in remittances by 1% would cause GDP growth on average by 0.64%. Since the t-test shows that t = 11.11 is greater than 0.05, we can conclude that the coefficient has a strong significance. Therefore, through this result we confirm the hypothesis presented at the beginning of the paper which states that: H1 / 1: Remittances have a positive impact on economic growth in the Republic of Northern Macedonia.

Regarding the impact of FDI on GDP in the Republic of Northern Macedonia, the result shows that the effect of FDI on GDP is not significant. Namely, the model calculations showed that the eventual change of FDI by 1%, will reduce GDP on average by 0.033%. At this point we did the

t test, which is -1.74 and is less than 0.05. Therefore, we find that the test has no significance, as it is less than 0.05.

With the above result, we are consistent and in full compliance with most of the studies done in small transition countries (Ojapinëa, Taïëo Victor (July 2012)), (Nnameka Chukëuone, Ebele Amaechina, Sunday Emeka Enebeli-Uzor, Evelyn Iyoko, Benjamin Okpukpara (2012)), (Nnameka Chukëuone, Ebele Amaechina, Sunday Emeka Enebeli-Uzor, Evelyn Iyoko, Benjamin Okpukpara (2012)), (Zizi Goschin, Aura Popa, Mihai Roman (2010)) and others.

Also, according to the National Bank of RMV, about 20 percent of gross domestic product, or 1.6 million euros, the budget is filled by remittances. The governor of the country has explained that this means that families in Macedonia each year receive close to 1 billion euros in cash from abroad from their families in exel.

Statistics in NRM are proving that in recent years remittances are decreasing, where in the first 5 months of 2013 remittances have reached 556 million euros but this amount is 51 million euros less compared to the same period of 2012 where they were registered 607 million euros transfer.

Furthermore, we expected that in this analysis, in addition to GDP, FDI will have a positive impact on the increase of remittances in the Republic of Northern Macedonia.

Given that the NRM is a small country with a high unemployment rate, remittances affect the alleviation of unemployment and at the same time the economic growth of the country. Our expectations for FDI have been that their impact is positive on economic growth. But since Northern Macedonia is a country with an unstable government, where laws are changed several times a year, appropriate investment policies are not drafted, so FDI has negative impact on economic growth and the results are as follows.

Conclusion

The main purpose of this research is for us to analyze the effects that remittances cause on economic growth. In this analysis we have taken as a basis the calculation of GDP, remittances and FDI for a period of time from 2005-2011.

Empirical results from the model show that remittances strongly influence GDP or economic growth where we understand that econometric estimates support our hypothesis that is; H1: The impact of remittances has a positive impact on economic growth in the Republic of

Northern Macedonia. Most of the authors in their studies have come to different conclusions, some of them think that it has a positive and some negative impact on their growth.

The results of the empirical research suggest that the eventual increase of remittances by 1% would cause the increase of GDP by 0.64%. Since the t-test shows that t = 11.11 is greater than 0.05, we can conclude that the evaluation coefficient has strong significance. Furthermore, we expected that there would be a significant effect of remittances on the GDP of Northern Macedonia. Therefore, our suggestion is that we also expected a positive impact of FDI on the GDP of Northern Macedonia.

It should be noted that like any other research, this research also has its shortcomings that some important variables are not included, such as inflation, CPI, education and other relevant variables. We think that in future research it would be important to analyze the impact of remittances on personal consumption and lifestyle in Northern Macedonia.

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