THE EFFECT OF THE REMITTANCES ON GDP GROWTH

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Abstract

Further development in the socio-economic field, especially after Romania joined the European Union on 1 January 2007, shows profound changes. Under the conditions of the free market, inflation, unemployment and other market-specific elements are making more and more effective. In this context, unemployment has become a major problem, in the sense that Romania, with a cumbersome strategy of adapting to the conditions of the free market, especially in the context of too long adaptation, has awakened with a high level of extreme unemployment to lift. Therefore, a significant part of the labor force, not finding suitable places in the Romanian economy, or seeking additional income, chose the way to use the opportunities provided by the EU directive on the free movement of the person and emigrated to other countries. Currently, we can discuss about 3-4 million Romanian citizens working in other EU countries. It is easy to understand that most of them are in Spain, Italy, Germany, the UK, but also in other EU Member States. The problem of these people is delicate, in the sense that they remain in their families and especially where minors are problems that concern the level of education, care and so on. But, however, this process of labor migration is positive for Romania's economy. We can very easily imagine what would have happened if these people had not emigrated. Would it have been possible to employ all the emigrant staff, or would we have woken up with galloping unemployment? From this point of view, we can say that this would be the first advantage that the labor force emigrated. On the other hand, with better wages than in Romania, with care for the family and many of them thinking of their position in life in the future, they have gathered money they have sent, sent them to the country for help families, relatives, or even to start business. According to data published and processed by the National Institute of Statistics, about 8 billion euros a year enters Romania this year, the remittances. In this article we intend to highlight the statistical and econometric ways of analyzing the impact of remittances on economic development. In fact, it is clear that these remittances have a positive effect on economic growth, contributing with a few percent to the growth of gross domestic product. Moreover, we can say that in addition to the amounts we have talked about and that are somehow identified and tracked, the country still has other billions of euros that emigrants return *to their country of last resort or on family visits bring but not highlights them in the accounts. The standard deviation of GDP or consumption should be followed in the sense that the variables that contribute to the growth of gross domestic product can be analyzed by statistical and econometric methods so that we have a clearer picture of the correlation between remittances and economic growth and more than so we can even influence the adoption of measures to ensure the increase of these amounts entering the country.*

Keywords: *remittances, economic growth, factor, statistical model, estimation.*

JEL Classification: F24, F43, O43

Introduction

This article sought to define precisely the remittances under current conditions to establish through econometric models how they have an impact on economic growth. The article presents successively the aspects regarding the structure of the gross domestic product, the variables that contribute to its registration and growth as well as the other elements that provide in a form factor the growth of the gross domestic product, thus, of the economy in our country. It is explained that remittances are those amounts that are brought into the country by emigrants working in European Union member countries. In addition to the advantages that families receiving these remittances feel, we must also point out that they have effects on not only economic but social development. On the one hand, some members of the family, minors, pupils, maybe and students who remain in the country feel the lack of a concentrated family perhaps in the field of education when thinking about pupils and other minor persons. But we have to see that in the conditions of the free market unemployment can reach special rates. Under these equivalence conditions, remittances by emigrants represent a chance for additional revenue, gross added value that contributes to GDP growth as well as gross domestic product per capita. We watched the increase in remittances by highlighting by a few figures the level recorded by them. We have also identified statistical and econometric methods and models in which we have discussed the variable remittances, the gross domestic product variable, the consumption variable, the variable of consumption possibilities. From this point of view, we have insisted on the fact that there is a positive effect between remittances and consumption, but at the same time we have established a model whereby the relationship between remittances and investments could be analyzed. From this article, on the basis of the study, we have dealt some aspects that highlight the role of remittances in economic growth.

Literature review

Anghelache et al (2007) addressed a number of theoretical and practical aspects of macroeconomic analysis. Anghelache, Mitruţ and Voineagu (2013) presented elements of the use of macro indicators in economic studies. Anghelache, Niţă and Badiu (2015) studied concepts of financial inclusion. Anghelache, Partachi, Anghel, and Niţă (2017) investigated the positive influence of remittances on poverty reduction. Anghelache (2009) used the statistical tool for migration analysis. Goschin, Popa and Roman (2010) presented a macroeconomic outlook for migrants' remittances in Romania and the Balkan countries. Haider, Hossain and Siddiqui (2016) studied the impact of remittances on consumption and saving behavior. Hatton (1995) presented a pattern of emigration to the United Kingdom. Niţă (2018) studied the role of remittances in economic growth. A similar theme is also dealt with by Olayungbo and Quadri (2019). Pop (2009) conducted a study on the evolution of poverty. Pradhan (2016) studied whether remittances are driving economic growth in emerging economies. Ruggles (1992) researched possibilities for measuring poverty. Taylor (1992) analyzed the effects of remittances. Ustubici and Irdam (2011) presented a quantitative analysis of the impact of remittances on human development. Ziesemer (2012) studied the effects of remittances on developing countries.

Methodology, data, results and discussions

Over time, with the recognition of the phenomenon of remittances, economic literature has developed a series of statistical and econometric models that have studied their impact on the economic development of both source and migrant host countries.

We start by presenting a simple linear regression model that analyzes the impact of remittances on the economic development of a country. The pattern can be written as follows:

$$PIB = \alpha_0 + \beta_1 R + \mu \quad (1)$$

where GDP is gross domestic product, R - remittances and the term of error, which show the effects of other factors. The logarithm values of the variables are used in model estimation. From the analysis of this simple model, the result is expected to show the positive influence of remittances on economic growth.

By adding more variables to the model for the analysis of the remittance effect on economic growth, such a model becomes:

$$PIB_{i,t} = \beta_1 R_{i,t} + \beta_2 X_{i,t} + \alpha_i + \mu_{i,t} \quad (2)$$

where i represents the country, t - analysis period, R - remittances, calculated as a percentage of GDP, X contains a series of variables that influence economic growth, such as: inflation, which can be calculated, in this case as a percentage change of consumer price index; opening up to international trade, defined as the ratio of the sum of exports and freight imports to total output; other capital flows relative to GDP (foreign direct investment, aid, portfolio flows) and population growth.

Another model takes into account different variables to estimate the impact of remittances on economic growth. For example, the model proposed by Meyer D. and Shera A. reads:

$$PIB = \beta_0 + \beta_1 R + \beta_2 CFB + \beta_3 C + \beta_4 GrSc + \beta_5 AF + \beta_6 SCC + \beta_6 PopG + \beta_7 CRS + \beta_8 DAT + \varepsilon \quad (3)$$

and the variables are: GDP - gross domestic product in natural logarithm, R - remittances calculated as a percentage of GDP, CFB - gross fixed capital as a percentage of GDP, C - household consumption expenditure expressed as a percentage of GDP, GrSc - enrollment in school, expressed as a percentage of GDP, AF - Fellowship deepening, SCC - current account balance as a percentage of GDP, PopG - population growth as a percentage of GDP, CRS - real exchange rate, DAT - public debt expressed as a percentage of GDP GDP, the control term, the term of error.

To analyze the relationship between remittances and macroeconomic volatility, Jidoud A. (2015) proposed the following model:

$$\sigma_{i,X} = c + \gamma R_i + \beta X_i + \mu_i \quad (4)$$

where $\sigma_{i,X}$ represents the standard deviation of GDP or consumption, logged before being used to estimate the model. *R* is calculated as a percentage of GDP, γ is a focus of interest that analyzes the impact of remittances on macroeconomic volatility, X_i it includes the variables identified in the economic literature with impact on volatility, such as per capita income, financial development (which can be calculated as percentage of credits to the private sector in GDP) or development aid.

Another model that studies whether remittances from migrant workers influence the economic growth of migrants' country of origin is the model developed by Mansoor and Quillin (2006) and can be described as such:

$$\Delta y_1 = \beta_0 + \beta_1 y_{0i} + \beta_2 R_i + \beta_3 CFB_i + \beta_4 FNCP_i + \mu_i \quad (5)$$

The variable y represents the log of real GDP per capita, yo being the initial value of GDP, R - the remittances as in the other economic models are used as a percentage of GDP, CFB represents the gross capital formation used in the estimation of the model as a percentage of GDP and logarithm, FNCP are net private capital flows as a percentage of GDP and also logarithm. The authors of this model have developed an extension of this by increasing remittances:

$$\Delta y_1 = \beta_0 + \beta_1 y_{0i} + \beta_2 \Delta R_i + \beta_3 CFB_i + \beta_4 FNCP_i + \mu_i \qquad (6)$$

Another way to demonstrate the influence of remittances on economic development is by studying investment and consumption. The model by which the relationship between **remittances and investments** can be analyzed can be written:

$$Inv_{it} = \beta_0 + \beta_1 R_{it} + \beta_2 X_1 + \mu_i + \varepsilon_{it} \qquad (7)$$

where Inv represents the investment in GDP for the country i, during the period t, R is of course the remittances, and the matrix X consists of variables that may have positive or negative effects on the investments, the matrix includes variables such as: the growth rate per capita, the interest rate , inflation rate.

The model that examines the relationship between remittances and consumption, presented by Akpa E. (2018) is described by:

$$CFG = f(R, EXR, RI) \qquad (8)$$

where *CFG* is the final household consumption at time t, R is the volume of remittances received by the household at time t, EXR is the currency exchange at time t, and RI is the inflation rate at time t.

To estimate the influence of remittances on economic growth by developing human capital, one can estimate the model:

$$sc_{it} = \lambda_0 + \lambda_1 R_{it} + \lambda_2 PIB + \mu_i + \varepsilon_{it} \qquad (9)$$

This model analyzes the impact of school enrollments, through the sc variable on rising remittances and, implicitly, economic growth..

Conclusions

Regarding the evolution of the statistical remittance variable, ie their growth, it was concluded that the emigration of a part of the labor force had both negative and positive effects on the socio-economic evolution of Romania. Speaking of negative aspects, we are thinking that a large number of specialists in IT, health, medicine, education and even innovation, as well as others, are also part of the large mass of emigrants. Therefore, the remaining work force in the country is slightly destabilized in the sense that priority areas and our economy lack the forces that can be used to carry out national projects.

On the other hand, emigration produces remittances, ie sums of money that are added, collected and sent to Romania, which are used for consumption or investments by the members of the respective families. It is also a positive fact that, although not a large number of people who have chosen the way to work in the European Union, they return home by proposing that their accumulated sums start business, bringing incomes for themselves and their families, but contributing as well as an impulse towards the growth of the gross domestic product through the added value achieved. The models used to establish the correlation between remittances and economic development can be used in other wider, more comprehensive datasets that have the effect of concretely determining the remittances' impact on economic growth. Of course, the theme of the impact of remittances on economic development can be broadened and deepened using other statistical and econometric models as well as identifying, building complex, longer series of data to underpin concrete studies. Finally, we can conclude that remittances have a positive impact on economic growth.

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