

Impact of the transfers of migrants on the WAEMU countries

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According to the "Leveraging Migration for Africa: Remittances, Skills, and Investments", there are approximately 30 millions African migrant living abroad. Notwithstanding this significant flow of migrant, the African persons in charge must still do more to draw all the economic advantages from this phenomenon of migration, vital resource for the continent. The estimates of the World Bank reveal that the official sending during the recent world financial crisis rise to 325 billions dollars in the end of 2010 against 307 billions dollars into 2009 (Migration and Remittances Factbook 2011). WAEMU (Western Africa Economic and Monetary Union) countries as the others african countries are concerned by this situation.

In this direction several empirical works have been done. The idea according to which the transfers of migrants would have a positive influence on growth didn't make unanimous. This state of thing can be due to the Dutch disease. It is possible that the entry of flows of transfers causes an appreciation of the rate of exchange insofar it constitutes a source of increase of currencies which in the long term reduce the competitiveness of the exported products.

One of the most outstanding research study showing the negative influence is that of Chami and al. (2003) who worked on panel data made up of developed countries and developing ones covering the period 1970 to 1998. This reveals that the remittances create a moral risk since they contribute to reduce the effort of work of the recipient's families disadvantaging thus the growth.

Three reasons evoked starting from work of Chami et al. (2003) by Catrinescu et alii (2009) helped to improve the analysis of the impact of the remittances on the growth. It is mainly the use of the growth rate of the remittances as explanatory variable, the inadequacy of the use of the difference between the interest rates of the United States and the recipient countries as instrument to correct the endogeneity of the remittances and finally the not taken into account of significant variables like the quality of the institutions to explain the level of the long-term growth.

Catrinescu and alii (2009) take into account the importance of the protection of the rights of private property, the respect of the laws, the fight against corruption and the support on the initiative private are elements which channel the transfers through the trade, the Foreign Direct Investments (IDE) and any other form of investment. By introducing the quality of the institutions, they show the positive impact of remittances on growth.

Giuliano and Arranz (2009) also explore the relation between remittances and growth by integrating the financial development. From a broad sample of country, they come to the result that the transfers of the migrants decrease the financial constraint in the countries where the financial sector is developed, by significantly increasing the investment in these countries, and consequently the growth. We recall that one year earlier the same step was used by Ndiaye (2008), to establish the relation of complementarity between remittances and financial instruments in the promotion of the economic growth in Senegal.

In spite of this rich and nondistinct debate, there is no study on the case of WAEMU in order to take common actions for a better channel of the remittances with a view to development. Making a study within the framework of the WAEMU could make possible to appreciate the dynamics of these countries within sight of the pact of convergence and stability in force since 2000. Moreover, as a one of the best successful space of integration in French-speaking space, a multilateral monitoring will lead

to a better drain of remittances for growth.

What are the factors able to booster the growth by the means of remittances? In this work, we will to know how remittances influence the variability of the growth in the countries of this monetary area. Could remittances be a substitute of the inefficiency for inexistent markets of credit? The general objective will be to arise the empirical relation between the transfers of migrants and growth in WAEMU countries. Three specific objectives rise from the general objective:

- to examine the evolution of remittances towards these countries;
- to build a model connecting remittances and the growth;
- to examine the role of the level of financial development in this relation.

The following assumptions are used as discussion thread in our research:

- H1: The remittances positively influence growth in WAEMU.
- H2: The transfers accentuate the growth in the countries where the financial sector is developed.

After the describing of the methodological step we will have the results which will be discussed.

Methodological approach

The empirical analysis will above all go by a descriptive analysis. This descriptive analysis will be used to characterize the sending of funds towards the countries objects of our study in order to direct analyses adequately. It will be supplemented by an econometric analysis. Within the framework of this analysis, the dependent variable used is the growth rate of the real GDP (g_{it}). The delayed values of the growth rate ($g_{i(t-j)}$) are integrated as independent variables to collect the influence of past period. The financial development (FD_{it}) is one of the independent variables of the model. The logarithm of the private credit translate the agents access to the financial sector in order to carry out investments (Bjuggren and alii, 2010). The logarithm of the transfers of funds on the GDP (Rem_{it}), the multiplication by the logarithm of the remittance ratio help to integrated respectively the impact of remittances, their substitutability or complementarity with the financial development. In accordance with the economic theory, the rate of inflation (INF_{it}) measured by the annual variation of the deflator of the GDP is retained like independent variable. The logarithm of the rate of investment (INV_{it}) and that of the opening degree (DO_{it}) are also independent variables of the model (NDIAYE, 2008). The data used come from two major sources, the World Bank "World Development Indicators" and the International Monetary Funds of 2010.

The model built will try to explain the growth according to explanatory variables clarified higher. Its mathematical formalization is as follows:

$$g_{it} = \sum_{j=1}^u \beta_1^j * g_{t(t-j)} + \beta_2 * Rem_{it} + \beta_3 * FD_{it} + \beta_4 * Rem_{it} * FD_{it} + \beta_5 * Y_{it} + \mu_t + \rho_i + \epsilon_{it}$$

the whole of the variables of control is Y_{it} , μ_t translate the temporal specific effect, ρ_i is the specific effect country, ϵ_{it} is the term of error.

Taking into account the problems of endogeneity and autocorrelation between the variables, the System Generalized Moments Method in dynamic panel is used. It is seen as a "magic" method used more and more for to correct the problems of simultaneity, opposite causality and omission of variable (Kpodar, 2005). It will be used estimator GMM in system of Blundel and Bond (1998). This method combines the equations as a first difference with level ones. From Monte Carlo simulation, it appeared, according to authors, to be effective than the method of difference of Arellano and Bond (1991).

We suspect the remittances (Rem) and the financial development (FD) of endogeneity. The product of the remittances with the financial development ($R.FD$) becomes consequently endogenous. The endogeneity of remittances comes from the fact that the countries having an economic activity will attract it more.

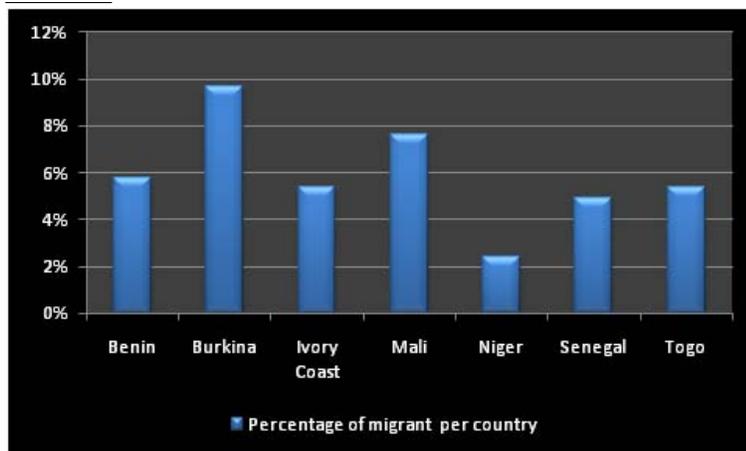
The instruments are the values delayed of explanatory variables to which are added the dummy variables of three key period: the oil crisis of 1979, the financial crisis of 1989 in WAEMU and the devaluation of the CFA franc in 1994 which affected the economic area considerably.

Presentation and discussion of the results of the study

- Examination of the remittances in direction of the various countries

Among the countries subject of our study, Burkina Faso and Mali seem having a strong proportion of their population abroad (graph 1). It should be said that in these nations have a strong culture of immigration mainly towards Ivory Coast. Except Niger, as a whole, the 7 studied countries have a share of emigrant largely beyond the average in Africa Sub-Saharan which is 2.5%.

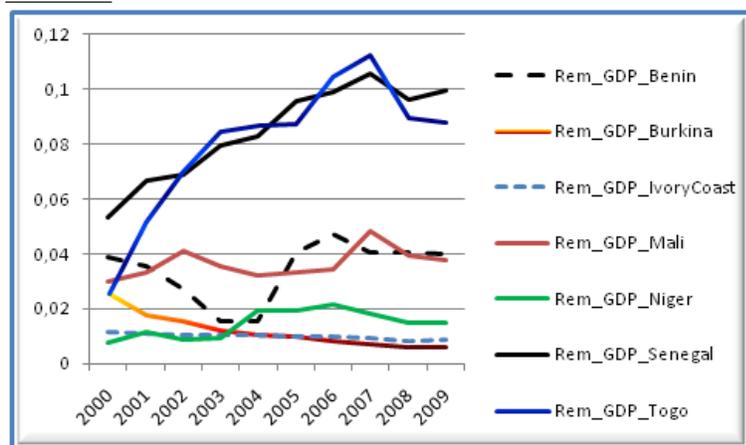
*Graph 1:*Percentage of migrant per country



*Source:*Migration and Remittances Factbook 2011.

The following paragraph gives a descriptive sight of the transfers of these migrants comparatively to the level of the economic activity of these various countries. It is noticed an overall rise of the remittances compared to the economic Gross domestic product until 2007. Unfortunately the economic crisis of 2008, did not save the countries of the WAEMU. Indeed, the transfers of the migrants reported to the GDP know as a whole a fall.

*Graph 2:*Remittances on GDP ratio



*Source:*WDI, IMF Data, 2010.

As can be seen from the graph above Senegal and Togo where the ratio increased considerably to reach 11.28 % respectively and 10.55 % (graph 2). In spite of their relatively low number of migrant

abroad compared to Burkina Faso and Mali (graphic 1), these two countries mobilize more remittances. That could be explained by the fact that in general, that export skilled workers. Moreover, successive crises in Ivory Coast since 1999, where resides the major part of the Burkina Faso and Mali citizens confirms this situation. In addition, the ratio remained stable since 2007, around 4% for Benin and Mali. It corresponds to an intermediate contribution in comparison with those profiting more and those profiting less. Although certain countries as Burkina have a significant number of national abroad, they do not mobilize enough transfers. The reinforcement of the structures for a strong mobilization of the migrants for the development of their country of origin, the pacification of the zones of conflict and the qualification of the migrants are as many essential factors.

- Result of the econometric analysis

The econometric analysis firstly reveals that the more the migrants carry out transfers the more the growth of GDP decrease. It is translated through the statistically significant to 10 % and negative coefficient (-1.452609) of the remittances (Table 1). This result translates the idea of the Dutch disease mentioned above which can be a proof. Moreover, similar conclusions were established by Chami et al. (2003) through the creation of a moral risk reducing the effort of work and thus the activity of production of the receivers of remittances. As evoked in the literature not taken into account a significant variable like the financial development explain this result. Is it the same situation in WAEMU?

Table 1: Results of estimation

	Without DF		With DF	
	Coefficient	T-stat	Coefficient	T-stat
L.g	-.0905993	-1.07	-.0739153	-1.19
L2.g	-.1314952	-2.07*	-.1153934	-1.93
inv	11.5887	8.83*	7.187806	3.15*
df		16.90813	2.36**	
lproduit			4.23007	3.60*
lratioudouvpi	1.421417	0.53	3.212342	0.87
inflation	-.0906797	-1.65	-.0748961	-1.36
rem	-1.452609	-2.11**	5.842601	2.66*
constant	20.34314	10.03*	42.88949	3.05*
Observations		217		217
Number of countries	7		7	
P-value F-stat	0.000		0.000	
AR(1) test		0.024		0.026
AR(2) test		0.252		0.155
P-value Hansen test	1.000		1.000	

Source: Results of our estimation on STATA.

The integration of the financial development makes possible to improve the preceding result considerably (Table 1). The significant at 10 % and positive impact of the access to the credit of the populations of space UEMOA translates its determining role. Moreover, its positive interaction with the remittances is also proved by the sign of the variable lproduit (= $rem * df$). We can then deduce that the more the financial system of a country is powerful the better it can exploit the transfers of the migrants in order to sustain his growth. We can thus conclude a relation of complementarity between the sending of funds and the financial instruments in the monetary space. With 5% of risk to be mistaken, the increase of 1% of the ratio of the remittances on GDP, cause the growth increase of 5.842601 points, all things being equals. These implications conform to recent work in particular

those of Catrinescu and alii (2009), Giuliano et al. (2009), Ndiaye (2008) which sign the importance to be granted to the transfers in the explanation of the growth. Better still, it draws the attention to the dominating role of the financial development in the context of WAEMU. The other variables of the model make possible to raise certain interesting results. Firstly, the acquisition of fixed assets makes improve from one year to another the activity of production. The investment positive and significant coefficient with 5% confirms this thesis. The degree of opening and inflation remain nonsignificant to 10%. The reason would undoubtedly be the strict measurements applied for the stability of the macroeconomic situation in the union. They are reinforced since 2000 by the setting the installation of the pact of stability, growth and convergence. Moreover, the unlimited guarantee whose the FCFA profits as well as solidarity due to centralization of the currencies limit the vulnerability of the countries of the zone to commercial opening.

Conclusion and recommendations

The present study made possible to study the relationship between the transfers of the migrants and the growth in the Western African Economic and Monetary Union countries. At the question of knowing if the remittances contribute positively to growth? The presence of explanatory delayed and endogenous variables in the model led to the use of the Generalized Moments Method in System of Blundel and Bond (1998). The estimates lead to the conclusion that the required impact depends closely on accessibility to the financial service. Indeed, the taking into account of the effect of complementarity or substitutability being able to exist between the remittances and the financial development growth is one of the main point of the study. Thus, it was highlighted a relation of complementarity between the remittances and the financial development. It is undoubtedly followed from there that the drain of these funds by the formal financial system to sustain productive investment is braked on the country level of financial development. Moreover, the model revealed the significant and positive role of the investment. Within sight of these results, the fact that many people of the WAEMU are still outside the formal financial system is a handicap to fully benefit from the remittances. The Central Bank of the States of West Africa (BCEAO) should set up more incentive at the banks, eager to settle in the rural mediums, to help them to reduce the administrative constraints in order to encourage illiterates to open accounts, to be able to carry out the banking operations easily and to facilitate the formalization of non formal finance. Beyond the great number of policies to increasing the transfers in direction to the economic area, getting better the development of financial is also important. The union profiting from the multilateral monitoring must accelerate the access to the credit already not less negligible. Through future research, we are hoping to integrate the quality of the political institutions as well as Guinea Bissau, last country to have integrated the union. We are open to remarks, criticisms and suggestions being able to improve quality of this study.

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