

IMPACT OF MIGRANTS' REMITTANCES ON ECONOMIC GROWTH: CASE OF MOROCCO

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ABSTRACT: This paper aims to analyze the impact of MRA's remittances on economic growth by using two models VAR and ECM over the period 1975-2014. The results conclude that MRA's remittances represent a determinant of economic growth, in the short term, with an elasticity low compared to the long-term behavior. Given the impulse responses analysis, a shock on MRA's transfers has a positive impact on GDP, investment and consumption.

KEYWORDS: Remittances, VAR, Error correction model, Moroccans resident abroad, Economic growth.

JEL CLASSIFICATION: C22, F24, O10, O47.

1 INTRODUCTION

The consequences generated by international migration arouse considerable debate, both in the migrants' countries of origin and the host countries. This is due to its multidimensional character, which affects several aspects (political, economic and social). The fact that the majority of international migrants are from developing countries doesn't make migration a North-South phenomenon. In fact, nearly half of reported migrants move from one developing country to another. In 2014, according to the World Bank's estimates, 3 per cent of the world's population lived outside their country of origin and transferred approximately \$493 billion¹. Developing countries deserve special attention since they receive more than 70 per cent of remittances' flows.

Today, we are witnessing a growing awareness of remittances' benefits in terms of contribution to the economic development of migrants' countries of origin at local, regional and national levels. By way of background, it wasn't until the early 21st century that this question has actually gained visibility within international organizations such as Organization for Economic Cooperation and Development (OECD), International Monetary Fund (IMF), International Organization for Migration (IOM) and the World Bank.

In recent years, migrants' remittances surpassed Official Development Assistance (ODA) received by countries. However, they are not considered as a substitute for this help, but rather as an alternative source of development finance in many developing countries (Wanner)[1]. These transfers have also the particularity of being distributed to a large number of people, according to an estimate of the International Fund for Agricultural Development (IFAD), they concern one person out of ten in the world.

¹ 2014's migrant remittances by areas are reported in the annex

Remittances can be defined as interpersonal transfers between migrants and their families remained in the country. According to IMF's Balance of Payments Manual, migrants' remittances include three categories²: *i)* Compensation to employees comprises wages, salaries, and other remuneration, in cash or in kind, paid to individuals who work in a country other than where they legally reside. *ii)* workers' remittances refer to current transfers by migrants who are employed in new economies and considered residents there and *iii)* Migrants' transfers refer to capital transfers of financial assets made by migrants as they move from one country to another and stay for more than one year (IMF; Straubhaar & Vadean) [2],[3].

This paper aims to contribute to the literature of migrants' remittances and intends to further understanding of this phenomenon. In light of the magnitude of remittances received by Morocco, it analyzes their impacts on economic growth and other macroeconomic aggregates.

The rest of the paper is structured as follows: section 2 reviews the existing literature on the impacts of migrants' remittances on economic growth; section 3 describes the methodology and discusses the main empirical findings. The last section concludes.

2 IMPACT OF REMITTANCES ON ECONOMIC GROWTH: RELATED LITERATURE

Understanding the impact of remittances on economic growth represents a major macroeconomics' research field and a central element of Economic Policy's analysis. In what follows, we propose a range of theoretical and empirical literature related to the topic.

The literature inherent to the effects of remittances on economic growth seems to be ambiguous. The Philippines is a clear example of this ambiguity (Medenou & Gnansounou, 2010) [4]. In fact, two studies conducted on remittances received by this country have come to two different conclusions. Burgess & Haksar [5] showed that workers' remittances negatively affect economic growth unlike Ang [6] who identified a significant positive relationship between growth and workers' remittances towards the Philippines.

The heterogeneity of results classifies literature into 3 categories (Fajnzylber & Lopez; Chami & al.) [7],[8]; *i)* authors who conclude that there is a positive effect between remittances and growth, *ii)* the defenders of a negative or even a neutral relationship between the two aggregates and finally, *iii)* those for whom the remittances impact growth depending on the level of financial development of the home country.

According to some authors, remittances have a positive effect on growth. Indeed, the large share of remittances is usually spent on daily consumer goods while the rest is saved and / or invested. Whatever the spending pattern is, remittances contribute positively to economic growth (Rocher & Pelletier; Mc Cormick & Whaba) [9], [10].

In addition to the consumption channel, other authors have reached the same conclusion using the investment channel. In fact, remittances increase investment, which in turn impacts economic growth. Diaz [11] showed that remittances affect growth positively despite its weak magnitude. Similarly, Leon-Ledesma & Piracha [12] found that investment is mostly reflected in the purchase of capital goods which directly impacts labor productivity. Another aspect of investment concerns creation and corporate finance. Woodruff & Zeneto [13] study the impact of remittances on entrepreneurship in Mexico as well as access to credit. The authors show a positive correlation between the number of companies created in Mexico and remittances. Drinkwater & al. [14] reached similar results in a study of 20 developing countries.

Other studies conclude that remittances could have a negative effect on economic growth (Chami & al.) [8], since they generate more important costs -including reducing the labor supply - than profits. Indeed, Chami & al. [8], through a sample of 113 countries, show that an increase in remittances reduces beneficiary workers' efforts which lead to a decline in production. On the other hand, remittances could impede economic growth by influencing some variables. For the receiving countries, remittances contribute to the appreciation of the national currency. This effect called Dutch disease will have consequences on exports, employment and long-term growth (Lartey & al.) [15]. Similarly, Karagöz [16] drew a similar conclusion for Turkey as remittances have a negative impact on economic growth.

Moreover, other studies have shown that transfers have no impact on growth or investment. According to a study by the IMF in 2005 [17] on 101 countries, no relationship between remittances and growth has been found. Similarly, Barajas & al.

²The categories used by the IMF include only official remittances, they don't capture transfers through informal remittance systems.

[18] tested the relationship between remittances and economic growth of 84 receiving countries to conclude that there is no robust relationship between remittances and economic growth.

Therefore, just as Official Development Assistance, economic environment could play an important role in the effectiveness of remittances on growth. A good climate for investment and a developed financial system could help to increase the impact of remittances on growth and investment (Kireyev ; Eckstein; De Soto) [19], [20], [21].

As a matter of fact, financial infrastructure seems to be a determining factor of remittances' impacts. The state of the financial system serves as a catalyst that enables remittances to act on production (Ziesemer) [22]. Bettin & Zazzaro [23] found that an efficient banking system strengthens the positive impact of remittances on economic growth. Remittances do not represent only a source of liquidity and an access to credit guarantee, but they can also contribute to growth, in case of an efficient mediation of the banking system, by financing projects promoting growth.

This assumption, however, remains controversial, Giuliano & Ruiz-Arranz [24] on a sample of 73 developing countries showed that the impact of remittances on growth decreases with a high level of financial development. In other words, remittances help to promote growth only in countries that have undeveloped financial systems.

3 IMPACT OF REMITTANCES ON ECONOMIC GROWTH: EMPIRICAL ANALYSIS

In the following there will be an empirical investigation of the impact of remittances' inflows on the economic growth of Morocco. After highlighting the key macroeconomic determinants of migrants' remittances, now we will discuss the impact of transfer funds of Moroccans Residing Abroad (MRA) on economic growth. The purpose is to complete the analysis on panel data with an in-depth analysis of the case of one dependent country.

The graph below presents the joint evolution of the main financial flows towards Morocco, Remittances (TFM), Foreign Direct Investments (IDE), and Official Development Assistance (APD) as a percentage of GDP. We note that remittances occupy a larger share than FDI and ODA and hover around 6% to 9%. MRA's remittances represent the second source of foreign currency for the country just after tourism (Bensaid & Ibrouk) [25]. They show a stable and less volatile character unlike other flows.

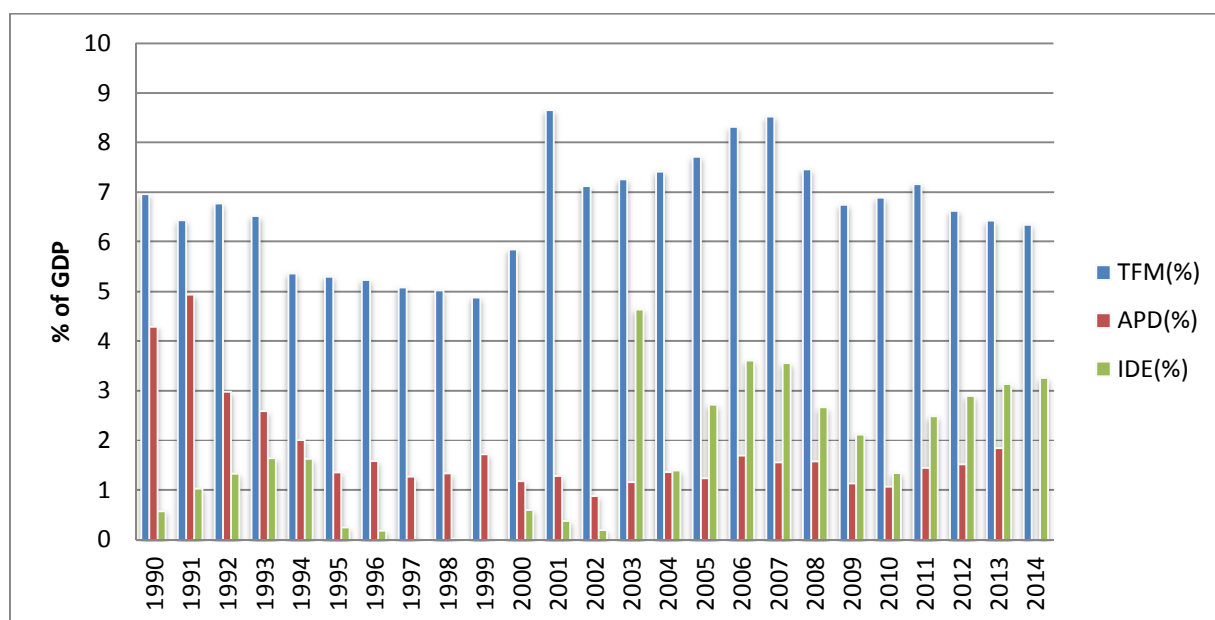


Figure 1. Financial flows towards Morocco, 1990-2014 (% of GDP)

Source: Calculation made based on World Bank data

To highlight the major characteristics of the relationship between GDP and remittances over the period from 1975 to 2014, we will adopt time series econometrics to analyze first, the causal relationship between these two variables using an Error Correction Model (ECM). Then, we will look at the impact remittances on GDP, Gross Fixed Capital Formation and

household Consumption, through the impulse-response of a VAR model. The data of all macroeconomic aggregates was extracted from World Development Indicators (WDI).

Before any estimate, first we must conduct a unit root test to determine order of integration of the variables in question.

Table 1. Augmented Dickey Fuller test

Variables	P-value		Order of integration
	In levels	In difference	
GDP	0.3550	0.0011*	I(1)
Remittances	0.2595	0.0001*	I(1)

*Coefficient significant at 1%.

The ADF test results show that both variables are integrated of the same order I(1). Thus, there is a risk of cointegration. In order to estimate short term and long term elasticities³, an Error Correction Model is used. Short-term dynamics' modeling provides information on how adjustments are made between the two variables in order to restore long-term equilibrium. Moreover, the long-term relationship is captured by the error-correction term, which reflects the speed of adjustment by which a system returns to equilibrium after a shock.

The ECM final estimate is as follows:

Table 2. Estimation results

Endogenous variable: GDP	Short-term relationship	Long-term relationship
C	0.039*** (2.88)	5.22*** (9.06)
LTFM	-----	0.88*** (33.02)
DLTFM	0.35*** (4.08)	-----
δ	-0.40 (-4.19)***	-----
R ²	0.48	0.96
F test	16.49***	1090.63***

*** Coefficient significant at 1%.

The analysis of long-term parameter shows a stable relationship between remittances and GDP. The long-term elasticity (0.88) shows that the link between GDP and remittances isn't only positive but also important which indicates that these two variables are adjusted at the same rate. In the short term, remittances represent a determinant of economic growth with an elasticity around 35% which is low compared to the long-term behavior. This can be explained by the dominance of the allocation of the amounts transferred to current household consumption (Chami & al.) [8]. Indeed, the growth rate of MRA's transfers is positively correlated with household consumption's growth rate. The coefficient of correlation is 0.968 over the period 1975-2010 (Makhlouf & Naaman)[26].

After indentifying a stable relationship between transfers of MRA and GDP, it is now possible to explain the transmission mechanisms of a shock on remittances *via* the impulse-response functions.

³ The ADF test on residuals δ resulting from the estimation of the long-term relationship, shows that they are stationary. So the two series are cointegrated.

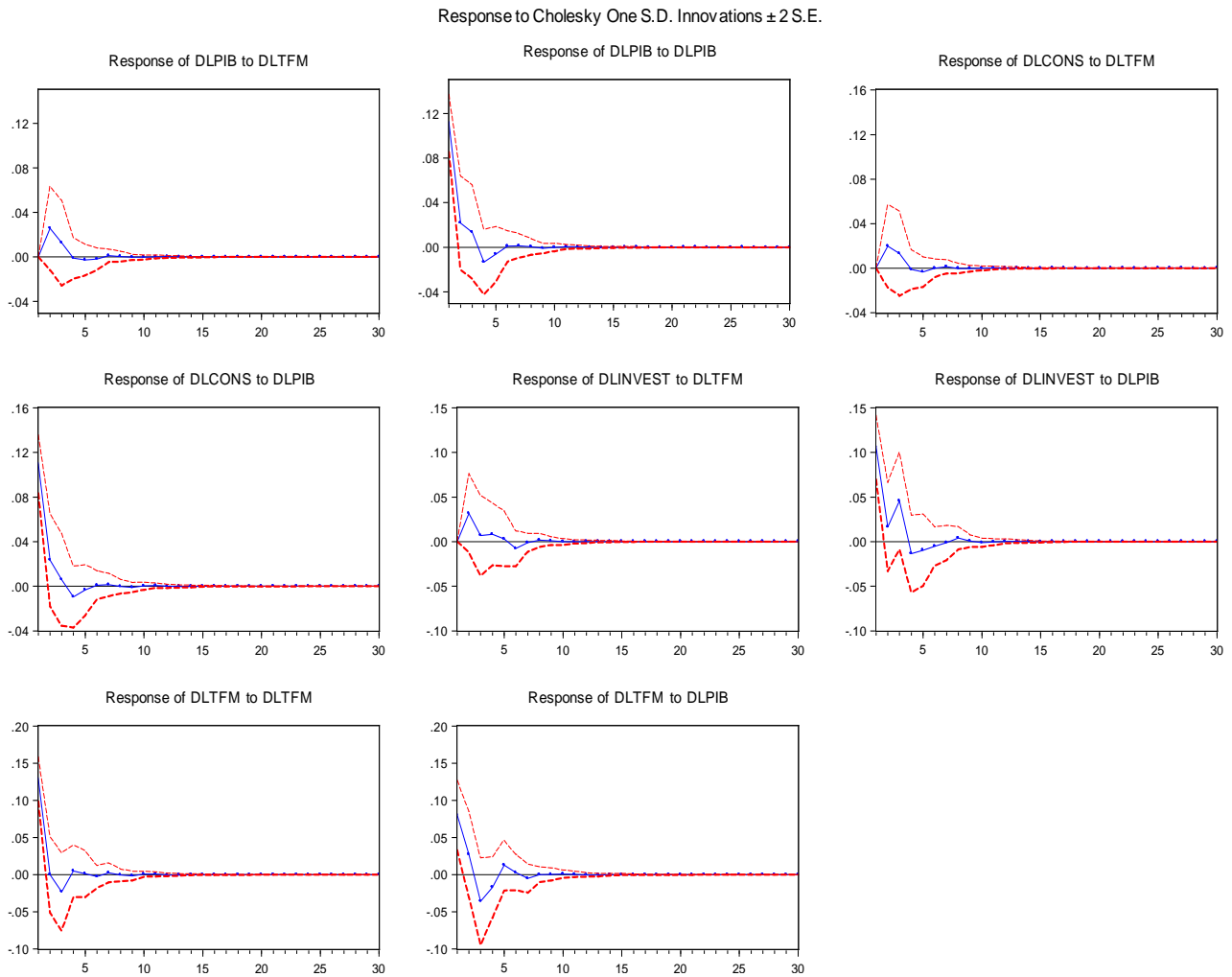


Figure 2. Impulse-response results

Source: Figures are generated using Eviews 8

The results⁴ show that:

- MRA's transfers have a positive impact on GDP, investment and consumption;
- The response of consumption and investment following a shock of remittances is instant, with a similar response of investment and consumption. In fact, MRA's transfers are allocated in part for domestic consumption and investment in housing (Makhlouf & Naaman)[26];
- The magnitudes of GDP and consumption reactions are similar and follow the same trend;
- All variables found their steady states, it means that the shock disappears over time;
- In parallel, a positive impact on GDP has a transitory effect on remittances. It is positive but becomes null and negative which confirms the idea that improving the living standard (measured by GDP increase) has an opposite effect on remittances' inflows.
- *A priori*, from the impulse-responses of the VAR model, transfers from MRA seem to be countercyclical.

⁴ The impulse-response figures are presented in Annex 3

4 CONCLUSION

This paper aimed to assess the impact of MRA's remittances on the economic growth of Morocco. The empirical estimation based on an Error Correction Model helped to highlight the major characteristics between remittances and GDP of Morocco. Remittances represent a determinant of economic growth, in the short term, with an elasticity around 35% which is low compared to the long-term behavior (88%). The latest estimate is based on a VAR model and covers the period 1975 - 2014. The analysis of impulse responses revealed that a shock on MRA's transfers has a positive impact on GDP, investment and consumption. Furthermore, a positive impact on GDP leads to a transitory decrease in remittances.

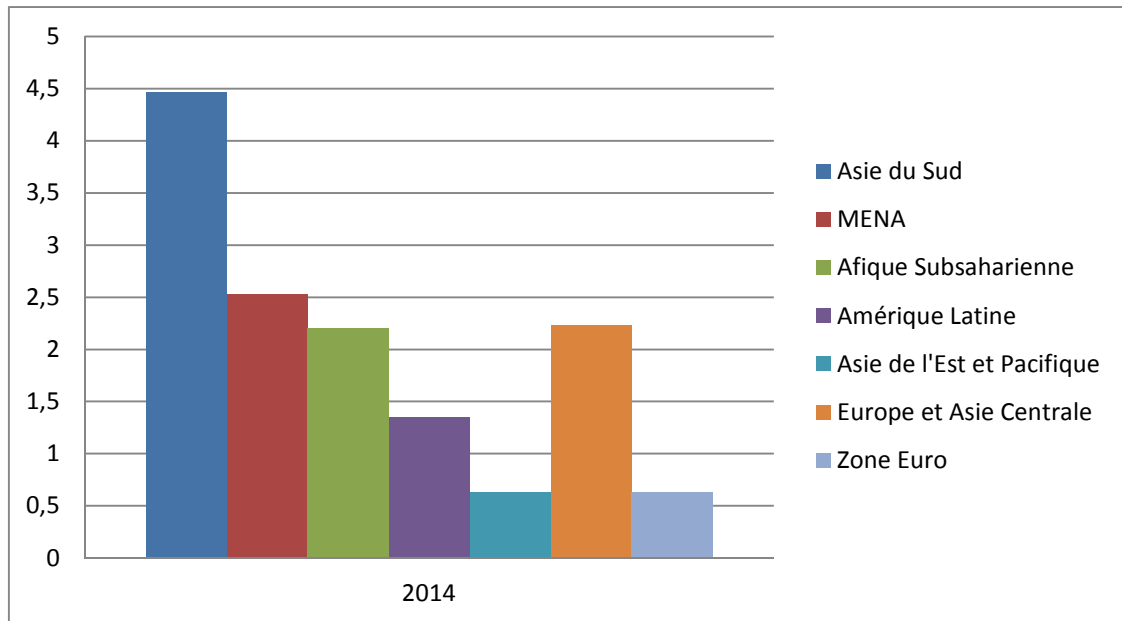
As any research work, this paper could still be improved and extended into various directions. The impulse-response analysis has revealed, *a priori*, a countercyclical movement of MRA's remittances. Therefore, a cyclical analysis would be interesting to highlight the cyclical role of transfers *vis-à-vis* economic situation of the recipient country.

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ANNEX

Migrants' remittances by region in 2014 (% of GDP)

Source: Calculation made based on World Bank data