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The Impact of Remittances on Economic Growth: The Evidence from Morocco

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Abstract

The purpose of this article is to contribute to the empirical literature and to enrich the debate on the impact of worker's remittances on growth, in home countries. By using the VAR model, we analyzed the impact of the worker's remittances transfers on the economic growth in Morocco. Impulse response functions and variance decomposition show that the worker's remittances have a positive impact on GDP per capita. The results also show that remittances affect economic growth through financial development.

Keywords: Remittances, Economic Growth, VAR(X), Morocco.

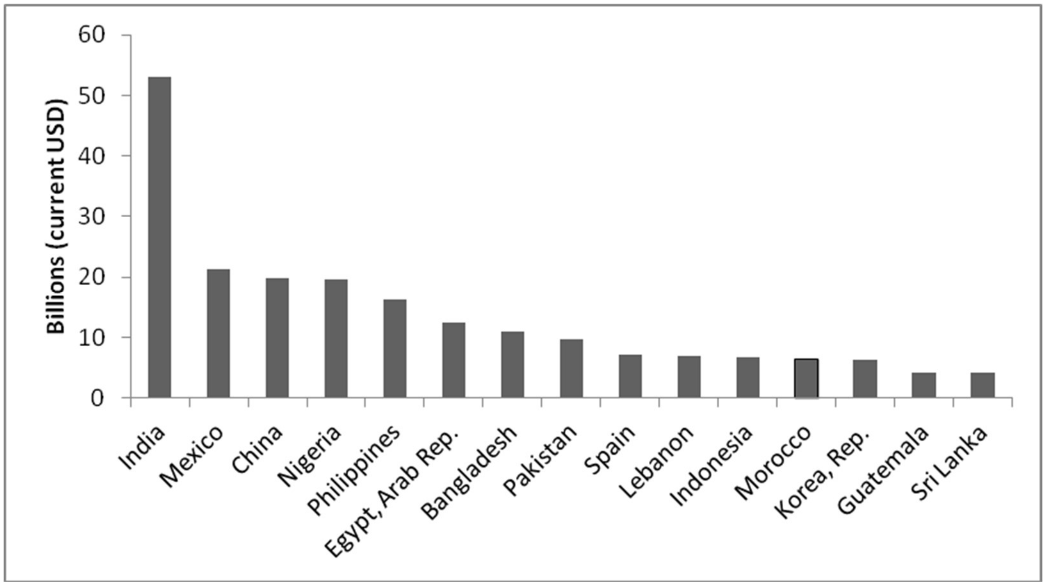
JEL: D1, F2, E2

1. Introduction

Remittances have become an important source of financing for developing countries due to their volume as well as their impact on the economies of the developing countries. Several studies have attempted to explain the phenomenon of remittances and their impact on the developing economies. There is a growing consensus among economists that migrants' remittances are a major source of international capital for labor exporting countries. In the case of Morocco, the volume of remittances has been increasing over the last decades. Between 2000 and 2007, the average growth rate of remittances to Morocco was 11.53%[1]. According to statistics from the World Bank, Morocco's remittances to GDP ratio were around 9% in 2018. This share may actually be greater if remittances through informal channels are also taken into account. In the Middle East and North Africa (MENA) region, Morocco is among the major recipients of remittances. Besides, Morocco is among the top 15 biggest foreign remittance receiving developing countries in the world (figure 1).

[1] 1 Authors' calculations from the Moroccan Currency Board's statistics

Figure 1: Top 15 remittances-receiving countries (2010)



Source: World Bank (WDI, 2013)

Remittances to Morocco are the greatest source of foreign exchange for the country, exceeding both the foreign direct investments (FDI) and official development assistance (ODA). Moreover, official development assistance is currently in decline, and remittances are increasingly making up for this decrease in foreign assistance. Remittances can be classified into three categories: i) transfers of funds by individuals in order to help their families living in the country of origin, ii) transfers of funds by individuals, with a view to financing investment projects, iii) remittances in a collective way for community projects. Bulk of remittances to Morocco comes from Europe. France alone accounts for 40% of the country's remittances.

The main objective of this study is to analyze the impact of remittances on Moroccan economic growth. The rest of the study is organized as follows: Section 2 briefly overviews the literature on remittances and growth; Section 3 presents some important features of remittances to Morocco. Section 4 is devoted to the empirical analysis; Section 5 concludes this work with some recommendations.

2. *Review of literature*

Taylor (1999) suggests that remittances positively affect the demand for goods and services, which implies an increase in growth. Massey and Parrado (1998), and Griffin (1976) argue that remittances contribute to productive investments. Bouoiyour et al. (2003) found that remittances increase households' investments stock. Using a portion of remittances towards investments can promote economic growth. Moreover, the impact of remittances on growth is not clear because results obtained are disparate. Stark and Lucas (1988), Faini (2002), Garcia- Fuentes and Kennedy (2009) found remittances impacted growth positively, while Chami et al. (2003), and Ramirez and Sharma (2009) report a negative effect. Migrants tend to send more money in times of crises, natural disasters and conflicts (Mughal and Makhlouf, 2011; Ratha 2007). In this case, they contribute to economic stability and reduce the amplitude of economic cycles. In addition, remittances are considered stable financial flows (Ratha, 2007; Mughal, 2013, Bouoiyour, 2013). Therefore, Yang (2008) and Mughal and Anwar (2012) consider remittances as a stabilizing factor for the economy. In addition, instability in country of origin may influence remittances (Elbadawi and Rocha 1992). In this sense, remittances are deemed counter-cyclical (Kapur 2004; Grabel 2008; Mughal, and Ahmed, 2013). In Morocco's case, Bouoiyour (2013) suggests that remittances increased as a result of shock to the country's economy.

Table 1 explains the possible impacts of remittances on economic growth cited in the literature.

Table 1: Impacts of remittances on growth cited in the literature	
Authors	Impact of remittances on growth
Tansal and Yasar (2010)	(+)
Barajas *et al*. (2009)	(-)
Fayissa and Nsiah (2008)	(+)
Pradhan *et al.* (2008)	(+)
Ruiz *et al.* (2009)	(+)
Jongwanich (2007)	(+)
Acosta *et al.* (2007)	No evidence
Catrinescu, *et al.* (2006)	(+)
Guiliano and Ruiz-Arranz (2006)	(+)
Chami *et al.* (2005)	(-)
Agunias (2006)	No evidence

3. *Key features of remittances to Morocco*

Morocco has been a country of emigration since the 60s, mainly to Western Europe, but also to other continents including North America and the Gulf countries. A large Moroccan Diaspora has formed over the years, and has established strong economic and cultural ties with the country of origin. This relationship has become a major issue in Morocco's relations with host countries, especially the European Union. The 1960s and 1970s were characterized by migration flows consisting of migrants born in rural areas who were hired as general handicrafts workers, often in jobs requiring physical labor. This category of migrants has shrunk over time and currently represents only one in three migrants. This change is due to several factors: rural exodus within the country of origin, labor needs as well as economic and immigration policies in host countries. One trend is noticeable in terms of demography: migrant populations are aging and becoming more feminine. Migrants' marital status has also changed. Early on, they used to be mostly singles but the trend has changed thanks to the family reunification opportunities granted by some host countries. The socio-professional characteristics of migrants have also evolved: migrants' level of education and training has much improved, which has allowed them access to professions and industries that require a high level of qualification, hence a better professional situation. In this context, we can talk about brain drain because, in 2005, one in ten migrants to Europe had a higher education level. It is difficult to measure the amounts transferred because it is hardly possible to control all the channels employed for transferring money. Cash transfers represent the largest share, with 87% of the total remittances, against 13% of transfers in kind (cars, appliances, electronic equipment). Almost two-thirds of remittances are allocated to the migrant and their family's current expenditures, followed by cash deposits (21%) and investment (7%). Morocco-born Moroccan residents abroad (MRA) tend to invest more in their country of origin than those born abroad. Real estate is by far the sector that absorbs most investments, and other sectors have also gradually developed, especially tourism. MRA still send a large part of their income to Morocco, but this proportion has declined over time. This share is higher in countries dubbed new immigration countries, such as Italy and Spain. The 40 to 69 age-group is the one that sends the most money. Transferring means have evolved over time, with the decline of formal channels (banks, post-office etc.), which accounted for 83% of shipments in 1998, to the benefit of other channels like Western Union. A non-negligible share of transfers, difficult to estimate, constitutes money brought by hand upon the MRAs' visits to the country of origin.

4. Empirical analysis

In the previous sections, we noticed that remittances are an important source of funding to Morocco. In this section, we investigate the impact of remittances on the country's economic activity. The purpose of this section is to contribute to the empirical literature to enrich the debate on remittances, using annual data examining the period 1980-2009.

4.1. Data

When attempting to explain the role of remittances on economic activity in Morocco, we rely on the Solow growth model Augmented with human capital. GDP per capita (y) is accounted for by physical capital (k). Furthermore, we control for other important variables which are likely to impact economic growth, such as human capital, trade openness, and financial development. In accordance with the literature on the subject, the latter variable is approximated by credits to the economy (King and Levine 1993)[2]. To see the influence of remittances on GDP per capita, we use the variables as defined in the table below. Graphs and Summary statistics are given in Appendix 1.

Table 2: definition of variables used in the estimation

Variables	Definition	Source
Ym	GDP per capita (current US$) in Morocco	World Bank (WDI)
FD	Domestic credit provided by banking sector (% of GDP)	World Bank (WDI)
R	Workers' remittances and compensation of employees, received (% of GDP)	World Bank (WDI)
T	Openness : (X+M) /GDP	World Bank (WDI)
K	Gross capital formation per capita	World Bank (WDI)
H	Human capital	World Bank (WDI)
Yf	GDP per capita in France	World Bank (WDI)

4.2. Econometric model

The debate on the economic impact of remittances on countries of origin including growth, exchange rate, financial development, and so on, is far from over. Endogeneity and reverse causality are major problems faced by empirical studies on the impact of remittances. Researchers in this area have to face these problems in order to improve the quality of results. In this regard, Agunias (2006) pointed out that many studies are weighted down by the endogeneity bias. Modern econometrics offers a variety of methods capable of overcoming this problem. Macroeconomic determinants of economic growth are built on several complex relationships. To model this phenomenon, only one equation is insufficient; specification requires several interconnected equations. This system of multiple equations can be studied in a VAR context. This model provides better adjustment quality compared to simultaneous equations models. The VAR model is considered as an optimal model for studying the relationship between a set of economic variables (Joiner, 2001). This type of model is well-suited for macroeconomic series (Green 2005). It eliminates the endogeneity problem associated with the remittances variable. Several studies use the VAR model to study the impact of remittances on economic growth. For example in the case of Bangladesh and India Siddique et al. (2010) use the VAR model to assess the impact of remittances on economic growth. Likewise, Couharde et al. (2011) use the same model for a set of West African countries. Finally, Katsushi et al. (2012) use the PVAR model to study the relationship between remittances and economic growth for 24 developing countries in Asia and Pacific.

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[2] Other variables may be used as proxy for financial development, such as the money supply or bank deposits, etc.

In this study, we incorporate the Solow growth model augmented with human capital. We add other control variables, financial development and trade openness (Kumar (2011), Jayaraman et al. (2011, 2012), Fayissa et al. (2008), Luintel et al. (2008)).

Hicks (1969) and Schumpeter (1911) conclude that financial development causes economic growth. McKinnon (1973) and Shaw (1973) assert that financial liberalization is an important element of economic growth. The availability of financial services stimulates the demand for these services by the fast growing modern sector (Levine, 1997 ; Krian et al., 2009). Deisting et al. (2012) found that a positive shock on financial development positively affects the economic activity.

Ferreira et al. (2003) find that there is an association between trade liberalization and productivity growth. They explain the results by the fact that the trade reforms in Brazil have had a positive impact on the country's industrial performance. Wacziarg et al. (2003) found that the countries which liberalized their trade regimes have on average better growth rates. Sachs et al. (1995) confirm that trade liberalization promotes economic convergence.

We use the vector autoregressive model with exogenous variable (VARX). French GDP is used as an exogenous variable. The French GDP was added under assumption that innovations to France's activity is uncorrelated with innovations to others variables in Morocco, while innovations in Morocco income are correlated with the French GDP.

In our model, we use impulse response functions to study the impact of remittances on economic activity in Morocco. The model can be written as follows:

$$Y_t = A_0 + \sum_{i=1}^{p} A_i Y_{i-l} + \varepsilon_t$$

And

$$E(\varepsilon_t) = 0; \qquad E(\varepsilon_t \ \varepsilon_{t-s}^T) = \begin{cases} \Sigma_\varepsilon & : if \ s = 0 \\ 0 \ otherwise \end{cases}$$

3.3. Results and discussion

The results of "impulse response" functions (Appendix 2) show that remittances have a positive impact on GDP per capita. Figure (2) summarizes the relationship between remittances, financial development and GDP per capita.

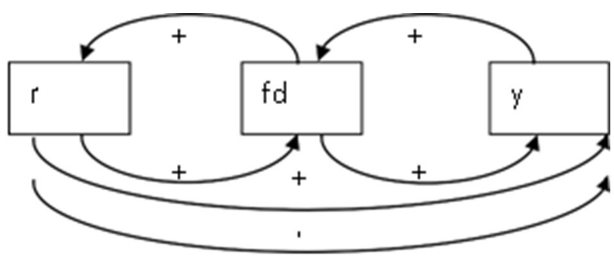

Figure (2)

r: remittances; fd: financial development; y: GDP per capita

However, the relations given by the impulse responses functions cannot detect the impact of each variable innovation on GDP per capita. To do that, we study the variance decomposition of GDP per capita (Appendix 3).

The variance decomposition shows that, first, 63% of the variation in GDP per capita is due to its own innovations, 20% to remittances and 5% to financial development. Secondly, 2% of remittances variance is due to innovations in GDP per capita, 62% to its own innovations and 10% to financial development innovations. Thirdly, 60% of the financial development variation is due to its own innovations, 8% to remittances innovations, and 16% to GDP per capita innovations. Figure 3 shows the relationships with the weight of each variable in its own variation and that of other variables.

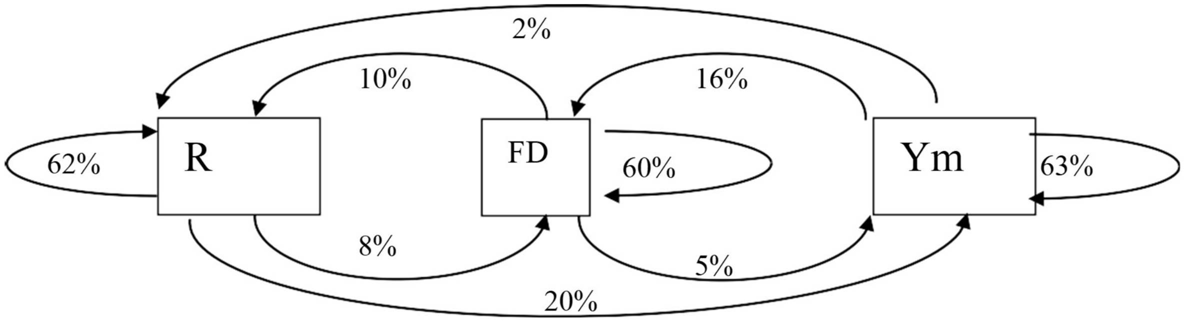

Figure (3)

r: remittances; fd: financial development; y: GDP per capita

The results we obtained show that remittances have a positive impact on GDP per capita, and this is how it can be explained: a part of remittances is allocated to investment in housing. In addition, since a significant portion of remittances is meant for migrant's families remaining in Morocco, remittances are likely to have a positive effect on growth through increased domestic consumption. Finally, a portion of the funds sent by MRA is saved in the form of deposits that can be recycled by the Moroccan banking sector as credit for investment or as consumption. Indeed the study of the African Development Bank3 shows the importance of the part of remittances used for consumption and investment. According to the same report, based on data from Bank al Maghreb, the banking sector significantly profits from MRA's remittances. Indeed, in 2006 these transfers accounted for 22.3% of bank deposits, 17.90% of banks resources, and 22.40% of non-remunerated bank deposits. In fiscal year 2007, MRA's deposits accounted for 30% of all checking accounts, 31% term deposits and more than 7% of total savings accounts. These checking accounts do not accrue any remuneration by banks: they are a free resource for them. In addition, financial development might attract more remittances (Deisting et al. 2012). The transfer's canals development and their improved speed helped to mobilize more capital. The bank and post transfer's constitute the transfer's mode which drains most money. Three banks are authorized to operate in the host countries, they are: the Popular Bank, Attijariwafabank and the BMCE. These banks opened agencies in the big cities of host countries to get MRA's savings. Morocco's trade balance is chronically in deficit. Imports far exceed exports. Currencies sent by MRA are a great source of revenue, besides tourism, to level off the balance of payments. It is also worth pointing out MRA are a significant proportion of tourists visiting Morocco. Remittances bring about different results from one country to another. That depends on which economic policies are implemented, and more particularly the way these transfers are put to use. Thus, governments intervene in various ways to manage these flows, but on the whole state intervention is ubiquitous in developing countries.

3 See the Prime Minister's report

At this stage, we know that remittances sent by migrants to their countries of origin make up a major source of funding, especially so in Morocco. In developing countries, that windfall might be used as a substitute for other financial flows so as to support their economic and financial institutions. Remittances are an important source of foreign capital for developing countries. International emigration can be a way for households remaining in the country of origin to get relief from their financial straits. It can contribute to improving living standards. The Moroccan economy can benefit more extensively from these transfers by allocating them to development projects.

As for the robustness of the relationship, we performed stability tests using the COUSUM test (see Appendix

4). The results show that stability can be found regarding all variables.

4. Conclusion

Our study has aimed to analyze the impact of remittances on economic growth in Morocco. The results we obtained show that remittances have a positive impact on GDP per capita. This is how it can be explained: a part of remittances is allocated to investments, especially in housing. In addition, since a significant portion of remittances goes to migrants' families remaining at home in Morocco, remittances can be expected to impact growth positively, through boosting domestic consumption. Finally, a portion of the funds sent by MRA is saved in the form of deposits that the Moroccan banking sector can reuse in the form of investment loans or consumer credit. Morocco has a chronic deficit in its trade balance and currencies sent by MRA are an important way – besides tourism – to level the balance of payments. Many MRA's families remaining in Morocco rely on remittances to improve their daily lives. This has a significant impact on the country's human and social development in terms of poverty alleviation and access to education and health. As we mentioned earlier, the debate on the impact of migrants' remittances on the economies of countries of origin is in full swing. This financial resource generated by international migration can help improve the living- standards of households remaining in the country. It can provide the necessary resources to launch productive investments. Moreover, it can also cause some unwanted effects on recipient economies. These effects differ from one country to another. That is mainly due to the economic policies that are implemented, and more particularly the way these transfers are put to use. We know that remittances sent by migrants to their countries of origin constitute a major source of funding, especially in the case of Morocco. Morocco needs to better steer this windfall so as to boost its development and avoid a significant portion of these remittances being invested only as bank deposits, which feed that sector's excess liquidity.

References

Acosta, P., Calderon, C., Fajnzylber, P.,Lopez, H., (2007) "What is the impact of international remittances on poverty and inequality in Latin America?" Policy Research Working Paper Series 4249, The World Bank.

Agunias, D. R., (2006) "Remittances and Development: Trends, Impacts, and Policy Options –A Review of the Literature." Migration Policy Institute, Washington, D.C.

Anwar, A. and Mughal, M.Y. (2012) "Motives to remit: some microeconomic evidence from Pakistan, " Economics Bulletin, AccessEcon, vol. 32(1), pages 574-585.

Amuedo-Dorantes, C., Pozo, S., (2004) "Workers' remittances and the real exchange rate: a paradox of gifts", World Development 32, pp. 1407–1417.

Barajas, A., Chami. R., Fullenkamp. C., Gapen. M., Montiel. P., (2009) "Do workers' remittances promote economic growth?", International Monetary Fund Working Paper No.WP/09/153. Washington DC: International Monetary Fund.

Bouoiyour, J., Jellal, M., Wollf, F.C., (2003) "Effective Cost of Brain Drain," MPRA Paper 29176, University Library of Munich, Germany.

Bouoiyour, J., (2013) "Les transferts des fonds des migrants marocains : Leviers de croissance et du développement" MPRA Paper 50537, University Library of Munich, Germany.

Catrinescu, N., Leon-Ledesma, M., Piracha, M., Quillin.B., (2006) "Remittances, Institutions and Economic Growth," IZA Discussion Papers 2139, Institute for the Study of Labor (IZA).

Chami, R., Jahjah, S., Fullenkamp, C., (2005) "Are Immigrant Remittance Flows a Source of Capital for Development". IMF Staff Papers.Vol. 52, N°. 1.

Corden, W.M., (1984). "Booming Sector and Dutch Disease Economics: Survey and Consolidation." Oxford Economic Papers, Vol. 36, p. 359-380.

Corden. W. M., Neary. P., (1982), "Booming sector and de-industrialisation in a small open economy" The Economic Journal, vol. 92, n° 368, 1982, p. 825-849.

Couharde, C., Davis, J., Generoso, R., (2011) "Do Remittances reduce vulnerability to climate variability in West African Countries? Evidence from panel vector autoregression" UNCTAD Special Unit for Commodities working paper series on commodities and development September 2011

Deisting, F., Makhlouf, F., Naamane, A., (2012) "Développement financier, flux financiers et croissance économique" Working Papers 2011-2012_10, CATT - UPPA - Université de Pau et des Pays de l'Adour, revised Jun 2012.

Elbadawi, I. A., Rocha, R., (1992) "Determinants of Expatriate Workers' Remittances in North Africa and Europe" Working PaperWPS 1038, Country Economics Department, The World Bank, Washington, DC.

Faini, R., (2002) "Développement, commerce international et migrations," Revue d'économie du développement, De Boeck Université, vol. 16(1), pages 85-116.

Fajnzylber, P., López, H., (2007) "Close to Home: The Development Impact of Remittances to Latin America". World Bank, Washington DC.

Fayissa, B., Nsiah, C., (2008) "The Impact of Remittances on Economic Growth and Development in Africa" Working Papers , Middle Tennessee State University, Department of Economics and Finance, February.

Garcia-Fuentes, P. A., Kennedy, P. L., (2009) "Remittances and Economic Growth in Latin America and the Caribbean: The Impact of Human Capital Development". Selected Paper prepared for presentation at the Southern Agricultural Economics Association Annual Meeting, Atlanta, Georgia, January 31-February 3, 2009.

Giuliano, P., Ruiz-Arranz, M., (2006) "Remittances, Financial Development and Growth." IZA Discussion Paper No. 2160.

Grabel, I., (2008) "The Political Economy of Remittances: What Do We Know? What Do We Need to Know?" Political Economy Research Institute Working Paper series N° 1842.

Green, W., (2005) "Econométrie" Pearson Education France ISBN:2-7440-7097-1.

Griffin, K., (1976) "On the emigration of the peasantry." World Development, 4(5), 353-361. Jongwanich, J. (2007) Workers' remittances, economic growth and poverty in developing

Asia and the Pacific countries, UNESCAP Working Paper WP/07/01, Bangkok: ESCAP.

Kapur, D., (2004) "Remittances: The New Development Mantra?" United Nations, No. 29, April.

Katsushi, I., Raghav G., Abdilahi, A., Nidhi, K., (2011) "Remittances, Growth and Poverty: New Evidence from Asian Countries" The School of Economics Discussion Paper Series 1125, Economics, The University of Manchester.

King, R.G., Levine, Ross., (1993) "Finance and Growth: Schumpeter Might Be Right" The Quarterly Journal of Economics, MIT Press, vol. 108(3), pages 717-37, August.

Kumar, R.R., (2011) "Nexus between financial and technology inclusion, remittances and trade openness vis-à-vis: A study of Nepal" The Economic Journal of Nepal, Vol. 34, No. 1, January-March (Issue No. 133).

Makhlouf, F., Naamane., A., (2011) "Sensibilité des transferts de fonds vis-à-vis des économies des pays d'origine : Cas du Maroc" Contraintes extérieures, regains du

protectionnisme et/ou intégrations économiques? Hammamet 20-21 mai.

Massey, D. S., Parrado, E. A., (1998) "International Migration and Business Formation in Mexico" Social Science Quarterly 79 (1): 1-20.

Ministère Chargé de la Communauté Marocaine Résidant à l'Etranger, (2010) " Élaboration d'une Stratégie de Renforcement des Politiques, des Mécanismes et des Instruments Relatifs à la Mobilisation de l'Épargne et de l'Investissement des MRE au Profit de l'Économie Nationale et les Moyens de Réduction des Coûts de Transfert des Fonds" Rapport Intégral, Janvier.

Mughal, M., (2013) "Remittances as development strategy: stepping stones or slippery slope?" Journal of International Development, 25:4, 583-595, May.

Mughal, M., Ahmed, J., (2013) "Remittances and Business Cycles: Comparison of South Asian Countries" Working Papers No.4, CATT - UPPA - Université de Pau et des Pays de l'Adour.

Mughal, M., Anwar, A, (2012) "Remittances, Inequality and Poverty in Pakistan: Macro and Microeconomic Evidence" Working Papers No.2, CATT - UPPA - Université de Pau et des Pays de l'Adour.

Mughal, M., Makhlouf, F., (2011) "Volatility of Remittances to Pakistan: What do the Data Tell?" Economics Bulletin, vol. 31(1), pages 605-612.

Observatoire de la Communauté Marocaine Résidant à l'Etranger, (2008) "Marocains Résidant à l'Etranger, L'utilisation des Transferts, Résultats d'enquête" Fondation Hassan II pour les Marocains Résidant à l'Etranger.

Pradhan, G., Upadhyay, M., Upadhyaya, K., (2008) "Remittances and economic growth in developing countries" The European Journal of Development Research, Vol.20, No.3, pp.497-506.

Ramirez, M. D., Sharma, H., (2009) "Remittances and Growth in Latin America: A Panel Unit Root and Panel Cointegration Analysis," Estudios Economicos de Desarrollo Internacional, Euro-American Association of Economic Development, vol. 9(1).

Ratha, D., (2007) "Leveraging Remittances for Development" Paper presented at the Second Plenary Meeting of the Leading Group on Solidarity Levies to Fund Development, Oslo, February 6-7, 2007; and at the Brainstorming session on Migration and